

PROCESS EVALUATION

Agriculture Disaster Energy Efficiency Program

Final Report

Prepared for

The New York State Energy Research and Development Authority

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EXECUTIVE SUMMARY

New York State Energy Research and Development Authority's (NYSERDA) Agricultural Disaster Energy Efficiency Program (ADP) emphasized provision of emergency response assistance to storm-damaged farms because of significant damage caused by Hurricane Irene and Tropical Storm Lee in August and September 2011. The New York State Public Service Commission approved the reallocation of \$5,861,664 in Energy Efficiency Portfolio Standard funds for NYSEDA to administer the ADP. Eligible farms could request up to \$250,000 of 100% cost share assistance to replace and/or repair their damaged electric and natural gas equipment to incorporate energy efficiency components.

The Research Into Action evaluation team conducted interviews with all of the key personnel and entities, including: NYSEDA program staff, the program implementation contractor (EnSave), and utility program administrators and various agricultural agencies active in the counties targeted by the program. In addition, the evaluation team surveyed a sample of equipment dealers and installers that provide contractor services to agricultural customers, program participants, and farm owners who did not participate in the program but reside in the affected counties. These interviews and surveys clarified each party's role in the deployment of the program, informed lessons learned from the program's response to the storms, and identified opportunities to meet farms' needs following these and future storms.

Outreach and Market Responses

NYSERDA and its implementation contractor for ADP led program outreach activities working with agricultural agencies, along with direct outreach to farmers and equipment dealers, and other marketing channels. Interview contacts unanimously reported that reaching out to damaged farms was a challenge. All of these organizations shared the common problem of the lack of a comprehensive list of damaged farms in the affected counties, as there is no central warehouse of storm-damage data. The NYSEDA ADP implementation contractor did report that the list compiled by the New York Soil and Water Conservation District for its Agricultural and Community Recovery Fund Program helped them identify potential participant farms for the NYSEDA ADP.

Most interview respondents said that they expected a greater level of qualifying damage than what actually applied to the ADP. Only 13% of the nonparticipant farmers surveyed for this evaluation reported damage that qualified for participation. Interview contacts speculated that the reasons for the lower than expected rate of participation were a misunderstanding of the program and qualification requirements, the agricultural sector's cyclical nature, and the later than ideal program launch.

Program Awareness

Among nonparticipant farms in the qualified counties, 68% were aware of the ADP. Fewer than half of the equipment dealers that service electric or natural gas equipment for New York agricultural customers were aware of ADP. Among those dealers that were aware of ADP, 19% reported they reached out to prospective customers to sell equipment by taking advantage of ADP.

Farm Profiles

NYSERDA's project tracking system recorded 67 unique participant farms. Among them, the most prevalent were customers of National Grid and Orange & Rockland. Among the nonparticipant farms, the largest percentage said that New York State Electric and Gas Company was their electric utility.

The most common farm type for participants was a "business started after 1950" with "medium field size" (100-500 acres). Among participant farms, more than half reported that they grow row crops (the most common mention), followed by dairy; dairy was the most common product type among nonparticipant

farms. Most likely, due to different type of farming (row crops), the participant farms were more likely to report their are irrigated farms than nonparticipant farms.

Program Process

Satisfaction with all program areas among the participant farms was very high. Applicants said that, once they enrolled in the program, the program process worked rather smoothly. Although many applicants sought assistance from EnSave with various aspects of the program, most participant farms reported that application materials were easy to understand, and a majority of them reported they received sufficient help to complete their applications. A majority of participants also thought the parties involved in the program and disaster assistance coordinated and worked well together.

Program Influences

An overwhelming number of participating farmers reported that the ADP provided very important support to help them recover from the impacts of the storm(s). Notably, half of these respondents said they would have had to reduce the size of their operation or would have gone out of business without the ADP assistance. A majority of these participants also said that, without the ADP, they only would have repaired the damaged equipment (53%), not replaced nor repaired (19%) it, or replaced it with a standard efficiency model (6%). Half of the participants also reported non-energy benefits from the new equipment, such as improved equipment quality, improved product quality, and increased productivity.

More than half of the participating equipment dealers reported that the ADP had positive economic impacts on their businesses.

Recovery Status

Despite the ADP support they received, at the time of this report, a majority of participant farms (73%) had not fully recovered from the storm damages. Nearly one-fifth of the surveyed participant farms (18%) reported their farms still were “mainly unrecovered” or “not at all recovered” from the storms. Almost half of these farmers reported they still have storm-caused land and soil damage on their farms. About one-quarter reported structural and/or equipment damages. Seventeen percent reported they still had not recovered from crop-related damages. Likely none of these remaining damages are within the purview of the ADP.

Suggestions for Future Emergency Programs

An important suggestion, provided by many interview respondents was to improve damage assessment and outreach activities by using the existing agricultural community support mechanisms. In particular, they suggested that NYSERDA work with agricultural emergency response partners and local emergency committees on an ongoing basis to ensure that NYSERDA is better able to coordinate with other agencies’ data requirements and data collection tool(s) to develop a comprehensive list of farms. Very few equipment dealers were involved in outreach efforts to their prospective customers; many of these dealers suggested that NYSERDA involve them in emergency program’s outreach efforts earlier in the process to best meet their customer’s needs in an emergency.

It is evident that farmers were confused about the numerous disaster recovery/relief funding sources that were available to them, and these programs’ varying qualification and application requirements. Participating farmer contacts commented that it would be very helpful to have a comprehensive list of assistance programs that delineates program contacts, program eligibility requirements, and assistance areas. Many interview contacts also suggested having a unified program delivery mechanism, which would decrease market confusion and streamline the assessment process and administration.

During a disaster, recovering farmers need and expect assistance programs to operate quickly and efficiently, and process payments rapidly. To expedite the process, some farmers suggested that it would be better if the program would: 1) pay qualifying farmers before they buy replacement equipment, rather than reimbursing them for purchased equipment, and 2) conduct all inspection and verification activities after the equipment has been installed. Many dealers also requested faster payment to maintain their cash flow. One participating farmer reinforced these dealers' comment by reporting what he had heard from some dealers that they were unwilling to assist farmers participating in NYSERDA projects because of payment delays.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation team offers following conclusions and recommendations to provide feedback to the current program, as well as to improve disaster relief operations in the future.

Conclusion A: The ADP's program process is working well, and program staff members are respected for their technical competence and their helpfulness to farmers. The ADP provided highly critical assistance to storm-damaged farms, and it is evident that this assistance seized energy-saving opportunities that many affected farmers otherwise might not have realized. Despite well-intended outreach efforts, more than a quarter of nonparticipant farms were unaware of the ADP, and a majority of the participant farms still remain not fully recovered from the storm damages. In addition, many of these unrecovered farms reported that some damage remains unrepaired, though what they reported as damaged does not appear to be within the purview of the ADP.

Recommendation 1: Continue offering the ADP assistance as a part of ongoing Agricultural Energy Efficiency Program until all of the funding is expended.

Conclusion B: The most significant challenge the program experienced was marketing and outreach. The common problem was a lack of a comprehensive list of damaged farms in the affected counties. In addition, program approval delayed rollout limiting the program's ability to leverage existing agricultural support mechanisms to conduct damage assessment and broadcast program information effectively. The program also could not mobilize equipment dealers effectively to promote the program.

Recommendation 2: Involvement in ongoing state and local emergency management operations will be important to ensure NYSERDA is connected to these networks. Consider supporting opportunities to coordinate data needs and assessment tools to facilitate system integration and information sharing.

Recommendation 3: Leverage equipment dealers' market network to more effectively and quickly promote the program. Maintain a comprehensive list of equipment dealers that serve New York agricultural customers by equipment type and by county.

Conclusion C: Times of disaster by nature are confusing and challenging. Disaster recovery assistance offered by numerous organizations to affected farms had different qualifications and application requirements. In addition, two utilities offered programs that were very similar to the ADP in overlapping geographical areas. These clearly contributed to market confusion among affected farmers.

Recommendation 4: Direct outreach was important in the ADP and will be important in future emergency programs. Providing direct, face-to-face outreach is important to clarify any confusion affected farmers may have and to engage potential participants, especially under disaster circumstances.

Recommendation 5: Work with state and local emergency management operations to ensure NYSERDA program is included in any comprehensive list of disaster assistance information that includes program contact, program eligibility, and assistance areas for future emergency programs.

Recommendation 6: Investigate ways to integrate a NYSERDA disaster recovery program into other emergency services to facilitate a one-stop-shop experience for farmers.

INTRODUCTION

The New York State Energy Research and Development Authority (NYSERDA) began operating the Agricultural Disaster Energy Efficiency Program (ADP) in October 2011 after Hurricane Irene and Tropical Storm Lee did tremendous damage to New York State's farms in August and September 2011. The program is funded by an electric distribution Systems Benefits Charge (SBC) paid by customers of Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric and Gas Corporation, National Grid, Orange and Rockland Utilities, and Rochester Gas and Electric Corporation. NYSERDA is a public benefit corporation established in 1975. It administers the SBC funds and the ADP under an agreement with the New York State Public Service Commission (PSC). Pursuant to the PSC Order, NYSERDA also oversees and coordinates evaluation of the programs on behalf of the SBC Advisory Group, the independent evaluator of the programs. In November 2011, NYSERDA selected Research Into Action, Inc. to conduct a process evaluation of the ADP.

This introduction provides a general description of the program, outlines the methods used in conducting the evaluation, and describes the contents of this report.

1.1 PROGRAM HISTORY AND OVERVIEW

The Federal Emergency Management Agency declared Hurricane Irene and Tropical Storm Lee as "major disasters."¹ Record flooding from these storms caused severe damage to many communities. The state lost nearly 140,000 acres of farmland, numerous barns, outbuildings, and agricultural systems and equipment due to Hurricane Irene alone. Other sources of assistance funds primarily focused on crop loss and soil conservation. Many damaged farms also needed to replace equipment and systems in order to remain viable.

NYSERDA petitioned the PSC on October 5, 2011 to reallocate electric Energy Efficiency Portfolio Standard (EEPS) funding to implement the ADP, and the PSC issued an approval on October 18, 2011.²

The goal of the ADP is to provide emergency assistance for storm-damaged farms to incorporate energy-efficient electric and natural gas equipment, measures, systems and improvements into replacements and repairs. The program used the existing infrastructure of the Agriculture Energy Efficiency Program (AEEP) of the Existing Facilities EEPS Program, and it emphasized rapid response and strong participant support.

1.2 RESEARCH OBJECTIVES

The overarching research objectives of this process evaluation are:

- Assess the efficiency and effectiveness of program processes, including outreach, marketing, technical assistance, project review, and implementation with respect to the program's goal to provide rapid deployment and strong support for affected farmers.

¹ President Obama signed disaster emergency declarations on August 31, 2011, for Hurricane Irene (which struck the state of New York on August 28) and on September 13, 2011, for Tropical Storm Lee (which began on September 4, 2011). The declarations affected a total of 34 counties in the state.

² On October 13, 2011, the PSC conditionally approved the petition requiring NYSERDA to submit an outreach plan within five business days and an evaluation plan within 30 days.

- Assess the ability of the program to meet the identified need of farm and on-farm producers affected by the recent storms, including whether there are additional unmet needs, and the role of the program in these customers' future productivity in New York State.
- Identify lessons learned that can facilitate deployment of similar services in future disasters.

Since this was an emergency, short-term program, this evaluation is unable to provide timely feedback to the current program. This evaluation primarily explores how effectively NYSERDA helped customers during their time of need and provides insights and recommendations for effective emergency/rapid deployment use of energy efficiency funding in the future.

1.3 EVALUATION METHODOLOGIES

To ensure that this process evaluation is unbiased, the evaluation team conducted interviews with all of the key personnel and entities, including: NYSERDA program staff; the program implementation contractor (EnSave); other utility program administrators; various agricultural agencies; and a sample of equipment dealers and installers that provide contractor services to agricultural customers, program participants, and farm owners who did not participate in the program, but reside in the affected counties (Table 1). The interviews clarified each party's role in the deployment of the program, informed lessons learned from the program's response to the storms, and identified opportunities to meet farm and on-farm producers' needs following these and future storms.

Table 1-1. Sampling Strategy

Audience Type	Population	Sample	Interview Mode	Interview Format	Confidence / Precision	Timing
Program Staff	3	3	Phone	In-Depth Interview	NA	March 2012
Implementation Contractor Staff	1	1	Phone	In-Depth Interview	NA	March 2012
Agriculture Agency Contacts	7 agencies	5 agencies	Phone	In-Depth Interview	NA	June-July 2012
Other Utility Program Administrators	2 utilities	2 utilities	Phone	In-Depth Interview	NA	June-July 2012
Participants	67 farms	34 farms	Phone	Survey	90% / 10%	July 2012
Nonparticipants	~177 farms	63 farms	Phone	Survey	90% / 10%	April 2012
Dealers / Installers	~118 firms	45 firms	Phone	Survey	90% / 10%	July 2012

Research Into Action conducted all of the in-depth interviews using structured interview guides. Each interview lasted 30-50 minutes, and all interviews were transcribed. Research Into Action team also conducted all of the surveys in-house using trained staff interviewers who are familiar with the program. The surveys were programmed and implemented using a data collection platform, *Qualtrics*. Copies of the interview guides and survey instrument for each audience are provided in Appendices A-G.

For all of the surveys, the research team conducted several internal pre-tests prior to full-scale fielding to identify and address any potential confusion or misinterpretation of the questions and to ensure that the survey was an appropriate length. Fielding occurred during business hours (8AM – 6PM EDT) Monday-Friday, and on some weekends, in order to reach as many contacts as possible. To counteract non-response bias, up to five attempts were made to complete the survey with each individual, using the minimum

amount of sample replacement necessary. Table 2 summarizes dispositions and outcome rates of all the survey projects.

Table 1-2. Call Dispositions and Outcome Rates

	Participant Farms	Nonparticipant Farms	Equipment Dealers
Interviews	-	-	-
Complete	32	61	43
Partial complete *	2	2	2
Eligible, Non-Interview	-	-	-
Refusal and break-off	8	12	20
Non-contact	11	78	13
Unknown Eligibility, Non-Interview	-	-	-
Not attempted	0	0	12
Not Eligible	-	-	-
Duplicate	0	0	1
Missing contact information	0	0	0
Business or contact no longer available	0	0	0
Bad or wrong number	0	5	4
Didn't pass screening **	0	19	76
Quota filled	0	0	0
Response Rate ***	64%	41%	58%
Cooperation Rate	81%	84%	69%
Refusal Rate	15%	8%	26%

* 50-80% of applicable questions were answered in the Partial complete interviews.

** Among those that didn't pass screening, were nonparticipant farms and several participating farms located outside of the disaster region hit by Hurricane Irene and/or Tropical Storm Lee., and equipment dealers that don't sell or service electric or natural-gas-fired equipment to agricultural customers.

