



Kennebec County Soil and Water Conservation District  
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## Harvesting Clean Energy Promoting Best Practice Energy Solutions on Maine Farms

Grant funds will be used to conduct and promote renewable energy development among Maine's rural businesses, including farms. The cost of energy in Maine trends high and is typically cited as one of the top three hindrances to the business climate in Maine overall. Harvesting Clean Energy will concentrate on a state-wide approach to promote energy efficiency and educate Maine farmers and business owners on their understanding of the options available to them for innovation. The project will focus on solar thermal energy applications.

To do this, the Kennebec District will:

- Compile and provide high quality solar thermal renewable system technical assistance to 300 farms and rural businesses over a 2 year period.
- Conduct public workshops regionally, where questions will be answered and site assessments may be requested.
- Complete 75 basic site assessments, as well as 8 in-depth assessments, providing sufficient follow-up assistance so that renewable systems are installed during the grant period.
- Augment the public knowledge base with regard to solar thermal installations through objective, systemic data collection and facilitation of the direct exchange of experience among rural business owners and farmers.

Eligible Participants:

- Any Maine rural small business or farm is eligible to participate.
- Farms and small rural businesses who have had an audit, demonstrated commitment to efficiency and have a use for solar thermal technology in their business (typically a hot water need). Dairy farms, greenhouses, car washes, laundromats and restaurants are all examples of rural businesses reliant on hot water.
- In order to qualify for in-depth assistance, the business will have to agree to share its experience and system performance data to grow the objective data pool and assist other businesses in evaluating a similar system.

The project commenced in September 2010 and will run 18 -24 months. Contact the Kennebec Conservation District for more information.

This project is funded by the USDA office of Rural Development

The Kennebec District is an equal opportunity provider and employer.

# **The essential of the “Harvesting Clean Energy” Program**

## **Executive Summary**

Work funded under this grant supports the delivery of a high level of renewable energy technical assistance to farms and small rural businesses throughout the state, strengthening an aggressive farm energy assistance outreach program initiated in 2006 by the Kennebec County Soil & Water Conservation District (KCSWCD) in collaboration with the statewide Farm Energy Partners (FEP) delivery network.

During the last 3 years [2007-2010], KCSWCD has led the implementation of a statewide network-managed farm energy audit program in collaboration with Efficiency Maine and over 2 dozen participating organizational members of FEP. During this period of 70 farm audits being completed, the viability and common applicability of solar thermal hot water systems for a variety of farm operations prompted KCSWCD staff (that had already become trained as commercial energy auditors) to learn how to do solar thermal site assessments. Over the last year [2009-2010], KCSWCD staff have assisted with the design and financial packaging of 4 solar thermal systems in 3 different counties (including 3 successful REAP grant applications). In addition, KCSWCD worked with the Weston dairy farm in Litchfield to install a solar thermal demonstration system in 2009 for which performance data are collected each month. The system is out-performing expectations, driving additional interest among other rural businesses.

Over this project's 2 year project period, at least 3000 rural businesses will receive generalized renewable energy technical assistance and be invited to attend one of 8 workshops to be held throughout the state. At least 300 businesses are expected to attend a workshop, where sufficient information will be made available to determine whether a site assessment is warranted. All small rural businesses that can demonstrate they have had an energy audit and implemented reasonable recommendations will be eligible for a solar thermal site assessment.

We expect to perform 75 basic site assessments and 8 more complex site assessments and/or more in-depth assistance, which may involve another technology area such as geo-thermal, depending upon demand and the progress of available technologies. In order to qualify for in-depth assistance, the business will have to agree to share its experience and system performance data to grow the objective data pool and assist other businesses in evaluating a similar system. We will also track system performance at 4 existing installations with which we have been involved and develop case studies to assist other farms and businesses in making prudent decisions about renewable system investments.

We will be working with New England Agricultural Statistics, Efficiency Maine, the Maine Department of Environmental Protection, Maine Department of Economic and Community Development, University of Maine Cooperative Extension, National Renewable Energy Laboratory, Maine Solar Energy Association and other partners to systematize small business renewable energy and energy efficiency data collection for our mutually shared objectives.

