

DIVERSIFYING THE CLEAN ENERGY PORTFOLIO FOR FARMS IN RHODE ISLAND

Alyssa Bailey
Farm Energy Intern
Energy Fellows Final Presentation



EMMA Acres, Exeter RI
2020 RIAgEP Awardee

INTRODUCTION



SINCE 2016, **RIAGEP** HAS SERVED AS A GUIDING AND HELPFUL RESOURCE FOR FARMERS LOOKING TO INVEST IN ENERGY EFFICIENCY AND RENEWABLE ENERGY PROJECTS.



THERE ARE DIFFERENT STRATEGIES AND TECHNIQUES OF OUTREACH:


EMMA Acres, Exeter RI
2020 RIAGEP Awardee



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2020 RI AgEP Awardee

METHODOLOGY

- Simplifying and Creating Outreach materials
- Focus on Thermal Decarbonization
- Website Updates
- Outreach
- Social Media Management



SIMPLIFYING, DEVELOPING,
AND CREATING OUTREACH
MATERIALS

SIMPLIFYING...

Old Outreach materials were difficult to understand.

Converted these documents into a digestible format that is easier to read and comprehend.

Overview of Financial Resources for **Renewable Energy** on Farms Updated June 2018

Program	Type	Description	Eligibility	Energy Audit	Amount	Try combining with...
ITC Federal Solar Investment Tax Credit	Tax Credit	Participants receive a federal tax credit based on total project cost	<ul style="list-style-type: none"> Homeowner or commercial property owner Own solar system 	Audit not required	30% one-year federal tax credit; tax credit starts declining in 2020 and expires in 2022	<ul style="list-style-type: none"> REF or REG REAP RIAgEP C-PACE
REG Renewable Energy Growth	Feed-in Tariff	Participants sell energy output under long-term tariffs at fixed prices	<ul style="list-style-type: none"> National Grid interconnection Solar ≤ 25 kW DC 	Audit not required	\$0.298/kWh - \$0.4135/kWh	<ul style="list-style-type: none"> ITC C-PACE
REF Renewable Energy Fund	Grant	Participants receive a grant for renewable energy projects	<ul style="list-style-type: none"> Legal business, municipality, or non-profit Encouraged sectors 	Audit required for properties built prior to October 1, 2013;	\$1.00/W up to \$8,000 maximum for systems ≤ 8kW; up to \$80,000 project maximum for	<ul style="list-style-type: none"> ITC REAP RIAgEP

Overview of Financial Resources for **Energy Efficiency** on Farms Updated June 2018

Program	Type	Description	Eligibility	Energy Audit	Amount	Try combining with...
RIAgEP - grant Farm Energy Efficiency Program	Incentive and/or Reimbursement	Participants receive a free energy audit and financial incentives for recommended energy-saving measures	<ul style="list-style-type: none"> National Grid customer Direct ownership or approval from landlord 	Free for participants, required to receive incentives	Up to 75% total cost of recommended installed energy-efficient upgrades	<ul style="list-style-type: none"> REAP EQIP RIAgEP C-PACE
REAP - loan Rural Energy for America Program	Loan	Participants receive financial and technical assistance to implement structural and management conservation best practices	<ul style="list-style-type: none"> Control or own eligible land Comply with income limitation provisions Comply with highly erodible and wetland conservation requirements 	Audit and Agricultural Energy Management Plan required; some reimbursement for participants	Reimbursement for energy efficiency upgrades identified in the Agricultural Energy Management Plan	<ul style="list-style-type: none"> FEEP REAP RIAgEP C-PACE
RIAgEP RI Agricultural Energy Program	Grant	Participants are selected through competitive application process	<ul style="list-style-type: none"> Recognized farming operation Ability to enter into legally binding agreement with State 	Complete or initiated audit required; FEEP audit is sufficient	Up to \$20,000	<ul style="list-style-type: none"> FEEP REAP EQIP C-PACE
REAP - grant Rural Energy for America Program	Grant	Participants are selected through a competitive application process	<ul style="list-style-type: none"> At least 50% of gross income from agriculture OR small businesses in eligible rural areas (municipal population less than 50,000) 	Audit is required; FEEP audit is sufficient	\$1,500 - \$250,000	<ul style="list-style-type: none"> FEEP RIAgEP EQIP C-PACE
REAP - loan Rural Energy for America Program	Loan	Participants are selected through a competitive application process	<ul style="list-style-type: none"> See eligibility requirements for REAP - grant 	Audit is required; FEEP audit is sufficient	Loan financing for up to 75% of total project costs (\$5,000 - \$25 million)	<ul style="list-style-type: none"> FEEP RIAgEP EQIP C-PACE
C-PACE Commercial Property Assessed Clean Energy	Loan	Loan tied to property assessment that can be transferrable with ownership and is structured to be cash-flow positive	<ul style="list-style-type: none"> Have a commercial meter Located in a participating municipality 	Audit is strongly recommended	Loan financing for up to 100% of total project costs	<ul style="list-style-type: none"> FEEP REAP RIAgEP EQIP