*** *Response rate* is the number of completed interviews divided by the number of eligible units in a sample. *Cooperation rate* is the proportion of eligible respondents who agreed to participate in the survey. *Refusal rate* is the percentage of contacted farmers who declined to cooperate with the survey or broke off an interview.

1.4 REPORT CONTENTS

Following this Introduction section, Section 2 provides an overview of the program and program activities, including program administration. Section 3 describes: 1) program experiences (primarily from participant farmers' perspectives), approximately in chronological order, including participant and nonparticipant farm characteristics, program awareness, application process, equipment installation, and satisfaction with the program; and coordination with other agencies and programs. Section 4 discusses program improvement suggestions provided by various respondents. Section 5 describes the state of energy efficiency in New

York agriculture. Finally, Section 6 summarizes overall findings, and provides conclusions and recommendations intended to improve NYSERDA's ability to respond effectively to future disasters.

This report integrates responses of participants and nonparticipants to facilitate comparing and contrasting their experiences, and intersperses interview responses from NYSERDA staff and other stakeholders throughout Sections 2-5, as appropriate.

THE PROGRAM

2.1 PROGRAM DESCRIPTION

The goal of the ADP is to provide emergency assistance for storm-damaged farms to incorporate energy-efficient electric and natural gas equipment, measures, systems, and improvements into replacements and repairs. The ADP support supplemented other financial assistance available from federal and state sources, which primarily focuses on crop loss and soil conversion. Many storm-damaged farms also need assistance to replace equipment and systems in order to remain viable.

The program used the infrastructure of the AEEP of the Existing Facilities EEPS Program. It emphasized rapid response and strong participant support. To achieve its goal, the PSC approved NYSERDA's petition to reallocate \$5,861,664 of EEPS funds to issue and administer the ADP.³

The ADP limited eligibility to farms and on-farm producers⁴ located within the counties designated by the Governor's Executive Orders.⁵ Farm residences were not eligible. NYSERDA required applicant farmers to provide supporting documentation regarding the equipment or systems for which they sought funding, as well as detailed invoices or estimates. Farms had to demonstrate that they paid the SBC that supports NYSERDA's programs. The ADP paid farmers up-front or reimbursed them for repair and replacement projects that were caused by Hurricane Irene and/or Tropical Storm Lee. Farmers had to submit and receive approval for invoices for the repairs and/or new equipment. If replacement or repair had occurred, costs had to be incurred before the implementation of the program but after August 28, 2011 and September 4, 2011.

The program provided assistance at a level of 100% of costs minus any other aid or insurance settlement received for the same equipment or system. The ADP originally capped the total funding per farm at \$100,000. As the program evolved, implementers learned that fewer farms than anticipated were eligible for program support, and that many of the eligible farms needed more extensive assistance than anticipated. In response, on January 13, 2012, NYSERDA petitioned the PSC to increase the assistance cap per farm to \$250,000. The PSC approved that increase. Applications to the program are reviewed in the order in which they were received and approved when all the required information from the applicant is received. NYSERDA funds as many eligible applications as possible until funds are fully committed. NYSERDA was able to fund all the accepted applications in to the ADP, committing 94% of the available funds.

Assistance was available for electric and natural gas equipment and systems containing energy-efficient measures, including supporting infrastructure repairs necessary to eligible measure installations. The following measures, which are pre-qualified in other EEPS programs, qualified for the ADP assistance:

- Variable Speed Drive for Milk Vacuum Pump
- Variable Speed Drive for Milk Transfer Pump

³ NYSERDA petitioned on October 5, 2012, and PSC's approval was issued and effective on October 18, 2012.

⁴ On-farm producers with a production facility are eligible only if agricultural foods or products are grown on-site.

⁵ Executive Orders 17, 21, and 22.

- Scroll Compressor
- Plate Coolers
- High Pressure Sodium Lighting
- T-8 Lighting
- Other Efficient Lighting Systems and Controls
- Stock Waterers
- Fans
- Natural Gas Efficiency Measures
 - High-Efficiency Furnaces and Boilers ($\leq 300,000$ Btu/h rated input capacity)
 - High-Efficiency Boilers ($>300,000$ Btu/h rated input capacity)
 - Water Heating Equipment
 - Space Heating Equipment
 - Commercial Kitchen Equipment
- Individual HVAC Measures
 - PTAC and PTHP Equipment
 - Unitary HVAC and Split Air Systems
 - Air-to-Air Heat Pump Systems
 - Water Source Heat Pump Systems
 - Differential Enthalpy Economizer Controls and DCV Sensors
- Electric Chillers
- Premium Efficiency Motors
- Other Variable Speed Drives
- Commercial Refrigeration
- Commercial Kitchen Equipment
- Commercial Washers

Custom projects that provided well-documented energy-efficient measures also were considered on a case-by-case basis. The ADP also considered renewable energy projects on a case-by-case basis, but only if damaged equipment had a renewable component. Replacement of non-renewable equipment with renewable equipment was not considered.

National Grid, NYSEG, and RG&E are authorized to operate similar programs.⁶ NYSERDA and these utilities have a reciprocal agreement that allows them to refer applicants to the appropriate entity/program, based on the applicant's location, requested funding amount, and other allowable project components. NYSERDA worked closely with these utilities to optimize assistance, maximize the number of farms served, and minimize program overlap.

2.2 PROGRAM ACTIVITIES

NYSERDA provided overall program management, including oversight of the program implementation contractor, EnSave; finance; and supporting decisions of allowable projects.⁷ Under the guidance of NYSERDA, EnSave executed outreach activities, customer enrollment, customer installation support, installation verification, utility coordination, and program tracking. Various agriculture agencies, including the New York State Department of Agriculture and Markets (Ag and Market), Soil and Water Conservation Districts (Soil and Water), Cornell Cooperative Extension, USDA Rural Development, USDA Farm Service Agency (USDA FSA), and New York State Farm Bureau also were involved, primarily as outreach partners.

2.2.1 Marketing and Outreach

NYSERDA and ADP implementation contractor staff led program marketing outreach activities. There were four levels of outreach activities: 1) educating agriculture agencies that provide services to agricultural customers in the affected counties so these agencies could educate their customers about the program opportunity; 2) conducting direct outreach to farms, based on information provided by the agricultural agencies; 3) contacting equipment dealers about the program to inform them of the program opportunity; and 4) attending farm shows and other community events to raise awareness of the program.

To educate agriculture agencies, NYSERDA coordinated outreach calls to those agencies, such as Ag and Market, the Farm Bureau, Soil and Water, and Cooperative Extension to inform them of the availability of the program. In response, Ag and Markets reviewed applications to its program and sent informational letters about ADP to those farms who indicated having structural damage. USDA FSA and Cooperative Extension informed their customer contacts of the ADP opportunity through each of their county offices. National Grid and NYSEG each conducted a direct mailing to their farm contacts, as well as distributing program information fliers through various agriculture agencies about the ADP and their respective utility program. Each of the above entities also launched a web page on their website dedicated to the program.

All of the NYSERDA program staff members and the ADP implementation contractor staff contacts we interviewed said they encountered several challenges in communicating with farmers whose farms were

⁶ National Grid operates the *Emergency Agriculture Fund Program*, which provides up to \$25,000 in support to farms within its territory to replace/repair storm-damaged, energy-using equipment. The program also allows re-installation of electric infrastructure. NYSEG and RG&E operate the *Emergency Agriculture Assistance Program* for their customers' projects up to \$50,000. This program funded a broader range of projects, including building demolition, system inspection, and re-installation of electric or natural gas infrastructure.

⁷ EnSave have been under contract with NYSERDA since 2010 to provide outreach, participant support and program implementation activities for the AEEP. This contract was modified to include similar tasks and funds to support ADP activities, since EnSave was immediately able to provide the same service to the same sector audience for the ADP.

damaged by one or both of the storms. One respondent said it was a “tough nut to crack to find people that needed to be in the program.” Utility contacts who did targeted mailings said they encountered similar challenges. The common problem these contacts cited was the lack of a comprehensive list of damaged farms in the affected counties. USDA FSA compiles a list of farms that participate in its program by county, but it covers only 75-80% of all the farms in the state. Other disaster relief agencies collected damage data, but, as one agricultural agency contact explained, “They are collecting their own pieces of information, since each program has their own requirements.” No contact said there was a central warehouse or database of storm damage data the program could use.

An EnSave contact reported that, although it was not comprehensive, the list compiled by Soil and Water was useful, and they could “get hold of a lot [of damaged farms] out of this list.” Immediately after the storms, Soil and Water’s county offices conducted a rapid survey of farms’ damages or loss of livestock, crops, buildings, and facilities, and provided this information to NYSERDA. This assessment form is included in Appendix H.

Another contact thought that the materials NYSERDA produced for outreach purposes were high quality. As this contact stated, “Normally [these documents] include legal jargon and nobody really reads them. Instead, they provided a slim-down version, ...it was more digestible.” As these materials provide the first step for communication with potential participants, the contact said it was helpful to send to farmers and dealers to inform them about the program opportunity.

Market Responses

Most (5 of 6) of the interview respondents with EnSave and agricultural agencies mentioned that the program had anticipated to encounter more qualified damage than they actually did. When surveying the nonparticipating farms, although 75% reported some types of storm-related damage on their farms, only 13% of them (17% of the farms reporting any damages) said they had experienced damage to their electric or natural gas equipment. NYSERDA was aware that fewer farms than anticipated were eligible for the program assistance, but many of those that were eligible needed more extensive assistance than expected. Accordingly, in January 2012, NYSERDA requested the PSC to increase the assistance cap to \$250,000 per farm; the PSC approved the increase.

Some key interview contacts offered other reasons why the market response was lower than expected. Some farmers had misconceptions about the qualification requirements or application process. For instance, when one farmer was asked if they had had damage to their electric or gas equipment, they said “no” initially, but when they were asked follow-up questions, such as, “I know you run a dairy. Did you lose lighting or ventilation equipment?”, they often said, “Oh yeah, I did lose that.” Other farmers thought that if their repair/replacement projects had been completed before the ADP was launched, they no longer were eligible for the ADP assistance. Some farmers also said that their previous experiences applying for assistance through the AEEP discouraged them from applying for the ADP, presumably because the AEEP applications typically are more rigorous and it takes longer to complete the repairs or replacements, they assumed the same would be true for the ADP. One interview contact recalled that direct interactions to outreach farmers were important to overcome these misperceptions.

Another interview contact explained that the program incorrectly expected that applications would come in much more quickly than they did. They speculated that this was because the “ag sector is very cyclical – seeding and harvesting in certain times of the year. When the storms happened, [the farmers] were claiming crop damage, not equipment damages until late in the season.”

These contacts offered other reasons for the less-than-anticipated market response to the program: many farmers already had received funds from other sources by the time the ADP was operating; and farms in

some counties that had experienced flooding in 2006 were better prepared even though they were hit as hard as in any other counties.

2.2.2 Enrollment

To enroll in the program, an affected farm had to submit an ADP application to NYSERDA. The NYSERDA implementation contractor, EnSave, answered farmers' questions regarding eligibility and provided general advice about the application guidelines. This included: confirming eligibility criteria; conducting damage assessments; gathering necessary documentation; providing technical assistance regarding qualified equipment; identifying equipment or system suppliers; providing assistance on completing the application; and in some cases, guiding customers to appropriate utility programs.

NYSERDA and its implementation contractor reported that the application process and documentation requirements were straightforward. However, they said that it sometimes took time to identify which pieces of equipment and systems described in the application form actually qualified for the ADP support. In addition, since many applicants also received support from other sources, such as utility programs, other disaster relief programs, or their insurer, application reviewers had to review each item to avoid any duplicate incentives or payments. As a result, every application was reviewed like a custom project.

Despite this, the overall rejection rate was very low.

2.2.3 Installation, Inspection and Post-Verification, and Payment

To expedite applicant farms' rebuilding process, the installation of the equipment or systems for which they sought funding could begin or continue at any point during the program process. The NYSERDA implementation contractor, EnSave, conducted pre-installation on-site inspections for projects seeking more than \$25,000 in funding; the applications for these projects included written and photographic documentation of storm damage. Once the installation was done, EnSave performed on-site post-verification to document completed project. For projects that had been completed prior to submittal of the application, only on-site post-verification occurred. EnSave staff gathered all invoices when they completed the inspection and verification process, and sent an invoice to NYSERDA for payment. According to NYSERDA's prompt payment policy, NYSERDA sent payments within 30 days after receiving all of the required documentation.

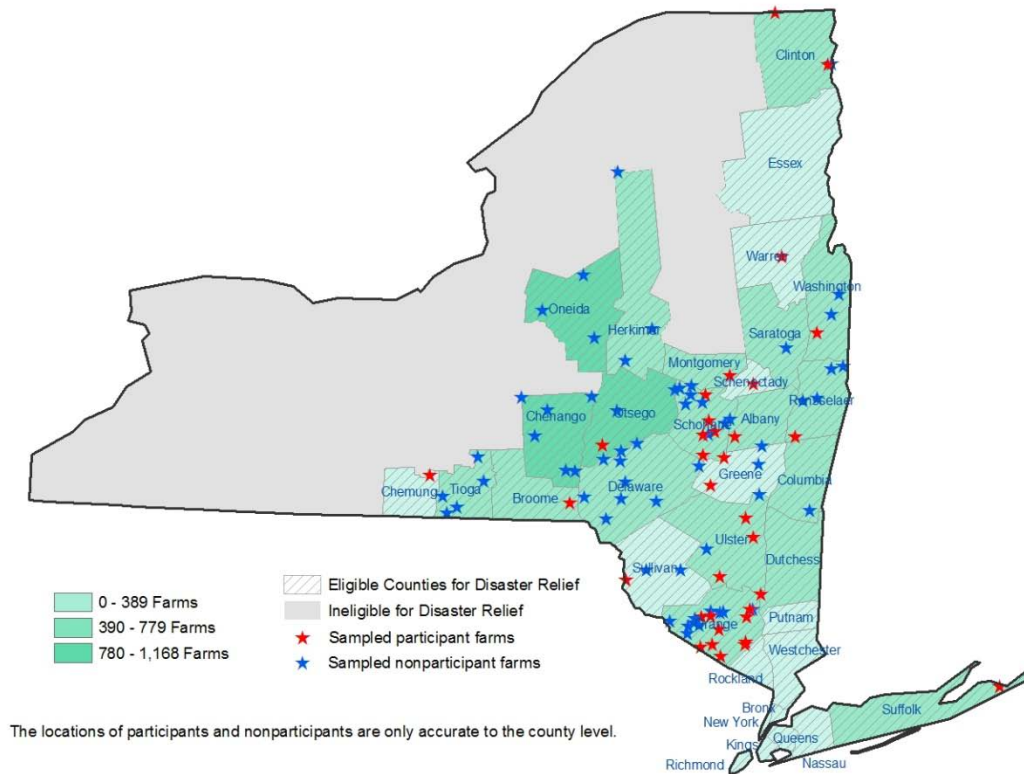
PROGRAM EXPERIENCES

This section discusses the program experiences of farmers who participated in the ADP and describes nonparticipant farmers' and equipment dealers' experiences in order to compare them with those of the participant farmers.