## Plan and Schedule for Implementation

This project will commence in September/October of 2010 or as soon as the grant is awarded. The term of the project is two years. See the Implementation Schedule. This schedule contains completion dates, specific activities to be completed and outcomes.

### Anticipated Number of Agricultural Producers and Rural Businesses to be Served

- \* 3000 will receive basic information by newsletter, booth displays, web exposure or other media
- \* 300 will receive substantive, in-person renewable energy technical assistance
- \* 75 will receive a renewable energy site assessment, of which 8 will receive very in-depth assistance and agree to have their experience tracked and measured over time and shared with the public

### Proposed Geographic Scope

State of Maine

### Outreach and Marketing Plan

Project Title: Harvesting Clean Energy

Project Goals:

- (A) To compile and provide high quality solar thermal renewable system technical assistance to 300 farms and rural businesses over a 2 year period.
- (B) To complete 75 site assessments, providing sufficient follow-up assistance so that at least 20 systems are installed during the grant period.
- (C) To augment the public knowledge base with regard to solar thermal installations through objective, systemic data collection and facilitation of the direct exchange of experience among rural business owners and farmers.

Target Audience:

Qualifying farms and small rural businesses who have had an audit, demonstrated commitment to efficiency and have a use for solar thermal technology in their business (typically a hot water need). Dairy farms, greenhouses, car washes, laundromats and restaurants are all examples of rural businesses reliant on hot water.

Marketing Strategies (higher level service provision screening in **bold italic**):

Following the creation of handouts, at least 3000 rural businesses will be reached by mail or email to advertise the availability of the information and announce the workshop schedule should they wish to further explore the appropriateness of renewable energy technologies for their business with project staff. Each soil and water conservation district has a sizable newsletter mailing list and all FEP member organizations and agencies will advertise the services available as well. We will also do outreach to other rural business trade associations so that they may contact their members with this information. Staff people for all of these organizations know their members and will make personal contact with those farms and rural businesses that they believe might be interested in a solar thermal system. We will also build strong relationships with all solar thermal vendors and may receive referrals from some potential clients desiring an objective viewpoint before making a commitment.

We are confident that at least 300 businesses will attend one of the 8 workshops (including the highly attended Agricultural Trades Show each January) to be held during the 2 year period, where individual questions will be answered and a site assessment may be requested. Following the screening for audit participation and follow up, site assessments will be offered on a first-come, first-served basis with care to market the availability evenly throughout all 16 counties. Each soil and water conservation district has a sizable newsletter mailing list and all FEP member organizations and agencies will advertise the services available as well. We expect that the interest in solar thermal technical assistance will result in many new businesses

receiving energy audits from Efficiency Maine (but have not quantified that estimate as it will be delivered with other federal and state funds) and is beyond the direct scope of this grant.

***Any businesses interested in a site assessment will need to have had an energy audit and demonstrated a reasonable commitment to taking recommended efficiency steps in order to qualify (over 70 farm businesses have already had qualifying audits as have hundreds of other rural businesses).*** Services will be marketed most heavily to these businesses as they have a proven interest in energy evaluation and we have their contact information. We already have a waiting list of farms that have requested a site evaluation but have not had sufficient resources to respond. Efficiency Maine will assist with identifying and marketing this available assistance to rural businesses throughout the state. As we contact these businesses, generalized follow-up assistance needed to implement audit recommendations will also be delivered.

We expect to perform 75 basic site assessments and 8 more complex site assessments and/or more in-depth assistance, which may involve another technology area such as geo-thermal, depending upon demand and the progress of available technologies. ***In order to qualify for in-depth assistance, the business will have to agree to share its experience and system performance data to grow the objective data pool and assist other businesses in evaluating a similar system.*** We will also track system performance at 4 existing installations with which we have been involved and develop case studies to assist other farms and businesses in making prudent decisions about renewable system investments.

**Method/Rationale Used to Select Areas/Businesses that will Receive the Service**  
Statewide first-come, first served for workshops with affirmative marketing to farms and rural businesses that have already had an energy audit and demonstrated implementation steps. See ***bold italic*** above re audit requirement for a (Level 3) site assessment and willingness to share experiential data to receive more (Level 4) in-depth assistance. If demand outstrips resources, we will screen for likelihood of implementation and prioritize those businesses that impress us most with determination, desire and willingness to invest if a positive cost-benefit analysis and system design are prepared for them.