This document is a guide collated by RI Office of Energy Resources. It is not guaranteed to be comprehensive and is subject to change. Please carefully review all program details from each program's respective administrators prior to application. An incentive lowers the upfront cost of a project. A grant is a sum of money that does not need to be paid back. A loan is a financing mechanism that does need to be paid back. A reimbursement is paid to the farmer at the completion of a project. Contact carrie.gill@energy.ri.gov with questions.

DEVELOPING
AND
CREATING...

**PROGRAMS
AVAILABLE
TO SUPPORT
RI AGRICULTURAL
ENERGY
PROJECTS**



Find out more,
follow the QR
Code!



**ENERGY
EFFICIENCY**

**RENEWABLE
ENERGY**

GRANTS

RI AGE P
Rhode Island Agricultural
Energy grant program through
OER - Up to \$20,000

REAP
Rural Energy for America
program through USDA - \$1,500
to \$250,000

GRANTS

RI AGE P
Rhode Island Agricultural Energy grant
program through OER - Up to \$20,000

RENEWABLE ENERGY FUND
Through CommerceRI - \$ per watt
capped based on system size

REAP
Rural Energy for America program
through USDA - \$1,500 to
\$250,000

**OTHER FUNDING
MECHANISMS**

REAP
Rural Energy for America program
through USDA - Up to 75% of total
project cost

C-PACE
Commercial property Assessed Clean
Energy through RIIB - up to 100% of
project costs; tied to property assessment

**OTHER FUNDING
MECHANISMS**

FEDERAL INCOME TAX CREDIT
Through federal tax returns -
One time tax credit equals to % of
project costs

RENEWABLE ENERGY GROWTH
Through National Grid - Feed in tariff; fixed price
per watt

C-PACE
Commercial property Assessed Clean Energy
through RIIB - up to 100% of project costs; tied
to property assessment



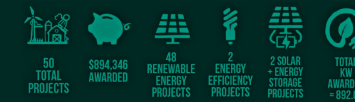
**Rhode Island
Agricultural Energy
Grant Program**

In partnership with the Rhode Island Department of Environmental Management (DEM), the Office of Energy Resources offers a grant program specifically designed to support clean energy upgrades for Rhode Island farms.

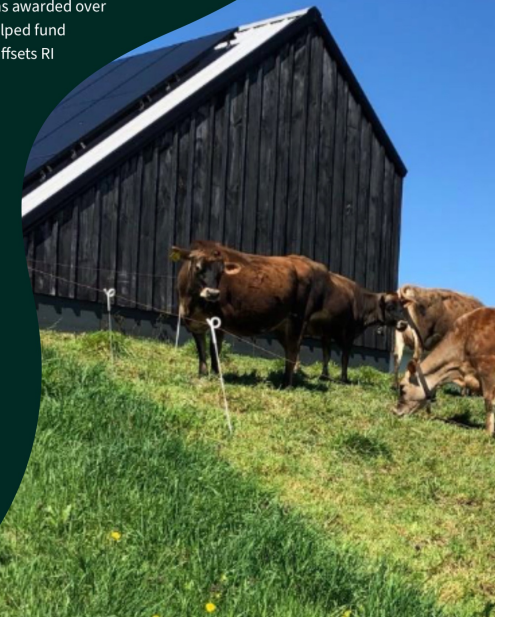
Applications for the next funding round are due on November 4, 2022.

The Agricultural Energy Grant Program provides awards of up to \$20,000 for eligible energy efficiency and renewable energy projects at RI Farms. The grant program has held two rounds of funding each year since 2016. In total, the RI Ag Energy Program has awarded over 50 grants to RI Farms totaling \$894,346, which has helped fund 892KW of solar energy procurement, which directly offsets RI Farmer's carbon footprints.

This funding helps local farmers reduce their reliance on conventional fossil fuels while eliminating the energy-intensive carbon footprint of RI's agricultural sector. Farmers can "green" their operations through the financial and environmental benefits offered by energy efficiency upgrades and renewable energy procurement.

