

Cornell University of New York
Final Activity and Outcome Summary for the 2011-2014 State Program Project
Anu Rangarajan and Violet Stone

Project Title: Improving farm energy sustainability in New York

Performance Target:

- 12 agriculture service providers deliver an educational program about energy conservation and renewable energy opportunities and incentives to an audience of 300 farmers. 30 of these farms undergo farm energy assessments; 24 farms upgrade old equipment to higher efficiency standards; and 9 farms install renewable energy.

Performance Target Outcomes Reported

- **12 educators (4 each year)** conducted sustainable farm energy field days that were supported with financial stipends and guidance from the state program. **196 farmers and 77 service providers attended** the field days.

Each educator received a new guide produced by the NY SARE PDP office, titled *2013 Guide to Hosting a Sustainable Farm Energy Field Day*. This guide was written to help ensure consistency and provide pointers in how to schedule the field day, prepare press, recruit co-hosts, create learning objectives, design the agenda and presentations, and draft a custom evaluation for each field day.

7 organizations and state/federal agencies, 4 renewable energy companies and 2 New England based non-profits teamed up as collaborators to co-host or present at the field days.

- **51 additional ag service providers** incorporated information and/or used skills learned through the state program activities and educator field days in educational activities that **reached 1,020 farmers**. Their activities included:

- 11 workshops
- 3 webinars/presentations
- 5 fact sheets
- 4 articles
- 6 web content elements
- 4 individual consultations

- **36 farmers** reported making an energy-related improvement as a result of learning from the project and/or field day educators.

Examples of improvements and new installations include:

- New energy efficient appliances; Upgraded windows and doubled insulation
- Installed a very efficient wood burning stove
- Installed an outside wood burning system to heat home, out buildings and greenhouse
- Solar panels on roofs of new barns (3)
- 12V solar battery system for chicken coop lighting and water heating, I am saving \$50 - \$100/month
- 3.6KW grid tied photovoltaic system w/ battery backup for house; 90W photovoltaic w/ battery storage for chicken coop
- Solar off grid power system.
- Solar hot water heating for our milk house
- Solar energy system with 40 panels that will cover all of our electricity needs

Additional Outcomes Reported

- Violet delivered a presentation titled “Get plugged in to Sustainable Farm Energy: Lessons from NY” at the Ohio Small Farms Conference sponsored by Ohio State Cooperative Extension on March 29th, 2013.
- Violet was asked to present on Sustainable Farm Energy at the Western SARE Conference in March 2014 in Alaska.
- Anu delivered 2 webinar titled “Being Strategic with Grant Writing” and “Using Evaluation to Improve Extension Programs” to audiences of 24 and 32 educators, respectively, in November 2013.
- The program developed strong collaborations with the regional NYSERDA Energy Smart Coordinators who spoke at 3 of the 4 2013 field days.
- 1 new project started: Half day training on Renewable Energy and Conservation for the NY Soil & Water Conservation District 2014 In-service Training.

Project Milestone Activities Conducted	Participants														
<ul style="list-style-type: none"> 1 workshop: “Crash course for Educators: Saving energy and converting to renewable on the farm” 2 four-part webinar series: ““New Generation Energy: Sustainable Power for your Farm or Homestead” and “2014 Sustainable Farm Energy Virtual Tours” 	<p>20 educators/service providers at workshop</p> <p>165 educators and 222 farmers participated in the webinars</p>														
Assessments of Learning															
<p>129 ag service providers and 178 farmers verified an increase in knowledge and skills in one or more of the content areas below.</p> <p>98 service providers and 146 farmers verified intention to use the new knowledge/skills.</p> <p>Key knowledge and skills taught through the program included:</p> <table border="0"> <tr> <td>Generating Heat with Compost</td> <td>Wind/Solar Powered Remote Livestock Watering Systems</td> </tr> <tr> <td>CSA Off-grid farming</td> <td>Using storage batteries</td> </tr> <tr> <td>Earth cooled building design</td> <td>Solar Electric/PV and Solar Thermal Systems</td> </tr> <tr> <td>Using Radiant Heat in Greenhouse Design</td> <td>Energy Conservation and Smart Energy Use</td> </tr> <tr> <td>Sourcing Renewable Energy Grants and Loans</td> <td>How to Site/Install a wind turbine</td> </tr> <tr> <td>Water Conservation Strategies</td> <td>DIY Biomass Pelletizing Systems</td> </tr> <tr> <td>Installing Biomass-Based Boilers</td> <td>Making On-Farm Biodiesel</td> </tr> </table>		Generating Heat with Compost	Wind/Solar Powered Remote Livestock Watering Systems	CSA Off-grid farming	Using storage batteries	Earth cooled building design	Solar Electric/PV and Solar Thermal Systems	Using Radiant Heat in Greenhouse Design	Energy Conservation and Smart Energy Use	Sourcing Renewable Energy Grants and Loans	How to Site/Install a wind turbine	Water Conservation Strategies	DIY Biomass Pelletizing Systems	Installing Biomass-Based Boilers	Making On-Farm Biodiesel
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Participants expressed their assessments of learning and the value of the project in these quotes:

All of these programs are practical, useful, easily accessible and you should keep offering them!

Outside of these programs, we don't have access to this kind of [sustainable farm energy] education, which is increasingly important!

I really like the sustainable energy webinar series. I have made small changes throughout the year and have plans to implement more as time and money allow. Excellent info - thank you!

Thank-you for the field days and rattling my cage about the energy audit - the next step I need to take toward sustainability. I would be happy to share my farm's journey down the path to energy independence in future field days.

Outreach about SARE Grant Programs and Projects

During the 3-year project, the New York state program reached 167 agricultural service providers and 291 farmers with information about SARE grants through grant workshops and presentations.

Outreach was extended to larger audiences via exhibits at conferences and professional meetings including:

- NYS Ag Society Meeting
- Silvopasture and Grazing Conference
- Farm to Market Connection Conference
- NOFA NY Conference
- Long Island Small Farm Summit
- Brooklyn Food Conference

SARE grant opportunities were advertised regularly in the Small Farms Monthly Update, a monthly e-newsletter reaching over 6,000 farmers, agricultural press, educators, and service providers. 80% of these recipients live in the Northeast region. Archive issues of the Update are posted at: <http://smallfarms.cornell.edu/news/>

Profiles of 6 farmer grant recipients were published in the “Northeast SARE Spotlight”, a regular feature in the seasonal Small Farm Quarterly Magazine. The Small Farm Quarterly reaches a readership of 27,000 farmers, educators, and service providers from Pennsylvania up to Maine. Online issues are posted at: www.smallfarms.cornell.edu/pages/quarterly