3.1 CHARACTERISTICS OF PARTICIPANT AND NONPARTICIPANT FARMS

The evaluation team completed surveys with 34 participating farmers and 63 nonparticipating farmers located in the counties eligible to receive the ADP assistance. Figure 1 shows the geographic location of the sampled farms, as well as the geographic distribution of the farm population. The sample covers a large area in the eligible counties. Most of the sampled farms are located in counties that have a medium to high concentration of farms; a few farms from counties with lower agricultural concentrations were also sampled. These indicate that the sample is fairly representative of the agricultural farm population in the ADP-qualified counties.

Figure 3-1. Sample Distribution in Qualified Counties



3.1.1 Electric Utility of Participant and Nonparticipant Farms

Among the 34 participant respondent farms, the largest percentages are served by National Grid (35%) and Orange & Rockland (32%). The remainders are served by Central Hudson (18%), NYSEG (12%), and LIPA (3%).⁸

Among the 63 nonparticipants, NYSEG serves the single largest percentage (41%). Of the remaining 59%, 54% are served by the following utilities: National Grid (29%), Orange & Rockland (14%), Central Hudson (6%), other electric utilities (5%); and five percent did not know the name of their electric utility (Table 3).

Table 3-1. Electric Utilities of Participant and Nonparticipant Farms

	Participants (n=34)		Nonparticipants (n=63)	
	Count	Percent	Count	Percent
National Grid	12	35%	18	29%
Orange & Rockland	11	32%	9	14%
Central Hudson	6	18%	4	6%
NYSEG	4	12%	26	41%
Other	1	3%	3	5%
Don't know	0	0%	3	5%
Total	34	100%	63	100%

3.1.2 Farm Type of Participant and Nonparticipant Farms

A majority of the participant farms (91%) are family-owned. Two farmers reported that they are large-scale corporate farms, and one reported that theirs is another kind of full-proprietary farm. All of the nonparticipant farmers reported that theirs are family-owned farms.

More than half of the participant farms produce row crops (55%); dairy farms were the second most common (33%). Greenhouse and bedding plant producers also were common among the participants (21% each). Participant respondents also reported they produce nursery crops (9%), herbs (9%), livestock (6%), livestock feed (6%), tree fruit (6%), forage (3%), and grain (3%) (Table 4).

Nonparticipant farmers most commonly reported that theirs are dairy farms (48%), and row crop producers (32%). Unlike participant farms, greenhouse or bedding plant farms were less common among nonparticipant farms. Accordingly, the participant farms more likely reported theirs are irrigated farms than nonparticipant farms ($z=4.68, p<0.0001$).

⁸ Customers of natural gas utilities that NYSERDA serves were also eligible for the ADP.

Table 3-2. Product Types (Multiple Responses Allowed)

	Participants (n=33)*		Nonparticipants (n=63)	
	Count	Percent	Count	Percent
Row crops	18	55%	20	32%
Dairy, including milk and cheese	11	33%	30	48%
Greenhouse	7	21%	3	5%
Bedding plants	7	21%	0	0%
Nursery crops	3	9%	4	6%
Herbs	3	9%	0	0%
Livestock	2	6%	8	13%
Livestock feed	2	6%	1	2%
Tree fruit	2	6%	1	2%
Forage	1	3%	5	8%
Other	1	3%	3	5%

* Note: One participant respondent did not answer this question.

A majority of both participant and nonparticipant farmers said they use only conventional farming methods (85% and 73% respectively). The proportion of farms that are engaged in organic methods is slightly higher among nonparticipant farms (27%) compared with participant farms (12%) (Table 5).

Table 3-3. Farming Method

	Participants (n=34)		Nonparticipants (n=63)	
	Count	Percent	Count	Percent
Conventional only	29	85%	46	73%
Some or all organic	4	12%	17	27%
Other	1	3%	0	0%
Total	34	100%	63	100%

A small percentage of participant and nonparticipant farmers reported that their farms have an on-site electricity generator (21% and 15% respectively).

3.1.3 Year Established

More than half of the respondent farms were established between 1950 and 1999 (59% and 54% respectively), while about one-quarter were established recently – after 2000 (24% and 22% respectively). About one-fourth of the farms are more than 50 years old; 12% of the participant farmers and 10% of the nonparticipant farmers said their operation started before 1900 (Table 6).

Table 3-4. Year Farm Established

	Participants (n=34)		Nonparticipants (n=63)	
	Count	Percent	Count	Percent
Before 1900	4	12%	6	10%
1900 – 1949	2	6%	9	14%
1950 – 1999	20	59%	34	54%
After 2000	8	24%	14	22%
Total	34	100%	63	100%

3.1.4 Farm Size

Participant farms are slightly smaller than nonparticipant farms. Thirty-five percent of participant farms are small-scale (with fewer than 100 acres of farmland), while 23% of nonparticipant farms are small-scale. Nonparticipant farms were slightly more likely to be large-scale (with more than 500 acres of farmland) than participant farms (25% and 18% respectively) (Table 7).

Table 3-5. Farm Size

	Participants (n=34)		Nonparticipants (n=63)	
	Count	Percent	Count	Percent
Smaller than 100 acres	12	35%	14	23%
100 – 499 acres	16	47%	32	52%
More than 500 acres	6	18%	15	25%
Total	34	100%	63	100%

3.1.5 Equipment Dealers Characteristics

The evaluation team surveyed 45 equipment dealers who provide electric- or natural gas-related equipment and systems to New York agricultural customers.

Of these equipment dealers, 33% reported that their customers used their services in order to participate in the ADP (Table 8).

Table 3-6. Provided Services for Customers Participating in the ADP

	Count	Percent
Yes	15	33%
No	27	60%
Don't know	3	7%
Total	45	100%

Table 9 displays the types of services the respondent dealers provide to New York agricultural customers, shown by the ADP participant and nonparticipant status. Overall, the most common types of equipment these dealers service are pump and fan systems (33%), lighting and control equipment (29%), motors (29%), refrigeration equipment (29%), and HVAC equipment (21%). Participant dealers are far more likely

to service the following equipment types than are nonparticipant dealers: pumps and fan systems (40%), lighting and controls (40%), refrigeration equipment (40%), and compressed air systems (27%).

Table 3-7. Service Types by the ADP Participation (Multiple Responses Allowed)

	Participant Dealers (n=15)		Nonparticipant Dealers (n=27)		Total (n=42)*	
	Count	Percent	Count	Percent	Count	Percent
Pump and fan systems	6	40%	8	30%	14	33%
Lighting and controls	6	40%	6	22%	12	29%
Motors	4	27%	8	30%	12	29%
Refrigeration equipment	6	40%	6	22%	12	29%
HVAC equipment	4	27%	5	19%	9	21%
Compressed air systems	4	27%	1	4%	5	12%
Water heating equipment	2	13%	2	7%	4	10%
Irrigation systems	1	7%	3	11%	4	10%
Kitchen equipment	2	13%	1	4%	3	7%
Other	8	53%	13	48%	21	50%

* Note: Three respondents who did not know their participation status are excluded from this analysis. These respondents reported providing services for motors (n=2), lighting and controls (n=1), and pump and fan (n=1).

Sixty-five percent of the surveyed dealers reported their firms have operated their business five years or longer, while 33% said their business has been operating for fewer than five years. There was no statistical difference in firm tenure between participant and nonparticipant dealers (Table 10).

Table 3-8. Age of Firm

	Count	Percent
Fewer than 5 years	15	33%
5 years or more	29	65%
Don't Know	1	2%
Total	45	100%

Almost half (47%) of the surveyed dealer firms are small-scale businesses that have fewer than 10 employees. Also surveyed were medium-sized firms that employ 10 to 49 people (38%), as well as large-scale firms with more than 50 employees (11%). There was no statistical difference in firm size between participant and nonparticipant dealers (Table 11).

Table 3-9. Firm Size

	Count	Percent
Small (Fewer than 10 employees)	21	47%
Medium (10 – 49 employees)	17	38%
Large (50 or more employees)	5	11%
Don't know	2	4%
Total	45	100%

3.2 PROGRAM AWARENESS

The evaluation team asked survey respondents about their awareness of NYSERDA and the ADP, when they learned about the program, and the sources of their program information.

3.2.1 Awareness of NYSERDA and the ADP Among Nonparticipant Farms and Equipment Dealers

A majority of nonparticipant farmers (79%) and equipment dealers (83%) were aware of NYSERDA (which also was described to them as “the New York State Energy Research and Development Authority”); the remainder—21% of nonparticipant farmers and 17% of dealers—reported that they had never heard of NYSERDA (Table 12).

Sixty-eight percent of nonparticipant farmers and 47% of dealers reported they were aware of the ADP.⁹ Awareness of the ADP among nonparticipant farmers was significantly different statistically, depending on respondents’ electricity provider and farm size. The proportion of National Grid customers who were unaware of the ADP was significantly higher (56%) than among customers served by other electricity providers (24%), $X^2(1,n=60)=5.73, p=0.017$. Likewise, nonparticipant farm respondents whose farms were smaller than 500 acres were significantly less aware of the ADP (41%) than those whose farms consisted of 400 acres or more (7%), $X^2(1,n=62)=6.57, p=0.01$.

Table 3-10. Awareness of NYSERDA and the ADP

	Nonparticipant Farmers (n=63)		Equipment Dealers (n=45)	
	Count	Percent	Count	Percent
Aware of NYSERDA	53	79%	35	83%
Aware of the ADP	43	68%	21	47%

3.2.2 When Participant Farmers and Dealers Learned of the ADP

NYSERDA announced the ADP program in October 2011, after the PSC approved the program on October 18, 2011. One-half of the participant farmers (50%) reported that they became aware of the ADP funding

⁹ When we asked about ADP awareness, we said that, “NYSERDA launched the Agriculture Disaster Energy Efficiency Program after Hurricane Irene and Tropical Storm Lee hit last year. This program reimbursed farmers for the repair or replacement of electric and natural gas equipment or systems that were damaged by the storms with energy-efficient models. Have you heard of this program?”

immediately, and another 30% said they learned about the program by November 2011. Twelve percent of the participant farmers reported that they did not know about the ADP until after January 2012.

Information about the program traveled among dealers slightly more slowly than it did among farmers. More than half of the dealers (55%) were aware of the ADP by November 2011, while one-third of the dealers (33%) said they did not learn about the program until after January 2012 (Table 13).

Table 3-11. Timing of Learning about the ADP

	Participant Farmers (n=34)		Equipment Dealers (n=21)*	
	Count	Percent	Count	Percent
October 2011	17	50%	6	33%
November 2011	10	29%	4	22%
December 2011	3	9%	2	12%
January 2012 or later	4	12%	6	33%
Total	34	100%	18	100%

* Note: 21 dealer respondents were asked this question, but three responded “don’t know.” We treated these “don’t know” cases as system missing.

3.2.3 Source of Program Information

Participant farmers most commonly reported they learned about the ADP through word-of-mouth—from their neighboring farmers, their friends and other family members (Table 14, next page). More than half of the participant farmers (56%) reported they learned about the program from one of the agricultural agencies with which NYSERDA and EnSave worked as outreach partners. They mentioned Cornell Cooperative Extension, Farm Bureau, and Soil and Water most commonly. Participant respondents also mentioned a variety of media sources, including newspapers and the internet. Only one participant mentioned the NYSERDA implementation contractor, EnSave, as their primary program information source. Overall, participant farmers said that word-of-mouth and agriculture agencies were the most influential in their program participation decisions.

Most equipment dealers reported they heard about the ADP from their customers (57%). Some dealer respondents also mentioned NYSERDA and its implementation contractor as their primary program information sources.

Table 3-12. Source of the ADP Information (Multiple Responses Allowed)

	Participant Farms (n=34)		Equipment Dealers (n=21)	
	Count	Percent	Count	Percent
Neighbor, friends, and family	11	32%	0	0%
Cornell Cooperative Extension	6	18%	0	0%
Farm Bureau	5	15%	0	0%
Soil and Water	4	12%	0	0%
FEMA	3	9%	0	0%
Ag and Market	2	6%	1	5%
USDA FSA	2	6%	0	0%
EnSave	1	3%	3	14%
NYSERDA	0	0%	2	10%
Customers	-	-	12	57%
Other	12	35%	4	19%

When dealers were asked if they reached out to existing or prospective customers in order to sell systems and equipment that qualified for the ADP support, only four dealers of the 21 dealers who were aware of the ADP (19%) said that they did so. Three of these four dealers reported that, as a result of their sales attempts, their customers participated in the ADP.

3.3 PROGRAM PROCESSES AND SATISFACTION

Primarily through surveys of participant farms and equipment dealers, the evaluation team assessed strengths and issues of the ADP's program processes and customer satisfaction with the services they received.

3.3.1 Program Process

A majority of participant farmers reported they completed the ADP application by themselves (91%). Nine participants (26%) said they received help from the NYSERDA implementation contractor, and two said they received their dealer's help in completing the application.

Most participant respondents (88%) said the application materials were easy to understand. Two key program contacts also reported that, once applicants were enrolled in the program, they understood how it operated and they knew each applicant's status at any given time.

Four participants (12%) who reported it was not easy to understand the application materials experienced difficulties in understanding: where to send their application (n=3); which measures qualified for incentives (n=2); and the application instructions (n=2).

Although most participants thought the application materials were easy to understand, a majority of the participants (88%) reported needing help from NYSERDA implementation contractor during the application process, most commonly to clarify the application process (72%) (Table 15). Many of the participants also needed help in understanding the program's qualifications (45%) and how to fill out the application form (31%). A small number of the participant respondents reported that they sought help in identifying equipment suppliers (10%) and receiving technical assistance on specific measures (7%).

Overall, a majority (97%) of those who sought assistance reported they received enough help to resolve their issues and questions. A majority of the participant farmers also said that the many parties involved in the program (NYSERDA, its implementation contractor, dealers, etc.) coordinated and worked well together (94%), and 91% of them said they had a clear sense of whom they could go to for help during their application process.

Table 3-13. Areas of Assistance Needed (Multiple Responses Allowed) (n=29)

	Count	Percent
Understanding the program’s application process	21	72%
Understanding whether they met the qualifications	13	45%
Understanding how to fill out application form	9	31%
Receiving referral to equipment dealers	3	10%
Receiving technical assistance on measures	2	7%

Eleven participant farmers (32%) reported they encountered other problems or difficulties during the application, review, or approval process for the program. Table 16 shows the most commonly reported problems or difficulties.

