

Rural Development's Rural Energy for America Program (REAP)

Grants and Loans Guarantees

April 2009



Committed to the future of rural communities.

Purpose

Program is designed to promote energy efficiency and renewable energy development for agricultural producers and rural small businesses.

Rural Development's Role

Grants- Maximum of 25% of Eligible Project Costs

- Renewable Energy Systems (RE System)
 - Maximum Request \$500,000
 - Minimum Request \$2,500

- Energy Efficiency Improvements (EE System)
 - Maximum Request \$250,000
 - Minimum Request \$1,500

- Grant assistance is taxable. A 1099 will be sent to the grant recipient.
- REAP Grant cannot be used with grants from other Federal Sources.

Rural Development's Role

Loan Guarantees

- Provides a federal loan guarantee to banks on loans made to customers intending to finance energy related projects.
 - Lender benefits through risk mitigation and increased profits,
 - Customer benefits through better rates and terms
 - This Federal Assistance is intended to provide “gap” financing for energy related projects.
 - Loan Guarantee can finance up to 75% of project costs.
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- Encourage Combined Loan Guarantee and Grant applications.

Expected Available Funding Fiscal Year 2009

- 2008 Farm Bill provided for increased funding over previous years.
 - Fiscal year **2008** funding levels were \$16 Million for grants and \$208 Million for Loan Guarantees.
 - Fiscal year **2009** funding levels are expected to be \$31 Million for grants and \$303 Million for Loan Guarantees.

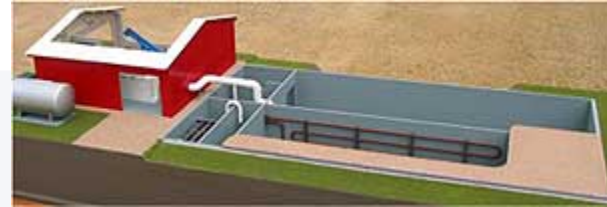
Types of projects eligible for USDA Assistance

- Renewable Energy
- Energy Efficiency

Anaerobic Digester Projects



RCM International



GHD, Inc.



Schmack Bioenergy

Biomass and Bioenergy Projects

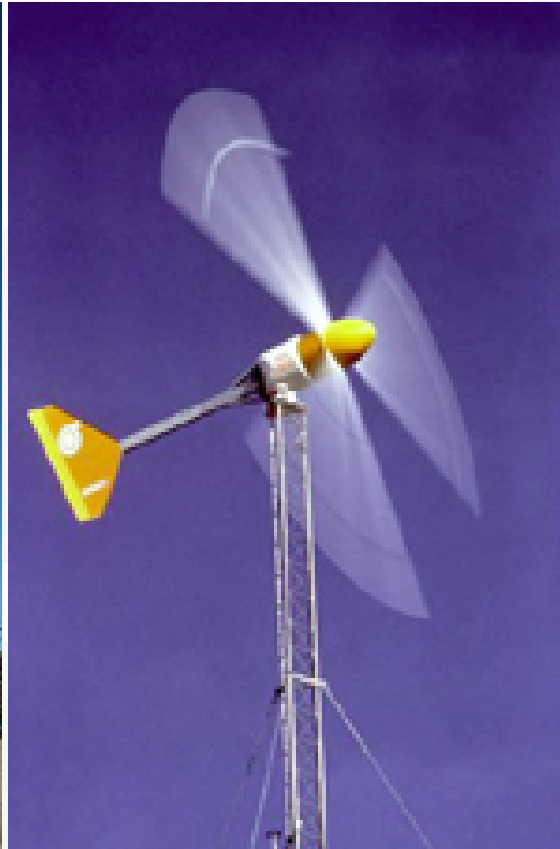
- Biodiesel, Ethanol
- Wood pellet manufacturing
- Boilers fueled by biomass



Wind, small and large



50 kW



10 kW



1.5MW

Solar

Small and Large Projects - Electric and Thermal Projects



Thermal



Thermal & Electric



Electric



Thermal



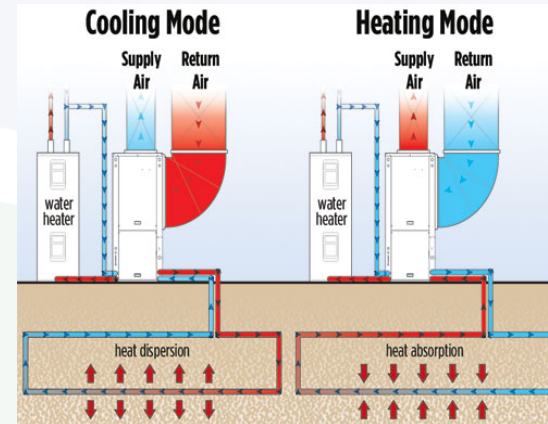
Thermal & Electric



Electric

Geothermal

- Aquaculture
- Greenhouses
- Spas and resorts
- Industrial and agricultural processes
- Space heating and hot water
- Refrigeration



Energy Efficiency Improvements Grain Dryer Replacements

Old



New



Other Eligible Projects

- Energy Efficiency Improvements
 - Freezers & Coolers
 - Lighting Improvements
 - Documented efficiency improvements per energy audit
- Geothermal, Electric Generation
- Hydrogen production from renewable

Applicant Eligibility

Grants and Loan Guarantees

Applicant:

- must be an agricultural producer (Greater than 50% of income from farming operation).
- rural small business as defined by the SBA.
- must be citizens of the U.S.
- must not have federal judgments or delinquent federal taxes

Project Eligibility

Grants and Loan Guarantees

Project:

