

The New Hampshire Farm
Energy Initiative

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ACCOMPLISHMENTS,
RESULTS, AND NEXT STEPS

Why did we do this?

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CREATE AWARENESS ABOUT
ENERGY EFFICIENCY AND
RENEWABLE ENERGY
OPPORTUNITIES


•REDUCE ENERGY COSTS
FOR NH FARMS

•PROMOTE SUSTAINABLE
AGRICULTURAL PRACTICES

What we did?

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- Workshops
- Energy Audits
- Build Energy Infrastructure
- Follow-up and Planning Next Steps



Workshops

- NH Farm Energy Conference at DES in January 2010
- Farm Energy Workshop with an emphasis on dairy operations in Littleton in March 2010
- Three NH Farm & Forest workshops
- Twelve smaller workshops and two conference presentations

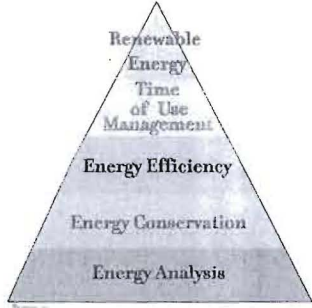
OVER 600 ATTENDEES



Audits

25 FARM ENERGY AUDITS ON A DIVERSITY OF FARMS

Energy Pyramid



Renewable Energy
Time of Use Management
Energy Efficiency
Energy Conservation
Energy Analysis

What is an energy audit?

- An energy audit records and analyzes energy use and recommends actions to reduce energy usage and/or increase production.
- *A farm energy audit can identify energy savings of 10% to 35%...*

Pre-Audit	Site Inspection	Post Audit Analysis	Energy Audit Report
<ul style="list-style-type: none">• Review historical energy bills• Conduct pre-audit interview	<ul style="list-style-type: none">• Walkthrough with producer/key staff• Detailed Data Collection	<ul style="list-style-type: none">• First order calculation of cost effectiveness for various measures• Detailed calculations and cost quotes from preferred vendors	<ul style="list-style-type: none">• Recommendations, costs, and Energy Savings• Available financing and incentive programs


Building Energy Infrastructure

- Trained three energy data collectors in New Hampshire
- Promoted the USDA Technical Service Provider program to energy auditors
 - Matt Siska of GDS became NH's first agricultural energy TSP

Above: Matt Siska of GDS at Highway View Farm


Left: Julie Moran of Colebrook Energy Data Collector

MILES SMITH FARM SOLAR STORE




Current Success Stories

SEVERAL FARMS HAVE ADOPTED THE USE OF SOLAR FOR PRE-HEATING, IRRIGATION AND LIVESTOCK WATERING



RENEWABLE ENERGY USAGE ON SWAIN FARM IN SANBORNTON

PROMOTED THE USDA NATURAL RESOURCES CONSERVATION SERVICE HIGH TUNNEL INITIATIVE TO INCREASE PRODUCTION, EXTEND THE GROWING SEASON, AND REDUCE FOSSIL FUEL AND PESTICIDE USAGE




71 HIGH TUNNELS FUNDED IN NH WITH AN ECONOMIC BENEFIT OF \$642,741

CURRENTLY PLANNING FOR THE FOLLOWING:

1. LIGHTING UPGRADE
2. RE-USE HEATED PRE-COOLER WATER
3. REPLACE EXISTING COMPRESSORS

THESE UPGRADES WOULD CONSERVE 1,300,000 GALLONS OF WATER AND 35,000 kWh.

SAVING 166,000/ YEAR (-25% OF YEARLY ENERGY COSTS)



HIGHWAY VIEW FARM


PROMOTION OF REVERSE OSMOSIS AND PAN PRE-HEATERS

SEVERAL FARMS APPLIED FOR THE USDA NRCS AND/OR USDA RURAL DEVELOPMENT FUNDS FOR ENERGY UPGRADES

ONE R.O. SYSTEM INSTALLED

TWO PAN PRE-HEATERS IN PROCESS

ONE R.O. SYSTEM IN PROCESS



REVERSE OSMOSIS AND PAN PRE-HEATERS FOR MAPLE OPERATIONS

Next Steps

- DEMONSTRATION SITES
- HOLISTIC AUDITS FOR SMALL & BEGINNING FARMERS
- FOCUS ON DAIRY FARMS
- WIND ENERGY ASSESSMENTS
- PROMOTION OF SUSTAINABLE AGRICULTURAL PRACTICES SUCH AS NO-TILL AGRICULTURE
- ADDITIONAL WORKSHOPS

National and State Conservation Innovation Grants

- Southern NH RC&D and partners have applied for a National Greenhouse Gas Conservation Innovation Grant to Create Five Energy Efficiency Demonstration Sites

- Carter Hill Orchards in Concord
- Highway View Farm in Boscawen
- Miles Smith Farm in Loudon
- Stonewall Farm in Keene
- Tuckaway Farm in Lee

- Pending- Demonstration Site Grant Application to NH Conservation Innovation Grant program