Table 3-14. Problems and Difficulties Encountered During Application (Multiple Responses Allowed) (n=11)

	Count	Percent
The process took too long	4	36%
There were too many delays between steps	3	27%
The process was too complex	2	18%
The application was too difficult to understand	2	18%
Couldn’t get questions answered	2	18%
Other	2	18%

3.3.2 Program Satisfaction

Participant farmers overall expressed a high level of satisfaction with the ADP; 88% rated their overall satisfaction with the program at “4” or “5” on a 5-point scale, where “5” is “extremely satisfied.” They reported the greatest satisfaction with the performance of the new equipment and their interactions with program staff, including NYSERDA and its implementation contractor (95% and 94%, respectively). Most participants (81-89%) also provided “satisfied” ratings for all other program areas (Table 17, next page).

Table 3-15. Participant Farmers’ Satisfaction with the ADP

	Satisfied	Neutral	Disatisfied	Total	
				Count*	Percent
Performance of new equipment	95%	0%	5%	21	100%
Internatction with program staff	94%	6%	0%	32	100%
Inspection and verification process	89%	11%	0%	28	100%
Staff’s technical understanding of measures	84%	16%	0%	32	100%
Timing of program launch	84%	9%	6%	32	100%
Time for incentive arrival	82%	18%	0%	22	100%
Application process	81%	12%	6%	32	100%
Overall program satisfaction	88%	12%	0%	32	100%

* Note: Total counts fluctuate item-by-item because some respondents reported they had not had enough experience to rate some items.

In addition, equipment dealers who had interactions with the NYSERDA implementation contractor, EnSave, were asked about their satisfaction with the NYSERDA implementation contractor performance. A majority of the dealers (n=9) rated their satisfaction with the services they received from EnSave very highly.

3.4 PROGRAM INFLUENCES

3.4.1 Importance of the ADP to Participant Farmers

Overwhelmingly (91%), participant farmers reported that the ADP provided “very important” support or “critical” support (on a 5-point scale where “5” represented “critical support”) for their ability to recover from the impact of the two storms (Table 18).

Significantly, when these respondents clarified their ratings, half of them (n=15) indicated that, without the ADP, they would have had to either reduce the size of their operation or go out of business. Below are some sample comments:

- “Without the program, [we] would have been at 50-60% capacity, and would have taken 3-4 years to produce 100% of the crop.”
- “[We] would be out of business. We would not have done any work at all. We would be gone.”
- “Without the program, we would not be back in full operation. ... It helped us not lay off four people.”

One of the two respondents who rated the importance of the ADP program to their farm as a “2” said their project had not been installed when they were surveyed. The other said the damage affected a very small part of their operation. The single respondent who rated the importance of the ADP program to their farm as a “3” (moderate support) said, “[We] were going to buy [the incented equipment] anyway in four years.”

Table 3-16. Importance of the ADP to Farm’s Ability to Recover from Storms

	Insignificant Support	2	Moderate Support	4	Critical Support	Total (n=31)*
Importance of the ADP to recover	0%	6%	3%	26%	65%	100%

* Note: Two respondents said “Don’t know.” The interview with 1 respondent was a partial complete. They are treated as missing.

The participant farmers were asked if they had observed any non-energy benefits (other than electricity or natural gas savings) from their participation in the ADP. Half of the respondent farmers (n=13) reported at least one non-energy benefit (Table 19).

These non-energy benefits related to either improved equipment quality, or increased productivity and improved product quality. Some of their comments included:

- “[We] have better control over plant diseases, [resulting in] less costs and less spraying [which result in] happier customers. ... Plants get more fresh air.”
- “Improved product quality and increased productivity of the greenhouses due to better ventilation with new equipment.”
- “[The new] lights are far better/much more effective. Much improved lighting everywhere.”

Table 3-17. Non-Energy Benefits from the ADP Participation

	Count	Percent (n=26)*
Improved equipment quality	9	35%
Increased productivity and/or improved product quality	8	31%
No change	8	31%

Note: We asked this question in an open-ended format, and we later coded.

* Note: Eight respondents said they had not had enough experience with their new equipment to answer this question. Therefore, we excluded them from the denominator.

In addition, the evaluation team asked the participant farmers what they would have done in absence of the ADP assistance (Table 20, next page). More than half of the respondents (53%) reported they would have repaired the damaged equipment or system without replacing it. Nineteen percent of the participant farmers said they would not have replaced or repaired the damaged equipment or system. A small number of the respondents (6%) said they would have replaced the damaged equipment with non-energy-efficient model. Six respondents (19%) said they would have replaced the damaged equipment with the same model as they were incented.

Table 3-18. Action Without the ADP

	Count	Percent (n=32)*
Repaired the damaged equipment or system without replacing	17	53%
Not replaced/repared the damaged equipment or system at all	6	19%
Replaced the damaged equipment with the same equipment or model	6	19%
Replaced the damaged equipment with a standard or non-energy-efficient model	2	6%
Don't know	1	3%
Total	32	100%

* Note: Two respondents did not answer this question.

3.4.2 Effects on Equipment Dealers

The evaluation team also investigated the effects of the ADP on equipment dealers. Of the dealers who reported that their customers participated in the ADP by using their service, 57% reported that the ADP had had an overall positive impact on their business, while 33% said that the ADP had had no effect on their business (Table 21).

Table 3-19. Effects of the ADP on Equipment Dealers

	Count	Percent (n=21)
Positive	12	57%
No Effect	7	33%
Negative	0	0%
Don't know	2	10%
Total	21	100%

3.5 RECOVERY STATUS

The evaluation team assessed participant farms' current operating condition compared with these farms' condition before the two storms occurred. Despite the ADP assistance, a majority of the participant farms (73%) said they still had not fully recovered from the storms. Eighteen percent of the participant farms reported that their farms were "not at all recovered" or "mainly unrecovered" (Table 22).

Table 3-20. Recovery Status Among Participant Farms

	Count	Percent
Fully recovered	9	27%
Almost recovered but not fully	18	55%
Somewhat recovered but mainly unrecovered	4	12%
Not at all recovered	2	6%
Total *	33	100%

* Note: One respondent did not answer this question.

Table 23 shows the types of damages with which these unrecovered farms still were dealing. Almost half of them (46%) still had land- and soil-related damage. One-quarter (25%) of them reported structural and/or equipment damages (21%). Seventeen percent reported they still had not recovered from crop-related damages. Although it is uncertain whether any of the reported remaining damages are within the purview of the ADP, one respondent with remaining equipment damage said, “[We] are realizing now some equipment is not working.” These comments included the following:

3.5.1 Land and Soil Damage

- “Some of the fields are eroded and drainage is still bad on some fields.”
- “[We are] still cleaning up our property.”
- “Still have river bank damage.”

3.5.2 Structural and Equipment Damage

- “The roof of my barn was ripped off,...still roofing leaks.”
- “Most of the buildings are still damaged.”
- “Things are still breaking and not functioning. [We] are realizing now some equipment is not working.”

3.5.3 Crop-Related Damage

- “Sod crops take 1.5-2 years to grow.”
- “Loss of perennial crops – which take a year to come back after planting.”
- “All of our crops were lost last year. We have not recovered from that.”

Table 3-21. Types of Damage Remaining Unrecovered

	Count	Percent (n=24)*
Land and soil damage	11	46%
Structural damage	6	25%
Equipment damage	5	21%
Crop-related damage	4	17%

* Note: We asked this question in an open-ended format, and we later coded the responses. We asked this question only to those who said they had not fully recovered from the storms.

3.6 OTHER DISASTER ASSISTANT SOUGHT

The evaluation team asked both nonparticipant and participant farms whether they had applied for or received any other assistance for their farms, including from their insurer, in order to recover from the storms. Fifty-seven percent of nonparticipant farms, and 74% of participant farms, reported they had applied for other assistance. Table 24 and Table 25 show the types of assistance they sought and the status of their applications.¹⁰

Table 3-22. Other Assistance Sought by Nonparticipant Farms

	Received	Pending	Status Unknown	Total Applied (n=36)	
	Count	Count	Count	Count	Percent
State or county funding	21	3	2	26	72%
Federal funding	7	1	0	8	22%
Private insurance funding	3	0	2	5	14%
Crop insurance	2	2	0	4	11%
Other funding	1	0	1	2	6%

¹⁰ State and county funding includes Soil and Water, NYS Ag and Market, and other mentions, such as “watershed funding” or “ACRS.” Federal funding includes FEMA, USDA FSA, and other mentions, such as “Fed farm program.”

Table 3-23. Other Assistance Sought by Participant Farms

	Received	Pending	Status Unknown	Total Applied (n=25)	
	Count	Count	Count	Count	Percent
State or county funding	6	3	2	11	44%
Federal funding	2	1	3	6	24%
Private insurance funding	5	0	1	6	24%
Crop insurance	2	0	1	3	12%
Other funding	2	1	3	6	24%

SUGGESTIONS FOR PROGRAM IMPROVEMENT

Interview and survey respondents offered various program improvement ideas.

4.1 SUGGESTIONS MADE BY PARTICIPANT FARMERS

Participant farm respondents provided a variety of suggestions to improve the program. Two open-ended questions were asked: “Do you have any suggestions or advice to disaster relief program administrators about preparing for and responding to future disasters?”; and “Do you have any suggestions for program improvement? What do you think most needs to be changed?” The following summarizes these farmers’ responses to these two questions.

4.1.1 Expedited Program Process and Payment

Six farmers reported that the program should expedite the program and payment process, especially because the damage occurred during disaster(s) from which they were struggling to recover. A few of them mentioned that they would like to receive program assistance payments up-front rather than waiting for reimbursement. One respondent said that some dealers from whom he bought equipment were hesitant to be involved in the program because they believed the payment process would take too long.

4.1.2 Comprehensive Assistance Information

Four participant farmers said they would like to receive comprehensive information on assistance programs in order to reduce their confusion about program eligibility and the support each provides. The following illustrate these comments:

- “When they send the program information, they should make a list of what they are going to help you with, what they can do and all the options, and let you know if it’s money, a grant, or a loan.”
- “I’d like to see more phone number listings so I know who to call about what questions.”

4.1.3 Other Suggestions

Other suggestions participant farmers provided included: timelier program deployment (n=3); more promotion activities to raise program awareness (n=2); adding renewable technologies as allowable measures (n=2); and providing services in languages other than English (n=2).

4.2 SUGGESTIONS MADE BY EQUIPMENT DEALERS

Some dealers also offered program improvement suggestions. Their suggestions were in two areas: payment method and timing (n=11) and more program advertisement through dealers (n=6). The following illustrate each of these areas:

4.2.1 Payment Method and Timing

- “The check needs to be cut to both parties so the vendor gets paid. The problem is that the money goes to the farmers and they may or may not pay us.”
- “The money takes too long to come. And we have to buy the equipment.”
- “[It] takes too long to get paid. On some projects done in October, [I] haven’t gotten paid yet.”

4.2.2 More Program Advertisement Through Dealers

- “Inform dealers first off, so we can advertise the program. I wish I knew more, sooner so I could have done more.”
- “You need to notify the vendors so they can tell more customers who they knew had damages.”
- “More email communication,... rather than just [instructions to] visit a website. The NYSERDA website is very confusing and hard to navigate. I went on [the site] to find program info but it was too hard to find.”

4.3 TIMING OF PROGRAM ROLLOUT

Three interview respondents suggested that NYSERDA should have rolled out the program much earlier, in order to provide assistance immediately after the storms occurred. One respondent explained that the PSC’s lengthy approval process, which required two petitions submitted by NYSERDA (the original petition to reallocate EEPS fund and the second petition to increase the original funding cap), significantly delayed program rollout and hampered assessment and outreach activities.

Another interview contact, who agreed that the program could have been launched more quickly, said that funding for this type of program needs to be “just sitting there and ready to go” whenever disaster assistance needs arise.

4.4 DAMAGE ASSESSMENT PROCESS AND INFORMATION SHARING

Several interview contacts explained that, in the United States, there is a strong infrastructure that immediately responds to the needs of the agricultural community during and after natural disasters. USDA FSA, FEMA, Cooperative Extension, Ag and Market, and Soil and Water are some of the key organizations that support this mechanism. Following a disaster, these organizations immediately take emergency actions, including damage assessment. Because of the timing of the ADP program rollout, most interview contacts said that the program could not take advantage of this existing infrastructure to conduct damage assessments and disseminate program information. As one key interview contact said, “[Ag agencies] were [finished] with outreach and field surveys for their initial strong effort... by the time [the program] was ordered and allowed to run. [The program] lost the opportunity.”

Many agriculture agency contacts reported that, immediately after the disasters, they did field assessments to collect damage data, primarily for the purpose of their own program. These assessments focused on crop- and soil-related damages, but included some structural damage. For instance, Soil and Water conducted farm-specific storm damage assessments¹¹ for its Agricultural Community Recovery Fund Program; one EnSave contact said they found this information “tremendously” useful for the ADP outreach. One agriculture agency contact suggested that NYSERDA should coordinate with other agencies to include relevant questionnaire items in their farm damage assessment tool so NYSERDA can use it when funding becomes available.

Other agency contacts made related suggestion: that, in order for NYSERDA to utilize the existing agricultural support infrastructure more effectively, NYSERDA should work with agricultural emergency response partners and local emergency committees on an ongoing basis so that when agencies go into the

¹¹ Agricultural Community Recovery Fund Program’s storm damage assessment form included a question “Damage to Agricultural Production Facilities, Equipment, etc?” Soil and Water provided this information to NYSERDA. This assessment form can be found in Appendix H.

field to start working with farmers “[the program information] is already in [the agencies’] tool kit.” One contact said that in disaster situations, “Agencies visit and spend hours on every farm... [day and night]. Then somebody tells them, ‘Oh by the way, did any of these farms have *this* kind of damage, because we have money to fix it?’ No email or no phone. You’d literally have to go back to every single farm.”

Many agency/ADP program staff interview contacts also reported difficulties in conducting outreach due to an inadequate list of farms, and recommended that NYSERDA and these agencies develop a more integrated farm list. Contacts offered two possible solutions: 1) NYSERDA coordinates regularly with state emergency programs, and that these entities ensure that their databases facilitate system integration and information sharing; 2) NYSERDA becomes involved in county- and state-level emergency boards that USDA FSA coordinates. These boards facilitate events during which multiple agencies practice coordinated emergency response drills, including sharing contacts and data during various potential emergency situations.

4.5 REDUCING MARKET OVERLAP AND CONFUSION

As noted, numerous organizations offered disaster assistance programs to damaged farms after Hurricane Irene and Tropical Storm Lee. NYSERDA offered the ADP, and National Grid and NYSEG operated similar programs. To reduce confusion about these programs, NYSERDA, National Grid, and NYSEG produced and distributed a letter describing the programs, funding caps, and other funding requirements for each program.