#### **How the Work will be Performed**

KCSWCD will act as the applicant agency and will provide the bulk of the services including the grant administration. In addition to KCSWCD employees, Maine Rural Partners (overall steward of the FEP network) is currently hiring an Energy Innovation Coordinator that will be co-employed by Maine Rural Partners and KCSWCD to lead coordinated outreach efforts engaging all FEP members. In summary, over 75% of the services performed under this project will be in-house. All services will be provided by an agency within the Farm Energy Partners Network or to a specialized provider in extreme site circumstances. KCSWCD will bill those services to the appropriate agency within the network as necessary. The network of Soil and Water Conservation Districts are key partners for the project, ensuring breadth and depth of outreach across all 16 counties with coordination via the Maine Association of Conservation Districts.

# Harvesting Clean Energy Implementation Schedule & Action Plan

Period	Activities	Outcomes
September 2010	Grant encumbered, agreement signed; project partners meet, letters of agreement signed. Assembly of data on farms and rural business who have had audits. Press release to announce project funding. Data collection and evaluation system finalized. Promote FEP participation in ME Solar Energy tours early October. Seek solar thermal vendor participation at Northeast Organic Dairy Producers Alliance (NODPA) event in Unity October 7-8.	Funds in hand; Project partners ready to go; Project is announced to public; Items scheduled for 2010 4th quarter. Data collection and evaluation system designed.
2010 4th Qtr. (Oct.-Dec.)	Program procedure established. Design and develop materials for rural business distribution. Market assistance program through the FEP outreach team, FEP network meeting to assess progress and confirm coordination. Also market through Efficiency Maine (EM) auditors and other small rural business trade associations. Conduct outreach to solar thermal vendors and create directory of services by type and geographical reach. Coordinate Maine SWCD's statewide workshops.	Solar tours conducted; case study material collected. Weston Farm experience shared at NODPA event. Some introductory materials designed and produced. Begin contacting audited rural businesses judged by EM Auditors as likely to invest in solar thermal solutions if additional technical assistance is available. Site assessment report design determined. Statewide workshop schedule established with Maine SWCD's at winter meeting in December.
2011 1st Qtr. (Jan.-March)	Continued marketing (AG trade show), and identify SWCD workshop strategy. Review program success for semi annual reporting. FEP network meeting to evaluate progress. Begin development of case studies.	Contact 15 rural businesses for follow-up from their energy audits. Provide one workshop at the Maine AG Trades Show in January. Conduct a second workshop according to schedule set. Begin Level 3 site assessments.
2011 2nd Qtr. (Apr.-Jun.)	Continued marketing. Follow up review and begin using case study materials. Begin Level 3 site assessments with rural businesses who have had audits and taken steps to implement recommendations. Begin to identify candidates for Level 4 technical assistance. Plan for ability to continue providing service after REAP funds exhausted.	Submit semi-annual report. Provide 2 workshops and schedule at least 3 more for the year. Provide up to 20 Level 3 site assessments with rural businesses. Case studies are published and available electronically as public resource.
2011 3rd Qtr. (July-Sept)	Continued marketing and Level 3 site assessments. Identification of businesses seeking Level 4 assistance and willing to contribute experiential data. FEP network meeting to assess progress.	Start and complete up to 10 more Level 3 site assessments with follow up reports. Provide 1 statewide workshop. 2 Level 4 in-depth technical assistance projects with cooperating businesses completed.
Year 2 (Oct 2011- Sept 2012)	Continue marketing and delivery of services as identified in first year. This year would include additional and more comprehensive evaluation and customer satisfaction activities. Collect and monitor experiential data from installed systems. Evaluate program and target future resources for most productive outcomes. Publicize energy, environmental and financial benefits of the project.	Results evaluated to date. 45 Level 3 site assessment visits and reports completed. 6 Level 4 in-depth technical assistance projects completed.  Complete AG Trades Show 2012 workshop and outreach with final 2 statewide workshops with partners as hosts.  Collect evaluation information and prepare result reports. Recommendation for any program adjustments; final progress report. Press release on combined project benefits.

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