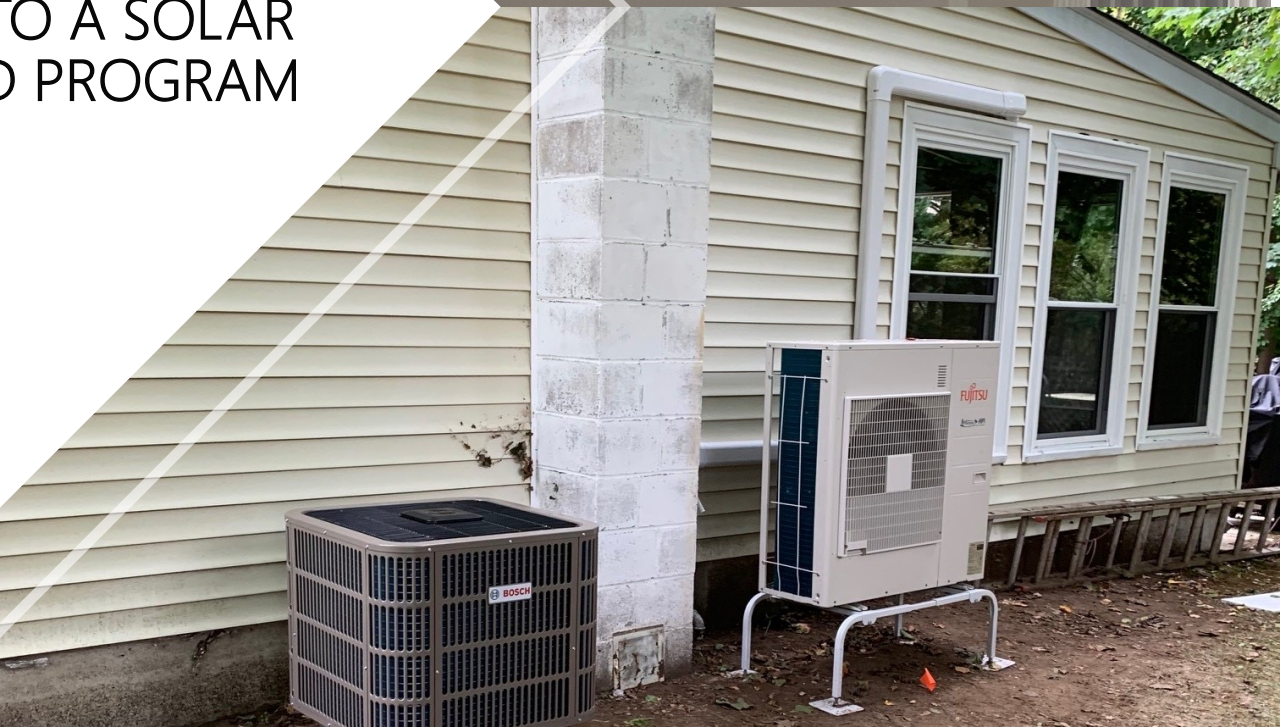


For access to applications and more information about the program, scan the QR code:





INTRODUCING THERMAL
DECARB INTO A SOLAR
DOMINATED PROGRAM



THERMAL DECARBONIZATION



**Heat Pumps are an eligible technology,
but no heat pump installations have
gone through RIAGEP (as of Spring '22)**

3. Project Eligibility Criteria and Requirements

A. Eligible Clean Energy Investments

The following clean energy investments and technologies will be considered eligible for this program, so long as each proposed project meets all program requirements.

- Renewable Energy
 - Photovoltaics (PV)
 - Small Scale wind
 - Biomass
- Energy Efficiency
 - Envelope insulation
 - LED lighting
 - HVAC systems (especially heat pump technology)
 - Automatic temperature controls
 - Variable speed motors, drives & pumps
 - Solar thermal



INTRODUCING THERMAL
DECARB INTO A SOLAR
DOMINATED PROGRAM
CONTINUED...

After conducting thermal decarbonization outreach for the farm program, including heat pump program flyers and one-on-one conversations with farmers.

We had several potential applicants with heat pump projects...

ELECTRIFYING YOUR FARM?