Despite this effort, farmers and dealers who were surveyed were not clear about all of the program information. For instance, 36% of the participant farmers reported that they were at least “somewhat” confused about the program; one-third of them said they were “very” confused. Many of these farmers reported they were overwhelmed and frustrated by the number of organizations offering help, and each program’s eligibility and application requirements, and forms. The following are some illustrative comments:

- “I didn’t know where to go, who qualified, and what was available.”
- “There was no short, clear info that provided a quick summary of the programs.”
- “There were so many organizations with so many applications to fill out.”
- “... [I was] frustrated because you are dealing with a disaster, but also trying to fill out all these forms.”

Some equipment dealers (14%) also reported confusion. As one dealer respondent said:

- “With all the different programs and everyone trying to help, it was confusing when customers would call about the program, and they would say ‘I got a federal this or a grant for that.’”

Most interview contacts – those working with the various programs – also said there was confusion in the market. A common suggestion they provided was having a unified program delivery mechanism. They believed this would decrease market confusion, and streamline assessment processes and program administration.

ENERGY EFFICIENCY IN NEW YORK AGRICULTURE

This section summarizes interview and survey respondents’ comments about general energy efficiency of farms in New York, as well as feedback regarding how energy efficiency improvements can help New York farmers. The research included interviews with representatives of agriculture agencies, and surveys with participant farmers and dealers.

5.1 ENERGY EFFICIENCY AS PART OF THE ADP

All agriculture agency contacts provided positive feedback on the ADP’s program design, of including improved energy efficiency in disaster relief programs. Some of their comments included:

- “[T]here’s no better time to upgrade their equipment, I think it’s a wise expenditure of public dollars.”
- “[A farm is] flooded out and they don’t have any money. [They]’d have to buy the cheapest appliances [they] can to replace one [they] lost.”

Another contact explained that New York farms have among the highest operating costs in the country. This includes energy costs, because New York has some of the highest electricity rates in the nation. He continued, “In order to keep New York agriculture competitive with other states’, anything that could reduce farms’ operating cost is hugely beneficial.”

5.2 STATE OF ENERGY EFFICIENCY IN NEW YORK AGRICULTURE

When asked to describe the general level of energy efficiency in the New York agriculture community, most of the contacts who work for agriculture agencies said that it varies “from very inefficient” to” state-of-the-art,” and that large-scale farms generally are more efficient than smaller farms.

Equipment dealers were asked the same question (Table 26). A majority (75%) thought that New York farms are “somewhat energy-efficient,” while smaller percentages of dealers rated the farms “highly energy-efficient” (11%) or “very inefficient” (9%).

Table 5-1. State of Energy Efficiency in New York Agriculture

	Count	Percent
Highly energy-efficient	5	11%
Somewhat energy-efficient	33	75%
Not energy-efficient	1	2%
Very inefficient	4	9%
Don’t know	1	2%
Total	44	100%

5.3 CHALLENGES FOR ENERGY EFFICIENCY UPGRADES

A majority of equipment dealers (65%) reported that New York farmers now consider energy-efficient options “often” or “always” when replacing their electric or natural gas systems or equipment (Table 27). Twenty-eight percent of dealers rated this as only “sometimes,” and a very few said “never” (5%). As one

agriculture agency contact said, farmers are “increasingly more conscious of the energy efficiency” of their systems and equipment.

Table 5-2. How Often New York Farmers Consider Efficient Options over Standard Options

	Count	Percent
Never	2	5%
Sometimes	12	28%
Often	21	49%
Always	7	16%
Don't know	1	2%
Total	43	100%

When dealers were asked about challenges these farmers face in making energy efficiency upgrades of their systems and equipment, “initial cost” and “payback period” topped the list as the “very big barrier” (56% and 44% respectively) (Table 28). About half (53%) also rated “lack of knowledge or experience with energy-efficient options” as “somewhat a barrier.” More than half of the dealers thought that “doubt about reliability of efficient options,” “time it takes to research energy efficient options,” or “lack of availability of efficient options” are “not at all a barrier.”

Table 5-3. Challenges for New York Farmers in Making Efficiency Upgrades of Systems and Equipment

	A very big barrier	Somewhat a barrier	Not at all a barrier	TOTAL
Initial cost of efficient systems and equipment (n=43)	56%	35%	9%	100%
Payback period (n=43)	44%	44%	12%	100%
Lack of knowledge about or experience with energy-efficient option (n=43)	21%	53%	26%	100%
Doubt that high-efficiency systems and equipment are as reliable as the standard options (n=43)	16%	26%	58%	100%
Time it takes to research energy-efficient options (n=42)	12%	36%	52%	100%
Lack of availability of high-efficiency systems and equipment (n=43)	12%	28%	60%	100%

Participant farmers and equipment dealers reported similar challenges regarding replacement of existing or non-working equipment with more energy-efficient equipment. Seventy-one percent mentioned initial cost of new efficient equipment as a barrier, and 24% said payback period or return on investment is a major barrier.

One key agriculture agency contact explained that farmers generally are reluctant to upgrade without significant incentives, since it is significantly less expensive to repair existing equipment than to replace it. This contact further explained that “[Farmers] may upgrade one feature of their farm but doing a whole-scale energy conservation plan is just not within their fiscal capability.”

5.4 PROGRAM SUGGESTIONS FOR ENERGY EFFICIENCY

The evaluation team asked agriculture agency contacts to suggest any changes to program services that might help improve energy efficiency in New York’s agricultural sector. Some contacts said that the most important action is for NYSERDA to continue to fund AEEP. As one contact said, “The more farms we can get signed up under the program (AEEP), the better off we are.”

The most common suggestion provided by the agriculture agency contacts was to extend the service to the field level, in order to address transport fuels and management practices. One contact noted that, “Electricity...is nowhere near the cost center that transport fuels are.” Another contact said, field-level enhancement could “actually improve the bottom line – by addressing the cost of production.” While acknowledging the difficulty in providing incentives for more than the electric and natural gas measures covered by the SBC requirements, these contacts encouraged NYSERDA to examine how to provide comprehensive energy audits for farms that address facility- as well as field-level energy reduction.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The NYSERDA ADP emphasized provision of emergency response assistance to storm-damaged farms as a result of significant damage caused by Hurricane Irene and Tropical Storm Lee in August and September 2011. The New York State Public Service Commission approved the reallocation of \$5,861,664 in Energy Efficiency Portfolio Standard funds for NYSERDA to administer the ADP. Eligible farms could request up to \$250,000 of 100% cost share assistance to replace and/or repair their damaged electric and natural gas equipment to incorporate energy efficiency components.

The Research Into Action evaluation team conducted interviews with all of the key personnel and entities, including: NYSERDA program staff, the program implementation contractor (EnSave), and utility program administrators and various agricultural agencies active in the counties targeted by the program. In addition, the evaluation team surveyed a sample of equipment dealers and installers that provide contractor services to agricultural customers, program participants, and farm owners who did not participate in the program but reside in the affected counties. These interviews and surveys clarified each party's role in the deployment of the program, informed lessons learned from the program's response to the storms, and identified opportunities to meet farms' needs following these and future storms.

Outreach and Market Responses

NYSERDA and its implementation contractor, EnSave, led program outreach activities working with agricultural agencies, along with direct outreach to farmers and equipment dealers, and other marketing channels. Interview contacts unanimously reported that reaching out to damaged farms was a challenge. All of these organizations shared the common problem of the lack of a comprehensive list of damaged farms in the affected counties, as there is no central warehouse of storm-damage data. The NYSERDA implementation contractor did report that the list compiled by the New York Soil and Water Conservation District for its Agricultural and Community Recovery Fund Program helped them identify potential participant farms for the NYSERDA ADP.

Most interview respondents said that they expected a greater level of qualifying damage than what actually applied to the ADP. Only 13% of the nonparticipant farmers surveyed for this evaluation reported damage that qualified for participation. Interview contacts speculated that the reasons for the lower than expected rate of participation were a misunderstanding of the program and qualification requirements, the agricultural sector's cyclical nature, and the later than ideal program launch.

Program Awareness

Among nonparticipant farms in the qualified counties, 68% were aware of the ADP. Fewer than half of the equipment dealers that service electric or natural gas equipment for New York agricultural customers were aware of ADP. Among those dealers that were aware of ADP, 19% reported they reached out to prospective customers to sell equipment by taking advantage of ADP.

Farm Profiles

NYSERDA's project tracking system recorded 67 unique participant farms. Among them, the most prevalent were customers of National Grid and Orange & Rockland. Among the nonparticipant farms, the largest percentage said that New York State Electric and Gas Company was their electric utility.

The most common farm type for participants was a "business started after 1950" with "medium field size" (100-500 acres). Among participant farms, more than half reported that they grow row crops (the most

common mention), followed by dairy; dairy was the most common product type among nonparticipant farms. Most likely, due to different type of farming (row crops), the participant farms were more likely to report their are irrigated farms than nonparticipant farms.

Program Process

Satisfaction with all program areas among the participant farms was very high. Applicants said that, once they enrolled in the program, the program process worked rather smoothly. Although many applicants sought assistance from the NYSERDA implementation contractor with various aspects of the program, most participant farms reported that application materials were easy to understand, and a majority of them reported they received sufficient help to complete their applications. A majority of participants also thought the parties involved in the program and disaster assistance coordinated and worked well together.

Program Influences

An overwhelming number of participating farmers reported that the ADP provided very important support to help them recover from the impacts of the storm(s). Notably, half of these respondents said they would have had to reduce the size of their operation or would have gone out of business without the ADP assistance. A majority of these participants also said that, without the ADP, they only would have repaired the damaged equipment (53%), not replaced nor repaired (19%) it, or replaced it with a standard efficiency model (6%). Half of the participants also reported non-energy benefits from the new equipment, such as improved equipment quality, improved product quality, and increased productivity.

More than half of the participating equipment dealers reported that the ADP had positive economic impacts on their businesses.

Recovery Status

Despite the ADP support they received, at the time of this report, a majority of participant farms (73%) had not fully recovered from the storm damages. Nearly one-fifth of the surveyed participant farms (18%) reported their farms still were “mainly unrecovered” or “not at all recovered” from the storms. Almost half of these farmers reported they still have storm-caused land and soil damage on their farms. About one-quarter reported structural and/or equipment damages. Seventeen percent reported they still had not recovered from crop-related damages. Likely none of these remaining damages are within the purview of the ADP.

Suggestions for Future Emergency Programs

An important suggestion, provided by many interview respondents was to improve damage assessment and outreach activities by using the existing agricultural community support mechanisms. In particular, they suggested that NYSERDA work with agricultural emergency response partners and local emergency committees on an ongoing basis to ensure that NYSERDA is better able to coordinate with other agencies’ data requirements and data collection tool(s) to develop a comprehensive list of farms. Very few equipment dealers were involved in outreach efforts to their prospective customers; many of these dealers suggested that NYSERDA involve them in emergency program’s outreach efforts earlier in the process to best meet their customer’s needs in an emergency.

It is evident that farmers were confused about the numerous disaster recovery/relief funding sources that were available to them, and these programs’ varying qualification and application requirements. Participating farmer contacts commented that it would be very helpful to have a comprehensive list of assistance programs that delineates program contacts, program eligibility requirements, and assistance areas. Many interview contacts also suggested having a unified program delivery mechanism, which would decrease market confusion and streamline the assessment process and administration.

During a disaster, recovering farmers need and expect assistance programs to operate quickly and efficiently, and process payments rapidly. To expedite the process, some farmers suggested that it would be better if the program would: 1) pay qualifying farmers before they buy replacement equipment, rather than reimbursing them for purchased equipment, and 2) conduct all inspection and verification activities after the equipment has been installed. Many dealers also requested faster payment to maintain their cash flow. One participating farmer reinforced these dealers' comment by reporting what he had heard from some dealers that they were unwilling to participate in NYSEERDA projects because of payment delays.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation team offers following conclusions and recommendations to provide feedback to the current program, as well as to improve disaster relief operations in the future.

Conclusion A: The ADP's program process is working well, and program staff members are respected for their technical competence and their helpfulness to farmers. The ADP provided highly critical assistance to storm-damaged farms, and it is evident that this assistance seized energy-saving opportunities many affected farmers otherwise might not have realized. Despite well-intended outreach efforts, more than a quarter of nonparticipant farms were unaware of the ADP, and a majority of the participant farms still remain not fully recovered from the storm damages. In addition, many of these unrecovered farms reported that some damage remains unrepaired, though what they reported as damaged does not appear to be within the purview of the ADP.

Recommendation 1: Continue offering the ADP assistance as a part of ongoing Agricultural Energy Efficiency Program until all of the funding is expended.

Conclusion B: The most significant challenge the program experienced was marketing and outreach. The common problem was a lack of a comprehensive list of damaged farms in the affected counties. In addition, approval for the program, delayed program rollout and this limited the program's ability to leverage existing agricultural support mechanisms to conduct damage assessment and broadcast program information effectively. The program also could not mobilize equipment dealers effectively to promote the program.

Recommendation 2: Involvement in ongoing state and local emergency management operations will be important to ensure NYSEERDA is connected to these networks. Consider supporting opportunities to coordinate data needs and assessment tools to facilitate system integration and information sharing.

Recommendation 3: Leverage equipment dealers' market network to more effectively and quickly promote the program. Maintain a comprehensive list of equipment dealers that serve New York agricultural customers by equipment type and by county.

Conclusion C: Times of disaster by nature are confusing and challenging. Disaster recovery assistance offered by numerous organizations to affected farms had different qualifications and application requirements. In addition, two utilities offered programs that were very similar to the ADP in overlapping geographical areas. These clearly contributed to market confusion among affected farmers.

Recommendation 4: Direct outreach was important in the ADP and will be important in future emergency programs. Providing direct, face-to-face outreach is important to clarify any confusion affected farmers may have and to engage potential participants, especially under disaster circumstances.

Recommendation 5: Work with state and local emergency management operations to ensure NYSERDA program is included in any comprehensive list of disaster assistance information that includes program contact, program eligibility, and assistance areas for future emergency programs.

Recommendation 6: Investigate ways to integrate a NYSERDA disaster recovery program into other emergency services to facilitate a one-stop-shop experience for farmers.

APPENDIX A:

NYSERDA PROGRAM STAFF INTERVIEW GUIDE

My name is Jun Suzuki. I work with Research Into Action. We are working with Tracey DeSimone in NYSERDA's evaluation group to conduct process evaluation of Agriculture Disaster Energy Efficiency Program. I have some questions that I like to ask you about the program. I expect we'll need about 45 to 60 minutes. Can we schedule a time to talk, or is now a good time?

OVERVIEW

1. First, please briefly describe the purpose of the Agriculture Disaster Energy Efficiency Program, who it serves, and how?
2. What is your role in the program?

