Rural Energy for America Program

REAP

Energy Audit & Renewable Energy Development Assistance (EA/REDA) Grants
Purpose

Funding provided to perform technical assistance in conducting and promoting:

1. Energy Audits (EA)
2. Renewable Energy Development Assistance (REDA)

Beneficiaries of assistance are rural small businesses, farmers and ranchers.
Eligible Applicants

- Unit of State, Tribal, or Local Government
- Instrumentality of State, Tribal or Local Government
- Land Grant College, University, or other Institution of Higher Education
- Rural Electric Cooperative
- Public Power Entity
- A Resource Conservation and Development (RC&D) Council
REAP Grant Assistance

Maximum Grant Request is $100,000

✓ Matching Funds are not required, however commitment of funds is a scoring criteria.

✓ If application is for Energy Audits, the grantee is required to have the Agricultural Producer or Rural Small Business pay for at least 25% of the Energy Audit cost.
**EA/REDA projects**

- Serve a rural area (except ag producers)
- Recipient of EA/REDA assistance must be located in a State
- Grantee must have a place of business in a State
# REAP Grant Fund Uses

<table>
<thead>
<tr>
<th>Eligible Project Costs</th>
<th>Ineligible Project Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Salaries</td>
<td>➢ Payment for construction related activities</td>
</tr>
<tr>
<td>✓ Travel expenses</td>
<td>➢ Purchase or lease of equipment</td>
</tr>
<tr>
<td>✓ Office Supplies</td>
<td>➢ Payment of any judgment or debt owed to US</td>
</tr>
<tr>
<td>✓ Expenses charged as direct and indirect cost of up to 5% for administering grant</td>
<td>➢ Goods or services provided by a person or entity who has conflict of interest</td>
</tr>
<tr>
<td>These project costs must be directly related to conducting or promoting EA/REDA to be</td>
<td>➢ Cost incurred of preparing application package</td>
</tr>
<tr>
<td>eligible!</td>
<td>➢ Funding political or lobbying activities</td>
</tr>
</tbody>
</table>
Example # 1

A State Department of Energy receives an EA/REDA grant to conduct energy audits Statewide for rural small businesses and ag producers, covering 75% of the energy audit cost.
Rural Energy for America Program

REAP

Renewable Energy Systems & Energy Efficiency Improvements Program
Eligible Applicants

Agricultural Producer

• Individual or entity that receives 51 percent or more of their gross income from agricultural production – crops, livestock, aquaculture, forestry operations, nurseries, dairies

Rural Small Business

• For-profit small business - as defined by the Small Business Administration (SBA)
• Rural area or non-metro community of ≤ 50,000
# Improve Profits for Your Rural Small Business, Farm or Ranch with REAP

<table>
<thead>
<tr>
<th>Energy Efficiency</th>
<th>Renewable Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>Solar</td>
</tr>
<tr>
<td>Heating</td>
<td>Wind</td>
</tr>
<tr>
<td>Cooling</td>
<td>Small Hydroelectric</td>
</tr>
<tr>
<td>Ventilation</td>
<td>Anaerobic Digesters</td>
</tr>
<tr>
<td>Fans</td>
<td>Biomass</td>
</tr>
<tr>
<td>Automated Controls</td>
<td>Geothermal</td>
</tr>
<tr>
<td>Insulation</td>
<td>Wave/Ocean Power</td>
</tr>
</tbody>
</table>

The technology must be commercially available. Research and development projects do not qualify.
<table>
<thead>
<tr>
<th>Eligible Project Costs</th>
<th>Ineligible Project Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Equipment:</td>
<td>• Residential energy projects</td>
</tr>
<tr>
<td>• Purchase &amp; installation</td>
<td>• Equipment:</td>
</tr>
<tr>
<td>• New or refurbished</td>
<td>• Farm tillage equipment</td>
</tr>
<tr>
<td>• Post-application construction &amp; facility improvements</td>
<td>• Used equipment</td>
</tr>
<tr>
<td>• Retrofitting</td>
<td>• Vehicles</td>
</tr>
<tr>
<td>• Professional service fees</td>
<td>• Pre-application construction &amp; facility improvements</td>
</tr>
<tr>
<td>• Permits &amp; license fees</td>
<td>• Application preparation or grant writer fees</td>
</tr>
<tr>
<td>• Working capital, land acquisition (Guarantee loan ONLY with restrictions)</td>
<td>• Line of credit</td>
</tr>
<tr>
<td></td>
<td>• Lease payments</td>
</tr>
<tr>
<td></td>
<td>• Payment to the applicant/business owner, beneficiary, or relative</td>
</tr>
</tbody>
</table>
**REAP Grant Assistance**

Up to 25% of Eligible Project Costs

<table>
<thead>
<tr>
<th>Renewable Energy Systems</th>
<th>Energy Efficiency Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum Grant Request</strong></td>
<td><strong>$2,500</strong> Total eligible project costs $\geq$ $10,000$</td>
</tr>
<tr>
<td><strong>Maximum Grant Request</strong></td>
<td><strong>$500,000</strong> Total eligible project costs $\geq$ $2$ million</td>
</tr>
</tbody>
</table>
## REAP Guaranteed Loan Assistance

**Up to 75%**

of Eligible Project Costs

<table>
<thead>
<tr>
<th>Minimum Loan Amount</th>
<th>$5,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total eligible project costs $\geq$ $6,667$</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum Loan Amount</th>
<th>$25 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total eligible project costs $\geq$ $33.4$ million</td>
<td></td>
</tr>
</tbody>
</table>

**Details**

- USDA guarantees a commercial loan; applicant must have a willing lender.
- Terms are negotiated between the lender and borrower.
- Fees, appraisals, equity & collateral requirements apply.
- $200$ Million is available
# REAP Application Window Closing Deadlines