ELECTRIFY YOUR HEATING
AND COOLING IN ONE STEP



Get an air source heat pump

- Three times more efficient and gas or oil heating
- Moves heat to both warm and cool at home
- Does not burn any fuel to create heat
- Maximize cost savings and comfort by weatherizing your home first

Heat pump water heaters are also available and can help:

- Reduce monthly bills
- Last longer than traditional water heater's
- Help dehumidify basements

HEAT PUMP
WATER HEATER



WALL MOUNTED:
INDOOR DUCTLESS ASHP



CEILING MOUNTED:
INDOOR DUCTLESS ASHP



GROUND MOUNTED:
INDOOR DUCTLESS ASHP



OUTDOOR
ASHP UNITS



DID YOU KNOW?
APPROXIMATELY
1/3 OF RHODE
ISLAND EMISSIONS
ARE FROM HEATING



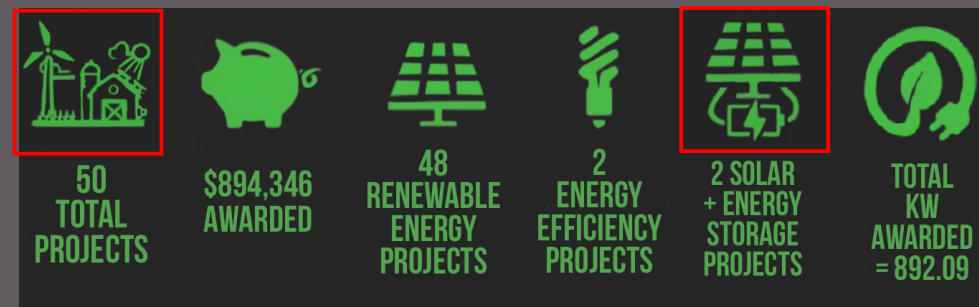
WEBSITE MANAGEMENT:
UPDATING OER'S FARM PAGE

INFOGRAPHIC UPDATES

RIAgEP has been a solar dominated program since it's inception, and my outreach efforts have helped to diversity the clean energy portfolio for RI Farmers.



PREVIOUS VERSION



CURRENT VERSION



FUTURE VERSION

FARM LIST-BUILDING...



DEM and OER list of farms. There was no existing database of all existing farms.

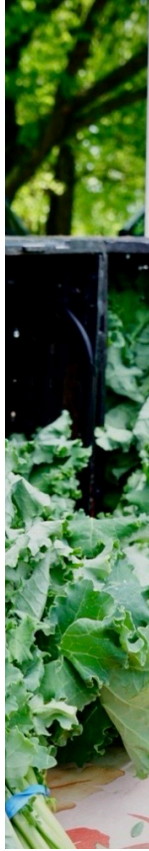


Contacted auditors at RISE Engineering

Farm Name	Contact Name	Farm Type	Contact email	Contact Phone Number	Address
Acres of Oak Farm	CONFIDENTIAL INFORMATION	Meat for family	CONFIDENTIAL INFORMATION	CONFIDENTIAL INFORMATION	CONFIDENTIAL INFORMATION
Adams Farm		Christmas Trees/Pumpkins/ Flowers			
Addieville East Farm		Preserve/hunting/fly fishing			
African Alliance Community Garden & Bami Farms		Gardens/Education			
Airport Nursery		Garden Center			
Albert Turf Farms		Nursery/Flowers/ Grains/Seed			
Almy-Thurston Christmas Tree Farm		Christmas Trees/Blueberries			
Alpacas Of Harkney Hill		Alpacas			
Alpacas Of Hensertown Farm		Alpacas/Nursery			
Amber Valley Ridge Farm		Alpaca/Fleece/Crop/ Livestock			
AMCC Cattle Co.		Livestock/Cattle			
Anchor Organics		Vegetables/Fruit			
Andy Snider		N/A			
Angell Farm		Vegetables/ Greenhouse			
Appleland Orchard		Orchard/Pasteries			
Aquidneck Farms	Beef/Poultry				

OUTREACH AND SOCIAL MEDIA MANAGEMENT





Farmers Market Outreach

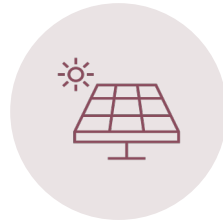
Sweet & Salty Farm Video Interview



Cheese and yogurt making grass-fed dairy farm in Little Compton.



Received 3 grants: REF, REAP, and RIAgEP.



19.8 kW Rooftop solar array offsets 100% of the energy used for their business.



Instagram “Featured Farm of the Week”

In the past, there were limited media resources for farm energy outreach materials. As of this year, we have created a portfolio of photos specifically encompassing the Farm Energy Program.