PROGRAM ADMINISTRATION

3. Could you talk briefly about the roles of each of the various players involved in this program, including NYSERDA staff, Program Implementation Contractor, trade allies, and other stakeholders and market actors? [GET DIAGRAM, IF THERE IS ONE][PROBE TO ADDRESS EACH OF THE FOLLOWING:]
 - NYSERDA staff
 - Program Implementation Contractor – EnSave
 - Trade allies
 - Cornell Cooperative Extension
 - NYS Dept. of Agriculture and Markets
 - NYS Farm Bureau
 - USDA Rural Development
 - USDA Farm Service Agency
 - FEMA
4. [IF NOT ADDRESSED] What involvement do the New York utilities have in this program? (National Grid and NYSEG, etc.)
5. We understand that EnSave was already working with NYSERDA prior to this Disaster Energy Efficiency program. Did any specific agreements have to be developed for EnSave to work on this Disaster program?
6. Any challenges reported with these?
7. How frequently does your team communicate with EnSave, by what means, and about what?

MARKETING AND OUTREACH

8. What is your strategy for reaching potential participants, and what marketing and outreach activities have occurred?
9. What methods have been most successful?
10. What would you say is the general awareness level of this program among farmers?
 - a. And why do you say this, what are you basing this assessment on?
11. What problems or issues have you encountered regarding marketing and outreach?
 - a. And what is being done to resolve these issues?

PROGRAM DELIVERY AND MARKET RESPONSE

12. How have participation levels compared with your expectations?
13. What are some of the factors resulting in the current participation rates?
(probe as necessary potential factors: low program awareness, lower demand, other competing supports, participation criteria too restrictive, etc.?)
14. Have you been able to deliver program services as anticipated?
 - a. What problems have you encountered in delivering program services?
 - b. And what is being done to resolve these issues?
15. What leads to projects being rejected?
 - a. How do rejection rates compare with your expectations?
 - b. What is being done to reduce rejection rates?
16. Has EnSave reported any customer satisfaction issues?
 - a. And what is being done to resolve these issues?

PROGRAM DESIGN

17. What program assumptions have been challenged during program implementation?

OVERALL LESSONS LEARNED

18. What components of the program design and implementation were most effective?
19. What components of the program design and implementation were least effective?
20. What do you think most needs to be changed about the program?
21. What would you like to learn from this evaluation?

APPENDIX B:

IMPLEMENTATION CONTRACTOR INTERVIEW GUIDE

My name is Jun Suzuki. I work with Research Into Action. We are working with Tracey DeSimone in NYSERDA's evaluation group to conduct process evaluation of Agriculture Disaster Energy Efficiency Program. I have some questions that I like to ask you about the program. I expect we'll need about 45 to 60 minutes. Can we schedule a time to talk, or is now a good time?

OVERVIEW

1. First, please briefly describe the purpose of the Agriculture Disaster Energy Efficiency Program, who it serves, and how?
2. What is your role in the program?

PROGRAM ADMINISTRATION

3. Could you talk briefly about the roles of each of the various players involved in this program, including NYSERDA staff, Program Implementation Contractor, trade allies, and other stakeholders and market actors? [GET DIAGRAM, IF THERE IS ONE][PROBE TO ADDRESS EACH OF THE FOLLOWING:]
 - NYSERDA staff
 - Program Implementation Contractor – EnSave
 - Trade allies
 - Cornell Cooperative Extension
 - NYS Dept. of Agriculture and Markets
 - NYS Farm Bureau
 - USDA Rural Development
 - USDA Farm Service Agency
 - FEMA
4. [IF NOT ADDRESSED] What involvement do the New York utilities have in this program? (National Grid and NYSEG, etc.)
5. We understand that EnSave was already working with NYSERDA prior to this Disaster Energy Efficiency program. Did any specific agreements have to be developed for EnSave to work on this Disaster program?
6. Any challenges reported with these?
7. How frequently does your team communicate with NYSERDA staff, by what means, and about what?

MARKETING AND OUTREACH

8. What is your strategy for reaching potential participants, and what marketing and outreach activities have occurred?
9. What methods have been most successful?
10. What would you say is the general awareness level of this program among farmers?
 - a. And why do you say this, what are you basing this assessment on?
11. What problems or issues have you encountered regarding marketing and outreach?
 - a. And what is being done to resolve these issues?

PROGRAM DELIVERY AND MARKET RESPONSE

12. How have participation levels compared with your expectations?
13. What are some of the factors resulting in the current participation rates?
(probe as necessary potential factors: low program awareness, lower demand, other competing supports, participation criteria too restrictive, etc.?)
14. Have you been able to deliver program services as anticipated?
 - a. What problems have you encountered in delivering program services?
 - b. And what is being done to resolve these issues?
15. What leads to projects being rejected?
 - a. How do rejection rates compare with your expectations?
 - b. What is being done to reduce rejection rates?
16. Have you encountered any customer satisfaction issues?
 - a. And what is being done to resolve these issues?

PROGRAM DESIGN

17. What program assumptions have been challenged during program implementation?

OVERALL LESSONS LEARNED

18. What components of the program design and implementation were most effective?
19. What components of the program design and implementation were least effective?
20. What do you think most needs to be changed about the program?
21. What would you like to learn from this evaluation?

APPENDIX C:

AGRICULTURAL AGENCY CONTACT INTERVIEW GUIDE

My name is Jun Suzuki with a company called Research Into Action. We are evaluating NYSERDA's Agriculture Disaster Energy Efficiency Program. NYSERDA program staff told us you were a key agency person they worked with as they implemented the disaster energy efficiency program. I would like to ask you some questions about the program. This will take about 30-45 minutes. Can we talk now, or should we schedule a time that is more convenient for you?

Contact Name: _____

Title: _____

OVERVIEW

1. What's your agency's role in general in the agricultural community in New York?
2. When a natural disaster like Hurricane Irene or Tropical Storm Lee occurs, does your agency have a specific role in helping affected farms to recover? Any specific data is collected?
3. Would you say you are . . .
 - () very familiar
 - () somewhat familiar
 - () somewhat unfamiliar
 - () not at all familiar with NYSERDA's Agriculture Disaster Energy Efficiency Program?

[IF Q3="not at all familiar", SKIP TO Q5]

4. Please briefly describe what you know about NYSERDA's Agriculture Disaster Energy Efficiency Program. (IF NOT MENTIONED: who it serves and how)

[IF Q3="not at all familiar", SKIP TO Q13]

5. I understand NYSERDA worked with your agency to coordinate its Agriculture Disaster Energy Efficiency Program. Please describe the specific activities your agency in that effort. (recruitment, technical assistance, or anything else)

PROGRAM EXPECTATIONS AND OBSERVATIONS

6. When Irene and Lee hit the State of New York last year, how quickly did your agency react to help affected farmers?
7. Do you think the NYSERDA program was launched quickly enough to respond to the need of affected farmers?
 - a. [IF NO:] Do you have any suggestions about what could be done to get a program into the field faster?
8. How do you think the program was working overall, in terms of serving the affected farmers?
 - a. Please tell me what elements of the program were working well.

9. What elements of the program could be improved?
10. Have you heard from farmers about any problems with the NYSERDA program?
11. What other suggestions do you have about ways to change or improve the program?
12. Does your agency see a benefit for improving energy efficiency of farms as part of a disaster relief program?
13. Thinking about general level of energy efficiency in the agricultural community in New York, would you say electric or natural gas equipment used by New York farms generally is . . .
 - highly energy-efficient
 - somewhat energy-efficient
 - not energy-efficient
 - or, very inefficient?
 - Don't know
 - a. Please tell me why you think they are [PIPE IN Q13].
 - b. [IF INEFFICIENT] Do you have any suggestions in terms of program services that might be helpful to improve energy efficiency of the agricultural community in New York?

COMMUNICATIONS AND COORDINATION

14. It was challenging for NYSERDA to obtain contact information for affected farms including information on farms' on-site buildings and equipment. Is there any central database for affected farms by a disaster?
15. What have you and your agency found to be the most effective way to reach farmers who may need disaster assistance support?
16. Are you aware of any confusion among farmers about what assistance has been available and how to apply?
 - a. What's being done to resolve these issues?
 - b. Do you have any suggestions about how to avoid confusions among farmers?
17. Do you have any suggestions to improve coordination between other disaster relief programs in assisting affected farmers in response to future disasters?

CLOSING

18. In closing, do you have any other suggestions in terms of future deployment and operation of disaster relief programs to support affected farmers in the State of New York?

APPENDIX D:

UTILITY PROGRAM ADMINISTRATOR INTERVIEW GUIDES

NATIONAL GRID

Overview

1. What is the role of National Grid in the NYSERDA's Agriculture Disaster Energy Efficiency Program?

Program Administration

2. I understand that, if the applicant's farm is within National Grid's service area and the requested amount is below \$25,000, NYSERDA sends the farmer's application to National Grid's Emergency Agriculture Fund Program. Could you describe what happens then?
3. NYSERDA's Agricultural Disaster Energy Efficiency Program requires qualified applicants paying the Systems Benefit Charge. It also requires that equipment replaced or repaired have electric or natural gas component, and their project needs to include energy efficiency measures to be qualified for the fund. Is National Grid's Emergency Agricultural Fund Program requirement different from NYSERDA's?
4. How frequently does your team communicate with NYSERDA staff or ENSAVE staff either in face-to-face meetings, by phone, and by email? What are the main topics that you need to work together on?
5. Have you had any difficulty reaching NYSERDA or ENSAVE staff when you needed to speak with them? What has been effective?
6. Do you think the NYSERDA program was launched quickly enough to respond to the needs of affected farmers?
 - a. [IF NO:] What do you think affected the slower deployment of the program?
 - b. Do you have any suggestions about what could be done to turn around the program faster?

Marketing And Outreach

7. What are the main activities you pursued to identify potential participants for National Grid's Emergency Agriculture Fund Program?
 - a. What activities did you find to be most successful?
8. What would you say is the general level of awareness about your program among agricultural customers?
 - a. How about NYSERDA's program?
9. Are you aware of any confusion among farmers about what assistance has been available from what organization or how to apply?
 - a. What had been done to resolve these issues?
 - b. Do you have any suggestions about how to avoid confusion among farmers?

Program Delivery And Market Response

10. Considering your own program, how did participation levels compare with your expectations?
Would you say program participation was . . .
- more than expected
 - about as expected
 - or less than expected?
 - Don't know

[IF LESS OR MORE THAN EXPECTED]

11. What were some of the factors resulting in the participation being (more) or (less) than expected?
(probe as necessary potential factors: program awareness, demand/need, other competing support, participation criteria, etc.?)

Overall Lessons Learned

12. What do you think most needs to be changed to improve coordination for future disaster assistance programs?
13. Is there anything you'd like to learn from this evaluation?

NYSEG

My name is Jun Suzuki. I work with Research Into Action. We are working with NYSERDA's evaluation group to conduct a process evaluation of Agriculture Disaster Energy Efficiency Program. I have some questions that I would like to ask you about the program. I expect we'll need about 30-45 minutes. Can we schedule a time to talk, or is now a good time?

Overview

1. What is the role of NYSEG in the NYSERDA's Agriculture Disaster Energy Efficiency Program?

Program Administration

2. I understand that, if the applicant's farm is within NYSEG's service area and the requested amount is below \$50,000, NYSERDA sends the farmer's application to NYSEG's Emergency Agriculture Assistance Program. Could you describe what happens then?
3. NYSERDA's Agricultural Disaster Energy Efficiency Program requires qualified applicants paying the Systems Benefit Charge. It also requires that equipment replaced or repaired have electric or natural gas component, and their project needs to include energy efficiency measures to be qualified for the fund. Is NYSEG's Emergency Agricultural Assistance Program requirement different from NYSERDA's?
4. How frequently does your team communicate with NYSERDA staff or ENSAVE staff either in face-to-face meetings, by phone, and by email? What are the main topics that you need to work together on?
5. Have you had any difficulty reaching NYSERDA or ENSAVE staff when you needed to speak with them? What has been effective?
6. Do you think the NYSERDA program was launched quickly enough to respond to the needs of affected farmers?
 - a. [IF NO:] What do you think affected the slower deployment of the program?
 - b. Do you have any suggestions about what could be done to turn around the program faster?

Marketing and Outreach

7. What are the main activities you pursued to identify potential participants for NYSEG's Emergency Agriculture Assistance Program?
 - a. What activities did you find to be most successful?
8. What would you say is the general level of awareness about your program among agricultural customers?
 - a. How about NYSERDA's program?
9. Are you aware of any confusion among farmers about what assistance has been available from what organization or how to apply?
 - a. What had been done to resolve these issues?
 - b. Do you have any suggestions about how to avoid confusion among farmers?

Program Delivery and Market Response

10. Considering your own program, how did participation levels compare with your expectations?
Would you say . . .
- more than expected
 - about as expected
 - or less than expected?
 - Don't know

[IF LESS OR MORE THAN EXPECTED]

11. What were some of the factors resulting in the participation being (more) or (les) than expected?
(probe as necessary potential factors: program awareness, demand/need, other competing support, participation criteria, etc.?)

Overall Lessons Learned

12. What do you think most needs to be changed to improve coordination for future disaster assistance programs?
13. Is there anything you'd like to learn from this evaluation?

APPENDIX E:

NONPARTICIPANT SURVEY INSTRUMENT

Hi, my name is _____, with a company called Research Into Action. May I speak with [PIPE IN CONTACT NAME]? We are conducting a study about a disaster relief program to support the agricultural community in the State of New York in response to the impacts caused by Hurricane Irene and Tropical Storm Lee last August and September. Today, I'm calling to conduct a short survey with you for this study. It takes about 10 minutes of your time. Is it a good time now?

[IF NO, SCHEDULE AN APPOINTMENT]

County Name: [PIPE IN COUNTY NAME]

[IF COUNTY NAME = BLANK]

What county is your farm located in?

[IF COUNTY IS NOT IN THIS LIST, THANK AND TERMINATE]

Albany	Delaware	Nassau	Rensselaer	Sullivan
Broome	Dutchess	New York	Richmond	Tioga
Bronx	Essex	Oneida	Rockland	Ulster
Chemung	Greene	Orange	Saratoga	Warren
Chenango	Herkimer	Otsego	Schenectady	Washington
Clinton	Kings	Putnam	Schoharie	Westchester
Columbia	Montgomery	Queens	Suffolk	

Our record suggests that your farm, [PIPE FARM NAME], is located in a county that was identified as a disaster region hit by Hurricane Irene and/or Tropical Storm Lee.