- Must be for the purchase of a *renewable energy system*
- Must be to purchase *energy efficiency improvements*.
- Must be for commercially available and replicable technology
- Must have technical merit
- Must be located in a rural area
- **Cannot be used for residential improvements.**

Energy Efficiency Improvements Example

Grain Dryer Improvements - Energy Savings

Existing Dryer

Electric: 100,000 Bu * 0.0162 kwh/bu/point * 4 points = 6,480 kwh

Propane: 100,000 Bu * 0.023 gal/bu/point * 4 points = 9,200 Gallons

New Dryer

Electric: 100,000 Bu * 0.00858 kwh/bu/point * 4 points = 3,432 kwh

Propane: 100,000 Bu * 0.0146gal/bu/point * 4 points = 5,840 Gallons

Improvement

Electric: Old Dryer 6480 kwh

New Dryer 3432 kwh

Improvement 3048 kwh / 6480kwh = **47% Improvement**

Propane: Old Dryer 9,200 Gallons

New Dryer 5,840 Gallons

Improvement 3,360 Gallons/9,200 gal = **37% Improvement**



Energy Efficiency Improvements Example Grain Dryer Improvements - Dollar Savings

Existing Dryer

Electric: 6,480 kwh * \$0.075 /kw = \$486

Propane: 9,200 Gallons * \$2.35/ Gallon = \$21,620

New Dryer

Electric: 3,432 kwh * \$0.075/ kw = \$257

Propane: 5,840 Gallons * \$2.35/ gallon = \$13,724

Improvement

Electric: Old Dryer \$486

New Dryer \$257

Cost Savings \$228.60

Propane: Old Dryer \$ 21,620

New Dryer \$ 13,724

Cost Savings \$ 7,896

Total Cost Savings $\$228 + \$7,896 = \mathbf{\$8,124}$

Energy Efficiency Improvements Example

Grain Dryer Improvements

Eligible Project Costs

Grain Dryer	\$97,300
Wet Auger and motors	7,673
Construction costs	8,000
Total Eligible costs	\$112,973

Project Repayment = Project Cost (\$112,973) / Projected Savings (\$8,124) = **14 years**

Financing

USDA Energy Efficiency Improvement Grant	\$28,243 (25%)
USDA Energy Efficiency Improvement Loan Guarantee (7 year Term)	\$56,000 (49.6%)
Customer Equity injection	\$28,730 (25.4%)
Total Funding	\$112,973 (100.0%)



Renewable Energy System

Wind Turbine Installation for Existing Greenhouse.

Company's goal is to reduce reliance on electricity from the grid and become increasingly dependent on energy generated on location. Plan to install a 50kW wind turbine to provide power to the greenhouse.

Existing greenhouse electricity consumption	308,600 kWh/ year
Proposed electricity production	81,600 kWh/ year
Energy Production as a percentage	26%
Expected cost savings	\$7,344 /yr.

Proposed Funding

REAP Grant	\$ 49,875
REAP Loan Guarantee (Up to 20 years)	\$ 99,750
Equity Contribution	\$ 49,875
Total project Costs	\$199, 500



Renewable Energy System Anaerobic Digestion System Example

Problem:

Project owners were looking to resolve common problems of large-scale farming operations including:

- Government regulations pertaining to manure disposal
- Contaminant leaching into groundwater,
- Methane generation by livestock and its release into the atmosphere
- Odor complaints.

Solution:

Installation of anaerobic digester system to resolve problems and create a renewable energy to offset farm electrical use and generate renewable energy sales

Renewable Energy System Anaerobic Digestion System Example

Total Project costs	\$2,270,000
Grant Proceeds received (Maximum amount Eligible)	\$ 500,000
Amount financed	
USDA REAP Loan Guarantee (Term up to 20 years)	\$1,200,000
Equity Contribution	\$ 570,000
Expected electrical production	6,970,000 kWh
Estimated net income from the facility including electric sales, sale of dry solids and expected tax credits	\$528,000
Return on Investment	
Expected costs of \$2,270,000 / Expected income of \$528,000 = 4.3 yrs	



2008 Ohio Projects

Grant Amount	Loan Guarantee Amount	Project type
\$ 500,000	\$ 1,000,000	Anaerobic Digester
\$ 50,000	\$ 50,000	Grain Dryer Replacement
\$ 29,973	\$ 29,973	Grain Dryer Replacement
\$ 23,712		10 kW Photovoltaic Installation
\$ 227,500		Retractable Energy Curtain Energy
\$ 10,070		Energy Efficiency Improvements
\$ 20,462		Grain Dryer Replacement
\$ 49,875		Wind Turbine Installation
\$ 48,772	\$ 48,772	Grain Dryer Replacement
\$ 26,231	\$ 26,231	Grain Dryer Replacement
\$ 12,435	\$ 12,435	Milk House Improvements
\$ 38,008	\$ 38,008	Grain Dryer Replacement
\$ 1,037,038	\$ 1,205,419	Total



Application Time Line

- Expect application window to open by the first week of April.
 - Notice of Funding Availability as published in the Federal Register will determine starting date of the program. Applications will be accepted for 90 days from the date of publication.
- Applicant should begin working on the Technical Requirements – NOW!!
- Contact Randy Monhemius at 614/255-2424 or at randy.monhemius@oh.usda.gov to discuss the application process.

Additional Information

- Program can be used with State of Ohio grants and loan programs.
- <http://www.dsireusa.org/>
 - Database of State Incentives for Renewables & Efficiency
- www.FarmEnergy.org
 - Applications and Tools
- http://www.rurdev.usda.gov/ia/rbcs_RE-EE_grants.html