

# Rural Development Renewable Energy Systems and Energy Efficiency Improvement Program

## Grants and Loans Guarantees

**January 24, 2008**



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# Purpose

**Program is designed to help agricultural producers and rural small businesses reduce energy costs and energy consumption in order to help meet the nation's critical energy needs.**



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# USDA's Role

Provide:

– Grants up to \$500,000

– Loan Guarantees up to \$10,000,000



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# Eligible Projects

- Biomass and Bioenergy Projects
  - Biodiesel, Ethanol
  - Wood pellet manufacturing
  - Boilers fueled by biomass (wood chips, manure)
- Anaerobic Digester Projects
  - Dairy and Poultry operations

# Eligible Projects

- Geothermal, Electric Generation
- Geothermal, direct use
  - HVAC systems
- Hydrogen production from renewables
- Solar, small and large; Electric and Thermal
- Wind, small and large

# Eligible Projects

## Energy Efficiency Improvement

- Grain Dryer Replacements
- Heating & Cooling Improvements
- Freezers & Coolers
- Lighting Improvements
- Documented efficiency improvements per energy audit

# Expected Available Funding Fiscal Year 2008

- Grant Program
  - \$15.8 Million expected to be available as direct grants. National competition
- Guaranteed Loan Program
  - \$204 Million available in Guaranteed Loans
- Future Years are Dependent on the Farm Bill



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# Applicant Eligibility

## Applicant:

- must be an agricultural producer or
- rural small business.
- must be citizens of the U.S
- must have demonstrated financial need (grants)
- must not have federal judgments or delinquent federal taxes



# Project Eligibility

## 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

# Project Eligibility (Continued)

## Project:

- must be technically feasible. NREL will review all projects for technical feasibility.
- must be located in a rural area.
- applicant must be the owner of the project and control the operation and maintenance
- must show financial feasibility

# Grants



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# Eligible Project Costs

- Grant funds will not exceed 25 percent of eligible project costs.

Example:

\$100,000 Project cost to replace lighting in warehouse

Grant (25%)	\$25,000
Financing (60%)	\$60,000
Owner's Equity (15%)	\$15,000
Total	\$100,000



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# Eligible Project Costs

- Eligible project costs are defined as
  - Post-application purchase and installation of equipment,
  - Post-application construction or project improvements,
  - Permit Fees
  - Retrofitting (Post- Application)

# Eligible Project Costs Continued

- Professional Service Fees, except application preparation
- Feasibility Studies (required prior to application submission)
- Business Plans (required prior to application submission)

# Eligible Project Costs Continued

- Construction of a new facility only when the facility is used for the same purpose, is approximately the same size, and based on an energy audit will provide more energy savings than improving the existing facility. Only the costs identified in the energy audit for energy efficiency projects are allowed.

Example: Greenhouse replacement



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# Grant Amounts

- 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.



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# Example

Replacement lighting for Manufacturer in Tuscarawas County. Energy Audit Produced the following:

	Present Lights	Input Watts	Total	Hours	kWh/ year	New Lights	Input Watts	Total	Hours	
Office	24	144	3456	3900	13478	24	95	2280	3900	8892
MFG	100	237	23700	3900	92430	100	160	16000	3900	62400
Warehouse	100	458	45800	3900	178620	100	234	23400	3900	91260
			<b>72956</b>		<b>284528</b>			<b>41680</b>		<b>162552</b>
									<b>Savings kWh</b>	<b>121976</b>
									<b>percentage</b>	<b>43%</b>
									<b>Cost per hour</b>	<b>\$0.08</b>
									<b>Annual Savings</b>	<b>\$9,758</b>



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# Benefit to company

Total cost to upgrade lighting \$24,732

Rural Development Grant of 25% \$ 6,183

Out of pocket cost to customer \$18,539

Projected annual costs savings \$ 9,758



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# Guaranteed Loans



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# Guaranteed Loans

- This Federal Assistance is intended to provide “gap” financing for energy related projects.
- Provides up to an 85% federal loan guarantee to banks on loans made to customers intending to finance energy related projects.
- Risk mitigation

# Guaranteed Loans Continued

- Similar applicant eligibility requirements as the grants. No requirement of demonstrated financial need.
- Similar project eligibility requirements as grants except for two additional eligible purposes:
  - Working capital is an eligible
  - Land Acquisition is an eligible use

# Guaranteed Loans Continued

- **Guaranteed Loan Considerations:**
  - Guaranteed loan cannot exceed 50% of total eligible project costs.
  - Guaranteed loan cannot exceed 25% of total project costs if grant is received.
  - Minimum loan request is \$5,000
  - Maximum loan request is \$10,000,000
  - Minimum cash equity injection into the project will range from 15% up to 25% of eligible project costs.

# Lender Benefits

- Increased Profits
- Increased Confidence of Banking Regulators
- Improved Loan Portfolio Quality
- Increased Liquidity
- Only Unguaranteed Portion Counts Towards Bank's Legal Lending Limit
- Limited Extra Paperwork
- Compete for best customers by providing better rates and terms.

# Customer Benefits

- Longer Term Loan
- Better Interest Rate
- Improved Cash Flow Resulting from Longer Term and Better Interest Rate.
- Obtain Larger Loan
- Establish Loan History with the Lender



# Combined Grants and Guaranteed Loans

- The amount of the Combined Loan and Grant cannot exceed 50% of the total Eligible Project Costs.
- Minimum combined funding request is \$5,000.
- Eligible Costs are the same as the individual loan and grant requirements.
- Combined Grant and Guaranteed Loan Packages receive **Priority Consideration** over Grant only requests.



# 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**



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# 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  $\$228 + \$7,896 = \mathbf{\$8,124}$



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# 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	\$28,000 (24.8%)
Non Guaranteed Loan from Bank	\$28,000 (24.8%)
Customer Equity injection	\$28,730 (25.4%)
Total Funding	\$112,973 (100.0%)



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# Application Time Line

- Currently accepting applications for both the guaranteed program and grant program.
- Program can be used with State of Ohio grants and loan programs.
- <http://www.dsireusa.org/>
  - Database of State Incentives for Renewables & Efficiency



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# Applications

- Please contact Randy Monhemius at 614/255-2424 to discuss the application process. Can also be contacted via email at: [randy.monhemius@oh.usda.gov](mailto:randy.monhemius@oh.usda.gov)



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