1. Who is your local electric utility?
 - National Grid
 - NYSEG
 - Other (specify) _____
 - Don't know

PROGRAM AWARENESS

2. Have you heard of NYSERDA, which stands for New York State Energy Research and Development Authority?
 - Yes
 - No

3. NYSERDA runs a disaster relief program called Agriculture Disaster Energy Efficiency Program, which was launched after Hurricane Irene and Tropical Storm Lee hit last year. This program provides reimbursements for qualifying farms to incorporate energy-efficiency into any electric and natural gas equipment, systems and improvements replaced or repaired because of damage caused by the storms. Have you heard of this program?
- Yes
- No

SOURCE OF PROGRAM INFORMATION

[DISPLAY IF Q3=YES]

4. How did you hear about NYSERDA's Agriculture Disaster Energy Efficiency Program?
- Phone call (specify who) _____
- Mail (specify who) _____
- Fax (specify who) _____
- Email (specify who) _____
- Someone visited the farm (specify who) _____
- Media (TV, radio, billboards, etc.)
- Web search
- Neighbor, friend, family member
- Flier (specify what) _____
- Other (specify) _____
- Don't know
5. What is the best way to inform you about program details for this type of program focused on energy-using equipment damaged by a storm?
- Phone call
- Mail
- Fax
- Email
- On-site visit
- Media (TV, radio, billboards, etc.)
- Web search
- Neighbor, friend, family member
- Flier

Other (Specify) _____

Don't know

REASONS FOR NONPARTICIPATION

6. Did Hurricane Irene or Tropical Storm Lee cause any damages at your farm location, including facility or equipment damages, crop loss, erosion issues, and so on?

Yes

No [SKIP TO FIRMOGRAPHICS]

Don't know

7. Was any of your farm's equipment or systems that use electricity or natural gas damaged by either or both of these storms, and required replacement or repairs? (Examples: pump, compressor, lighting, water heater, HVAC, fan, chiller, motor, refrigeration, kitchen equipment, washer, etc.)

Yes

No [SKIP TO Q18]

Don't know [SKIP TO Q18]

8. Please describe the type of equipment.

9. It sounds like you might be qualified to receive assistance from the program, but our records indicate that you have not applied for it. Is that because you simply didn't know enough about the program or didn't know how to apply for it? Or, is it because of some other reasons?

I don't know enough about the program [SKIP TO Q12]

I don't know how to apply for the program [SKIP TO Q12]

Other reasons

Don't know

10. I'll read a list of reasons why you may have not applied for the program. I'd like you to tell me whether each one applies to your situation.

	Yes	No	Don't Know
a. You don't have time to apply for the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. There is too much paperwork involved in the application.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. The damage was too small to seek funding.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Other assistance program(s) covered the damaged equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. You couldn't wait to receive payment to replace or repair the damaged equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Don't Know
f. Energy efficiency option is not available to replace the damaged equipment / or cannot be readily identified.	0	0	0
g. Your farm is not paying into the System Benefit Charge (SBC) that funds NYSERDA. (The SBC is included in electric and gas bills to fund energy efficiency and renewable energy programs.)	0	0	0
h. Your farm was referred to your electric utility's disaster program.	0	0	0
i. You did not have enough technical information about the damaged equipment or system to apply for the program.	0	0	0
j. You got the repairs or replacement of the damaged equipment done before you learned about the program	0	0	0
k. Your farm did not meet other qualifications. (specify) _____	0	0	0
l. Other reasons (specify) _____	0	0	0

[DISPLAY IF Q10_i=YES]

11. You said you didn't know enough about the equipment or system to apply for the program. Did you attempt to seek technical assistance?

- Yes (from whom? _____)
- No [SKIP TO Q12]
- Don't know [SKIP TO Q12]

11a. Did you receive enough help (still waiting?, sufficient help?, etc.)

12. Many other organizations also responded to the disaster to help New York farmers recover from a variety of storm damages caused by Irene and Lee. Did this cause any confusion to you in terms of which organization provides what services? Would you say this was . . .

- Not at all confusing [SKIP TO Q15]
- A little confusing
- Very confusing
- Don't know [SKIP TO Q15]

13. Please describe what was confusing to you.

14. Do you think your confusion due to the multiple disaster relief programs caused you not to apply for the NYSERDA Agriculture Disaster Energy Efficiency Program?

- Yes
- No
- Don't know

15. Is there anything that the program could do differently to make it easier for your farm to apply for this program?

16. What questions, if any, did you have or do you still have regarding NYSERDA's Agriculture Disaster Energy Efficiency Program?

17. What do you think most needs to be changed about the program?

OTHER ASSISTANCE

18. Did you apply or receive any [other] assistance for your farm to recover from the storm damages, including from your insurance provider?

- Yes
- No
- Don't know
- Refused

[DISPLAY IF Q18=YES]

19. Please tell me the name of the organization that provided the assistance, a brief description of what was covered, and whether you received funds or only attempted to apply.

	Funding Source	Project Description	Applied	Pending	Received	Don't Know
1	_____	_____	0	0	0	0
2	_____	_____	0	0	0	0
3	_____	_____	0	0	0	0
4	_____	_____	0	0	0	0
5	_____	_____	0	0	0	0

FIRMOGRAPHICS

I have a few more questions about your farm to categorize your responses.

20. What does your farm produce?
- Dairy, including milk and cheese
 - Livestock

- Seed
 - Row crops
 - Tree fruit
 - Herbs
 - Grains
 - Forage
 - Nursery crops
 - Bedding plants
 - Nuts
 - Greenhouse
 - Livestock feed
 - Bees/Honey
 - Maple syrup
 - Other (specify) _____
21. Do you do any on-site food processing?
- Yes
 - No
 - Don't know
22. Which type of farming method does your farm use? [RANDOMIZE]
- Certified organic
 - Non-certified organic
 - Bio-dynamic
 - Conventional method
 - Other (specify) _____
 - Don't know
23. Which one best describes your farm's management type? [RANDOMIZE] [READ]
- Family owned
 - Cooperative
 - Nonprofit
 - Corporate, large-scale commercial, industrial

- Subsistence
- Municipal or institutional
- Other (specify) _____
- Don't know

24. Approximately what year was your farm established?

25. How many year-round employees, both part-time and full-time, does your farm have, including yourself? How about seasonal employees?

	Full Time	Part Time
Year-round	_____	_____
Seasonal (largest # in a year)	_____	_____

26. How large is your farm in acreage?

_____ Acre

27. Is your farm irrigated or non-irrigated?

- Irrigated
- Non-irrigated
- Don't know

28. Does your farm have an on-site electricity generator?

- Yes
- No
- Don't know

Those are all the questions I have. Thank you very much for your time!

Just for your information, the program is accepting applications until April 30. If you have any questions about the program, you should contact NYSERDA's program contractor EnSave (800.732.1399).

APPENDIX F:

EQUIPMENT DEALERS SURVEY INSTRUMENT

SURVEY OBJECTIVES

- Awareness of the program
- Program experiences and satisfaction
 - o Program processes
 - o Interaction with implementation contractor
- Program features or benefits discussed with prospective farms
- Availability of energy efficient equipment and interest in energy efficiency among farmers
- Issues they encountered and customer's concerns
- Effects on their business
- Recommendations for how energy efficiency improvements can further help their farms and how NYSERDA can assist them

LIST

EnSave's running list of dealers including participating and nonparticipating dealers (N=116)

INSTRUCTION

means choose one option

means multiple response options

[YELLOW] and [BLUE] highlights are skip or programming logics

~= means NOT equal

Hi, my name is _____, with a company called Research Into Action. May I speak with [PIPE IN CONTACT NAME]? We're conducting a study about a disaster relief assistance that helped farmers in New York State recover from the impacts of Hurricane Irene and Tropical Storm Lee last August and September. Today, I'm calling to conduct a short survey with you. Your participation in the survey is important because it will provide disaster relief program administrators with lessons learned to prepare for future disasters that may occur. It takes about 10 minutes. Is this a good time?

[NOTE]: The program closed its application as of April 30, 2012.

Title: [PIPE IN TITLE]

[IF NO, SCHEDULE AN APPOINTMENT]

S1. Does your company sell equipment or systems, or provide services to agricultural customers?

Yes

No

Don't know

S2. Does this/do these equipment or system/s use electricity or natural gas to operate?

Yes

No

Don't know

[IF S1~=YES AND S2~=YES, THANK AND TERMINATE]

PROGRAM AWARENESS

1. Before today, have you heard of NYSERDA, also known as the New York State Energy Research and Development Authority?

Yes

No

2. NYSERDA launched the Agriculture Disaster Energy Efficiency Program after Hurricane Irene and Tropical Storm Lee hit last year. This program reimbursed farmers for the repair or replacement of electric and natural gas equipment or systems that were damaged by the storms with energy-efficient models. Have you heard of this program?

Yes

No

SOURCE OF PROGRAM INFORMATION

[DISPLAY IF Q2=YES]

3. From whom did you hear about NYSERDA's Agriculture Disaster Energy Efficiency Program?
[DO NOT READ, PROBE TO CODE]

NYSERDA

EnSave

National Grid

NYSEG

Customer

Cornell Cooperative Extension

NYS Dept. of Agriculture and Market (Ag and Market)

NY Farm Bureau

USDA Soil and Water

USDA Rural Development

USDA Farm Service Agency

- FEMA (Federal Emergency Management Assistance)
 - Other (specify) _____
 - Don't know
4. When did you learn about the availability of NYSERDA's program?
- October 2011
 - November 2011
 - December 2011
 - January 2012
 - February 2012
 - March 2012
 - April 2012
 - Don't know
5. What is the best way for this kind of program to inform you about the services and financial assistance offered? [DO NOT READ, PROBE TO CODE]
- Phone call
 - Mail
 - Fax
 - Email
 - Face-to-face visit
 - Media (TV, radio, billboards, etc.)
 - Web search
 - Neighbor, friend, family member
 - Flier
 - Other (specify) _____
 - Don't know

PROGRAM EXPERIENCE AND SATISFACTION

[IF Q2=NO, SKIP TO Q21]

6. Did any agricultural customers use your service to take part in this disaster relief program (aka. Agriculture Disaster Energy Efficiency Program)?
- Yes
 - No

Don't know

[DISPLAY IF Q3_EnSave NOT CHECKED]

7. Had you been contacted by EnSave to discuss this program? EnSave is a company hired by NYSERDA to run this disaster relief program.

Yes

No

Don't know

8. Had your company reached out to existing or prospective customers in attempts to sell systems and equipment by taking advantage of this disaster relief program?

Yes

No

Don't know

[IF Q8~=YES, SKIP TO Q11]

9. Did any of the farmers you reached out to decide to participate in the program?

Yes

No

Don't know

10. What feedback, positive or negative, have you received from customers about the program?

[DISPLAY IF Q3_EnSave=CHECKED OR Q7=YES]

11. You indicated that you had had interactions with EnSave staff. How satisfied were you with the following service aspects of EnSave? Please rate each one on a 1-5 scale, with 1 meaning "very dissatisfied" and 5 meaning "very satisfied." If you did not use the service just let me know (NA).

a. Program information that was provided to you

b. Technical assistance or advice provided to you

c. Ability to answer your questions

d. How about your overall experience with the program, using the same rating scale?

[DISPLAY IF Q11_a-d<=3]

12. You indicated some dissatisfaction. What in particular were you dissatisfied with?

13. Were there any other concerns or unresolved issues in regards to this program? (such as technical issues, program requirements, timing, etc.)

14. Were there anything particular that worked well with the program?

EFFECTS ON BUSINESS

15. Overall, did the program have . . .

- positive
- negative
- or, no effect on your business?
- Don't know

[DISPLAY IF Q15=POSITIVE OR NEGATIVE]

16. Why do you say [PIPE IN Q14 RESPONSE]?

17. Many other organizations also responded to help New York farmers recover from a variety of storm damages caused by Irene and Lee. Did this cause you any confusion, in terms of which organization was providing certain services? Would you say this was . . .

- Not at all confusing [SKIP TO Q19]
- A little confusing
- Very confusing
- Don't know [SKIP TO Q19]

18. Please describe what was confusing to you.

19. What questions, if any, did you have regarding this disaster relief program?

20. What could be done to improve the program?

ENERGY EFFICIENCY IN AGRICULTURAL COMMUNITY

21. Would you say the electric or natural gas systems and equipment used by New York farms generally is. . .

- highly efficient
- somewhat energy-efficient
- not energy-efficient
- or, very inefficient

- Don't know
22. How often do New York farmers consider energy efficient options over standard efficiency options when replacing their electric or natural gas systems and equipment? Would you say. . .
- never
- sometimes
- often
- or, always?
- Don't know
23. Now let's consider some challenges that New York farmers may face in replacing existing equipment with more energy-efficient systems and equipment. Using a scale of 1-5, where 1= "not at all a barrier" and 5= "a very big barrier," please rate each of the following factors:

[RANDOMIZE]

- a. Lack of knowledge about or experience with energy-efficient options
 - b. Lack of availability of high-efficiency systems and equipment
 - c. Doubt that high-efficiency systems and equipment is as reliable as the standard efficiency systems and equipment
 - d. Initial cost of efficient systems and equipment
 - e. Payback period
 - f. Time it takes to research energy efficient options
24. Did we miss any barriers? What are they, and would you please rate them on the same 1-5 scale, where 1= "not at all a barrier" and 5= "very big barrier"?
- a. _____ rating _____
 - b. _____ rating _____
 - c. _____ rating _____
 - d. _____ rating _____
 - e. _____ rating _____

FIRMOGRAPHICS

I have a few more questions about your company, to help me categorize your responses.

25. What type of systems and equipment does your company sell or service? [DO NOT READ]
- Lighting equipment and controls
- Motors
- HVAC equipment and controls

- Water heating equipment
 - Compressed air systems
 - Refrigeration equipment
 - Pump and fan systems
 - Irrigation systems
 - Kitchen equipment
 - Other (specify) _____
26. How long has your company been in business in New York State?
- Less than 5 years
 - 5 – 9 years
 - 10 – 15 years
 - 16 – 20 years
 - or, more than 20 years?
 - Don't know
27. Approximately how many employees does your company have in New York State? Would you say . . .
- 1 – 4 employees
 - 5 – 9 employees
 - 10 – 19 employees
 - 20 – 49 employees
 - 50 – 99 employees
 - 100 – 249 employees
 - or, more than 250 employees?
 - Don't know
28. Compared to other types of businesses similar to yours, would you categorize this business as small, medium, or large?
- Small
 - Medium
 - Large
 - Don't know

[DISPLAY IF Q2=YES]

29. In conclusion, are there any other thoughts or comments about this disaster relief assistance, or any feedback you'd like for NYSERDA to hear?

Those are all the questions I have. Thank you very much for your time!