These photos will be used by OER in the years to come.

With the help of the RIAgEP program and a supportive install team the 42.66 kW rooftop solar array offsets 100% of the energy use for this dairy farm operation.

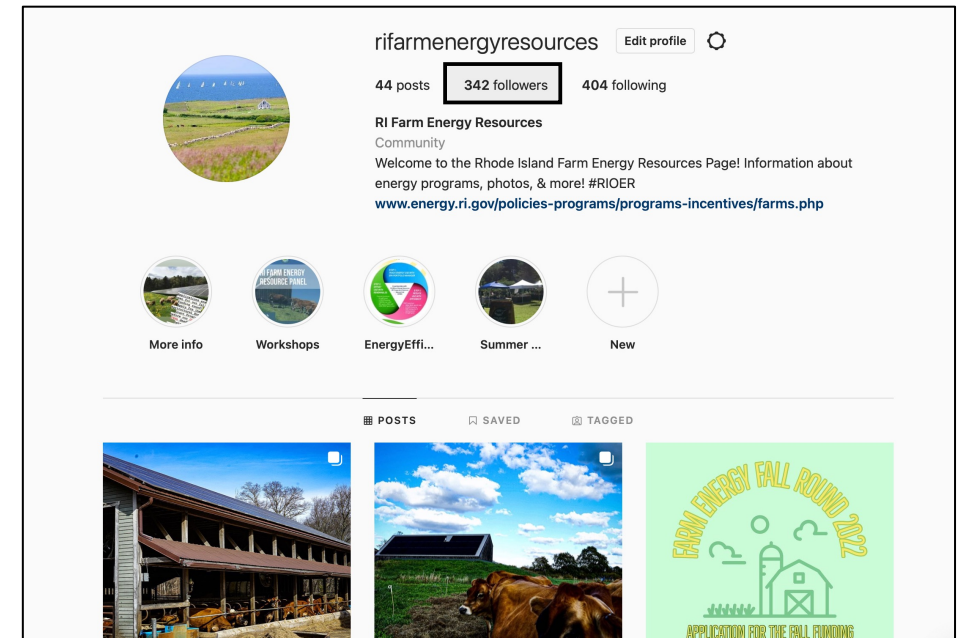
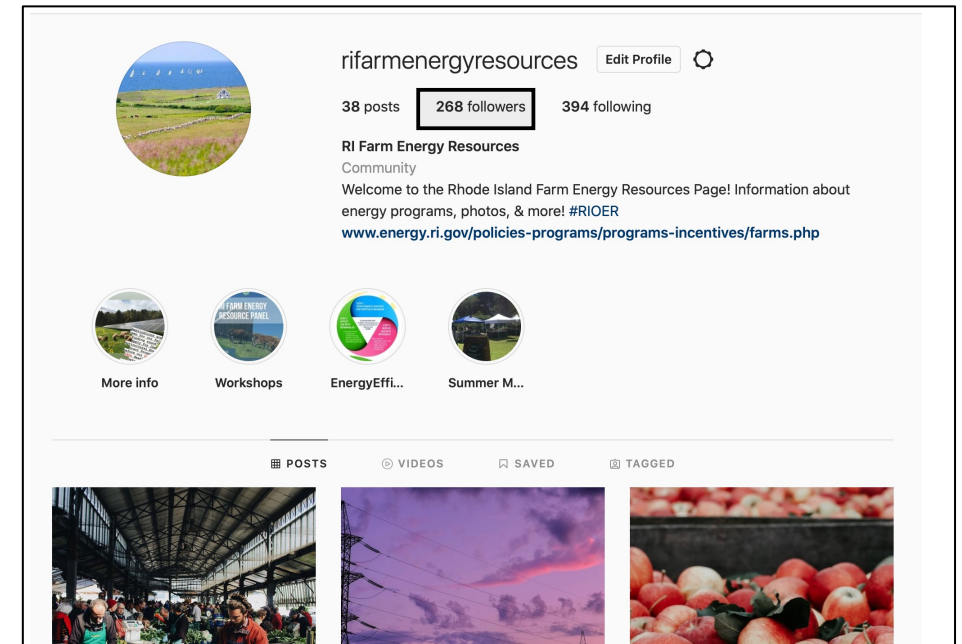


Social Media: Instagram

Within the time of my internship, I updated the Instagram platform and refined and tested out engagement strategies.

After deleting old stock photos and posting our own edited photos, we have significantly increased our following.

From March to Present date our page has gained 74 Followers.





IN CONCLUSION...