APPENDIX G:

PARTICIPANT SURVEY INSTRUMENT

PARTICIPANTS (CONDUCTED BY RESEARCH INTO ACTION STAFF)

- Source of program information
 - Participant program experiences and program satisfaction
 - o Program processes
 - o Interaction with implementation contractor
 - o Services they received from dealers and installers
 - o Perceived quality of installed measures
 - o Coordination with other disaster relief programs
 - Importance and influence of the program in their decision-making and ability to rebuild
 - Recommendations for how energy efficiency improvements can further help their farms and how NYSERDA can assist them
 - Firmographics
-

Instruction:

is choose one option

is multiple response option

[YELLOW] and [BLUE] highlights are skip and programming logics

Hi, my name is _____, with a company called Research Into Action. May I speak with [PIPE IN CONTACT NAME]? We're conducting a study about NYSERDA's Agriculture Disaster Energy Efficiency Program. (NYSERDA stands for New York State Energy Research and Development Authority.) I understand that your farm participated in it after Hurricane Irene and Tropical Storm Lee hit in late 2011. Today, I'm calling to conduct a short survey with you. It takes about 15 minutes. Is this a good time?

[IF NO, SCHEDULE AN APPOINTMENT]

SOURCE OF PROGRAM INFORMATION

1. From whom did you hear about NYSERDA's Agriculture Disaster Energy Efficiency Program?
[DO NOT READ, PROBE TO CODE]
2. Among them, which one was the most influential source of information in your decision to participate?

	Q1	Q2 [IF >1 IN Q1]
NYSERDA	<input type="checkbox"/>	0
EnSave	<input type="checkbox"/>	0
National Grid	<input type="checkbox"/>	0
NYSEG	<input type="checkbox"/>	0
Neighbors, friends, family members	<input type="checkbox"/>	0
Cornell Cooperative Extension	<input type="checkbox"/>	0
NYS Dept. of Agriculture and Market (Ag and Market)	<input type="checkbox"/>	0
NY Farm Bureau	<input type="checkbox"/>	0
USDA Soil and Water	<input type="checkbox"/>	0
USDA Rural Development	<input type="checkbox"/>	0
USDA Farm Service Agency	<input type="checkbox"/>	0
FEMA (Federal Emergency Management Assistance)	<input type="checkbox"/>	0
Other (specify) _____	<input type="checkbox"/>	0
Don't Know	<input type="checkbox"/>	0

3. What is the best way for this kind of program to reach you with information about services and financial offers? [DO NOT READ, PROBE TO CODE]

- Phone call
- Mail
- Fax
- Email
- Face-to-face visit
- Media (TV, radio, billboards, etc.)
- Web search
- Via neighbor, friend, or family member
- Flier or pamphlet
- Other (specify) _____
- Don't know

4. When did you learn about the availability of NYSERDA's agricultural disaster assistance program? [DO NOT READ, PROBE TO CODE]

- October 2011
- November 2011

- December 2011
- January 2012
- February 2012
- March 2012
- April 2012
- Don't know

PROGRAM EXPERIENCE AND SATISFACTION

Program Processes

I have a few questions about your experiences with the program.

- 5. First, who completed the application for NYSERDA's assistance?
 - MYSELF
 - ENSAVE
 - DEALER OR INSTALLER
 - OTHER: _____
 - Don't know
- 6. Did you receive any help in completing the application? [PROBE: From whom? What help did you need?]

- 7. Were the application materials easy to understand?
 - Yes
 - No
 - Don't know

[DISPLAY IF Q7~=YES]

- 8. What made the application materials difficult or confusing? [DO NOT READ, PROBE TO CODE]
 - The instructions were confusing.
 - The measure or equipment descriptions were confusing.
 - It was not clear to me what information I needed in order to submit with the application.
 - It was not clear where I needed to send the completed materials.
 - Other: _____
- 9. If you could change anything about the application process, what would you change?

-
10. Is there anything that the program could do differently to make it easier for you to apply to this program?
-

Interaction with EnSave and Dealers

11. Did you have interactions with . . .

EnSave

Dealer or installer

NYSERDA

[DISPLAY IF Q11_EnSave=1 or Q11_NYSERDA=1]

12. Did you try to seek assistance from EnSave or NYSERDA?

Yes

No

Don't know

[IF Q12~=YES, SKIP TO Q15]

13. What assistance did you need from EnSave or NYSERDA? [DO NOT READ, PROBE TO CODE]

To understand program process

To identify system/equipment suppliers and installers

To understand how to fill out the application form

To understand whether my project meets the program's qualifications

Required technical assistance specific to the measure(s)

Required technical assistance to estimate energy savings

To get a referral for a dealer or installer

Other: _____

14. Did you receive the help you needed from EnSave or NYSERDA?

Yes

No

Don't know

15. Did you use the equipment dealer(s) you already knew or a dealer EnSave helped you identify?

Dealers I knew

- EnSave recommended
 - Both
 - Don't know
16. From your perspective, did you think the different parties (NYSERDA, EnSave, dealers, etc.) coordinated and worked well together?
- Yes
 - No (Explain: _____)
 - Don't know
17. Did you have a clear sense of whom you could go to for help?
- Yes
 - No (Explain: _____)
 - Don't know
18. Did you encounter any other problems, delays, or difficulties during the application, review, or approval process for the program?
- Yes
 - No
 - Don't know
- [DISPLAY IF Q18=YES]
19. What problems, delays, or difficulties did you encounter? [DO NOT READ, PROBE TO CODE]
- The process took too long.
 - There were too many delays between steps in the process.
 - The process was too complex.
 - The application materials were difficult to understand.
 - There was a lack of coordination and communication among program staff.
 - I could not get my questions answered.
 - The program staff was not knowledgeable.
 - The incentives were smaller than I expected.
 - I was unable to get information on the status of the application.
 - Other: _____
20. How satisfied were you with the following elements of the program? Please use a 5-point scale, with 1 being "extremely dissatisfied" and 5 being "extremely satisfied." [RANDOMIZE, EXCEPT h]

- a. Process of applying to the program
 - b. Performance of the new equipment
 - c. Interaction with the program staff
 - d. Program staff's technical understanding of the measures
 - e. Process of pre-installation and verification site visits
 - f. Time it took for the incentive to arrive
 - g. Timeliness of the program launch after the disaster occurred
 - h. Overall experience with the program
21. In addition to these electricity or natural gas savings, did you observe any other, non-energy benefits from your participation in the program? (e.g., increased productivity; improved product quality; positive effects on my company's image, etc.)
-

IMPORTANCE AND INFLUENCE OF THE PROGRAM

22. Compared with your farm's operating condition before the storm(s) hit, how would you describe your farm's current operating condition? Would you say your farm is . . .
- Fully recovered
 - Almost recovered but not fully
 - Somewhat recovered but mainly unrecovered
 - Not at all recovered
 - Don't know

[DISPLAY IF Q22~≠FULLY RECOVERED OR DON'T KNOW]

23. What areas of your farm are still damaged?
-

24. How important was NYSERDA's Agriculture Disaster Energy Efficiency Program to your farm's ability to recover from the impact of the two storms? Please rate the importance using a 5-point scale, where 1="insignificant support," 3="moderate support," and 5="critical support."
-

25. Why do you say [PIPE IN Q24 RESPONSE]?
-

26. If the program had not been available, what would you have done? Would you have . . .
- not replaced or repaired the damaged equipment or system at all
 - repaired the damaged equipment or system without replacing it

- replaced the damaged equipment with a standard or non-energy-efficient model
- replaced the damaged equipment with the same equipment or system
- Don't know

COORDINATION WITH OTHER DISASTER RELIEF PROGRAMS

27. Many other organizations also responded to help New York farmers recover from a variety of damages caused by Irene and Lee. Were you confused about which services each organization provided? Would you say you were . . .
- not at all confused
 - a little confused
 - very confused?
 - Don't know

[DISPLAY IF Q27~!=NOT AT ALL CONFUSING OR DON'T KNOW]

28. Please describe what was confusing to you.

29. Did you apply for or receive any [other] assistance for your farm to recover from the storm damages, including from your insurance provider?
- Yes
 - No
 - Don't know
 - Refused

[DISPLAY IF Q29=YES]

30. Please tell me the name of the organization/s; a brief description of what you sought funding for; and whether you only applied for funds, if your application is pending, or if you've received funding.

	Funding Source	Project description	Applied	Pending	Received	Don't Know
1	_____	_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	_____	_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	_____	_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	_____	_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	_____	_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Do you have any suggestions or advice to disaster relief program administrators about preparing for and responding to future disasters, and delivering services to farmers if such a disaster occurs?

32. Can you share insights into how to prepare for a future disaster in order to limit damages, or how to react if a disaster like this occurs in the future?

33. Generally speaking, what are some barriers that your farm may face in replacing existing or non-working equipment with more energy efficient equipment?

34. Do you have any suggestions for program improvement? What do you think most needs to be changed?

FIRMOGRAPHICS

I have just a few final questions about your farm. Your answers will help us categorize your responses.

35. What does your farm produce? [DO NOT READ, PROBE TO CODE]

- Dairy, including milk and cheese
- Livestock
- Seed
- Row crops
- Tree fruit
- Herbs
- Grains
- Forage
- Nursery crops
- Bedding plants
- Nuts
- Greenhouse
- Livestock feed
- Bees/Honey
- Maple syrup
- Other (specify) _____

36. Does your farm do any on-site food processing?

- Yes
- No
- Don't know

37. Which type of farming method does your farm use? Does your farm use . . . [RANDOMIZE]
- Certified organic
 - Non-certified organic
 - Bio-dynamic
 - Conventional method
 - Other (specify) _____
 - Don't know
38. Which one best describes your farm's management type? [RANDOMIZE] [READ]
- Family-owned
 - Cooperative
 - Nonprofit
 - Corporate, large-scale commercial, industrial
 - Subsistence
 - Municipal or institutional
 - Other (specify) _____
 - Don't know
39. In approximately what year was your farm established under the current owner?
- _____
40. How large is your farm in acreage?
- _____ Acres
41. Is your farm irrigated or non-irrigated?
- Irrigated
 - Non-Irrigated
 - Don't know
42. Does your farm have an on-site electricity generator?
- Yes
 - No
 - Don't know

Those are all the questions I have. Thank you very much for your time!

APPENDIX H:

**NY STATE AGRICULTURAL & COMMUNITY RECOVERY FUND
ASSESSMENT FORM**



Andrew M. Cuomo
Governor

Darrel J. Aubertine,
Commissioner, Agriculture and Markets

**Agricultural and Community Recovery Fund - Conservation
Assessment and Application Report**

(Please Print or Type)

County: _____

Date: _____

Evaluator Name: _____	Evaluating Agency: _____
Watershed Identification (12 digit HUC): _____	
Farm Name: _____	
Owner's Name: _____	Operator's Name: _____
Address: _____	Address: _____
Phone: _____ Cell: _____ Email: _____	Phone: _____ Cell: _____ Email: _____
Preferred Contact Point? (please check only one) <input type="checkbox"/> Owner <input type="checkbox"/> Operator	CAFO <input type="checkbox"/> NON-CAFO <input type="checkbox"/>

Basic Farm Information (Found on AEM Tier 1)

A) What **Primary** Farm Enterprise best describes your operation?

- | | | | |
|---|--------------------------------------|---|---|
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Beef | <input type="checkbox"/> Horses | <input type="checkbox"/> Fruit/Vegetables |
| <input type="checkbox"/> Poultry | <input type="checkbox"/> Swine | <input type="checkbox"/> Vineyard | <input type="checkbox"/> Greenhouse |
| <input type="checkbox"/> Cash Crop: (Please Define) _____ | <input type="checkbox"/> Sheep/Goats | <input type="checkbox"/> Other: (Please Define) _____ | |

B) Please indicate the following number of acres:	Owned	Rented
Cropland Acres		
Grazed Land Acres		
Permanent Hay Land Acres		
Woodland Acres		
Total Acres	_____	_____

C) Are you located in an Agricultural District?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
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*Appendix H: NY State Agricultural & Community Recovery Fund Assessment Form
Agriculture Disaster Energy Efficiency Program*



Andrew M. Cuomo
Governor

Darrel J. Aubertine,
Commissioner, Agriculture and Markets

OTHER INFORMATION

Damage to Agricultural Production Facilities, Equipment, etc? Yes No

Description: _____

Damage to Crops? Yes No

Damage / Loss of Livestock? Yes No

Damage / Loss of stored feed and/or forage? Yes No

Description: _____

Damage / Loss of un-harvested feed and/or forage? Yes No Est. Cost: _____

Un-harvested Crop Type: _____ Total Acres _____

Un-harvested Crop Type: _____ Total Acres _____

Un-harvested Crop Type: _____ Total Acres _____

Has this damage been reported to USDA or another Agency? Yes No

EMERGENCY CONSERVATION PRACTICES

Use the check boxes below to indicate which Best Management Practices (BMPs) have been impacted by recent storm events and briefly describe how and to what extent these practices have been damaged. Please include the (acres, feet, units, etc.) that need to be repaired. Utilizing professional judgment, please estimate the costs to repair or replace the BMP(s).

Alternative Water Supplies Est. Cost: _____

Description: _____

Barnyard Water Management Est. Cost: _____
(e.g., heavy use area protection, gutters, filters areas, diversions, subsurface drainage, etc.)

Description: _____



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Darrel J. Aubertine,
Commissioner, Agriculture and Markets

Manure Storage / Treatment & Transfer Systems Est. Cost: _____
(e.g., earthen pit, concrete or steel storage tank, transfers, compost pad, digester, etc.)

Description: _____

Constructed Wetlands Est. Cost: _____
Description: _____

Critical Area Protection Est. Cost: _____
(e.g., vegetated slopes, seeding)

Description: _____

Erosion Control Practices Est. Cost: _____
(e.g., diversions, grassed waterways, strip cropping, terraces, tile drainage, etc.)

Description: _____

Filter Areas/Vegetated Treatment Areas Est. Cost: _____

Description: _____

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Agriculture Disaster Energy Efficiency Program



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Commissioner, Agriculture and Markets

Irrigation Water Management

Est. Cost: _____

Description: _____

Processed Wash Water Management
(e.g., milk house wash water)

Est. Cost: _____

Description: _____

Cropland and Pasture Management
(e.g., debris removal, fencing, laneways, access roads, seeding, cover crop, shaping and grading, etc.)

Est. Cost: _____

Description: _____

Petroleum, Fertilizer and Pesticide Storage Facilities

Est. Cost: _____

Description: _____

Conservation Buffer
(e.g., riparian forest buffer, filter strip)

Est. Cost: _____

Description: _____

Agriculture Disaster Energy Efficiency Program

Appendix H: NY State Agricultural & Community Recovery Fund Assessment Form



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Commissioner, Agriculture and Markets

Silage Leachate Control

Est. Cost: _____

Description: _____

Streambank Stabilization
(e.g., obstruction removal, bank stabilization, riprap, vegetative, etc.)

Est. Cost: _____

Description: _____

Other Agricultural Best Management Practices
(please explain)

Est. Cost: _____

Description: _____

In summary, please provide any additional comments on damage to Best Management Practices / Environmental Systems on farms, below, or attach any photos in a separate Word document with the farm clearly identified. _____

*Appendix H: NY State Agricultural & Community Recovery Fund Assessment Form
Agriculture Disaster Energy Efficiency Program*