<table>
<thead>
<tr>
<th>Date</th>
<th>Requests</th>
</tr>
</thead>
</table>
| **April 30, 2015** | - Set Aside Fund Competition-Grant Request $20,000 or less  
                     - Grant Request > $20,000 
                     - Combination Grant/Loan Request |
| **June 30, 2015** | - Grant Request $20,000 or less not competing for set aside  
                     - Grant Request > $20,000  
                     - Combination Grant/Loan Request |
| Continuous Application Cycle | - Guaranteed Loans  
*Loan must score a minimum of 50 to compete monthly  
*First monthly competition held once 8 applications on file |
Chicken Farm

Radiant heat, fans, vents & computerized controls

- $99,293 Total Cost
- $20,000 REAP Grant
- $79,293 Commercial Loan

Improved egg production, reduced time and labor, energy savings
## Veterinary Hospital

- **Rooftop solar panels**
- $148,050 Total Cost
- $20,000 REAP Grant
- $128,050 Applicant Funds

30-40% reduction in operating expenses
Laundromat & Dry Cleaner

<table>
<thead>
<tr>
<th>Energy Efficient Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>$42,040 Total Cost</td>
</tr>
<tr>
<td>$10,510 REAP Grant</td>
</tr>
<tr>
<td>$31,531 Dealer Financing</td>
</tr>
</tbody>
</table>

52% energy savings
Small Energy Company & Dairy Farmers

1 MW Anaerobic digester

- $4.15 Million Total Cost
- $100,000 REAP Grant
- $2.65 Million REAP Guarantee

Powers an equivalent of 700 homes/year
Nursery

Energy efficient glass roof, radiant heat, fans, vents, & computerized controls

- $287,855 Total Cost
- $71,964 REAP Grant
- $100,000 REAP Guarantee
- $115,891 Commercial Loan

40% reduction in energy costs
Rural Auto Repair Shop

<table>
<thead>
<tr>
<th>11 kW micro-hydropower turbine</th>
</tr>
</thead>
<tbody>
<tr>
<td>• $78,511 Total Cost</td>
</tr>
<tr>
<td>• $19,695 REAP Grant</td>
</tr>
<tr>
<td>• $58,816 Applicant Funds</td>
</tr>
</tbody>
</table>

51% reduction in energy costs
<table>
<thead>
<tr>
<th>Rural Manufacturer</th>
<th>Grocery Store</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient lighting system</td>
<td>Energy efficient cooler doors</td>
</tr>
<tr>
<td>$78,511 Total Cost</td>
<td>$41,363 Total Cost</td>
</tr>
<tr>
<td>$19,695 REAP Grant</td>
<td>$8,827 REAP Grant</td>
</tr>
<tr>
<td>$58,816 Applicant Funds</td>
<td>$2,950 Electric Co-op Rebate</td>
</tr>
<tr>
<td>50% savings on lighting bill</td>
<td>$500 per month savings</td>
</tr>
</tbody>
</table>
**Grocery Store**

- Geothermal heat, energy efficient coolers & lighting

- $198,600 Total Cost
- $49,650 REAP Grant
- $148,950 Commercial Loan

40% reduction in energy costs
Flower & Gift Shop

Energy efficient heating & cooling, insulation

- $34,509 Total Cost
- $8,627 REAP Grant
- $17,200 REAP Guarantee
- $8,682 Applicant Funds

60% reduction in energy costs
### 2010 – 2014 Approved Ohio REAP Projects

201 approved

<table>
<thead>
<tr>
<th></th>
<th>Grant</th>
<th>Loan Guarantee</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL OHIO PROJECTS</td>
<td>$11,615,788</td>
<td>$25,593,255</td>
</tr>
</tbody>
</table>
Small Solar Electric Installation

Installation of a 34.56kW Solar PV System that will produce 36,646 kWh annually and replace 72.95% of the farm’s annual energy usage.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project costs</td>
<td>$170,600</td>
</tr>
<tr>
<td>Grant</td>
<td>$ 42,650</td>
</tr>
<tr>
<td>Non-guaranteed Loan</td>
<td>$127,950</td>
</tr>
</tbody>
</table>
Biomass /Wood Gasification Boiler

Replacement of an existing propane furnace with a biomass fired boiler allowing the greenhouse to save nearly 6,550 gallons of propane or approximately $13,100 per year. Gasification boiler is 90%+ efficient.

Biomass Boiler purchase and Installation: $31,459
Grant $ 7,864
Out-of-pocket costs $23,595
Estimated annual savings: $10,000
Return on investment: About 3 years

Similar boiler could be used to provide heat to livestock facilities.
Biomass /Wood Gasification Boiler
Greenhouse Lighting Replacement

Project involved replacing 1100 watt High Pressure Sodium lighting in the greenhouse with iGrow Induction Lighting.

• Benefits:
  – Expected energy consumed to be reduced by 25%;
  – Substantial reduction in annual maintenance costs
  – Expected bulb life extended to 100,000 hours versus HPS of 3,000 hours

• Project Costs:
  – Replace HPS lights with iGrow lighting $47,705
  – Less: Grant $11,926
  – Final Cost to customer $35,779
Greenhouse Lighting Replacement

iGrow Lighting System installation
Grocery Store Lighting Upgrades

Project involved the replacement of indoor and outdoor lighting from florescent tube to energy efficient LED lighting.

• Benefits:
  – Reduced electric energy consumption by 32% or $9,829/year savings.
  – Lower maintenance costs of approx. $3,600 per year
  – Longer bulb and fixture life expectancy for LED of 50,000 hours instead of the 15,000 available for florescent tubes.
  – Improved visibility and store atmosphere.

• Project Costs:
  – Total cost of lighting replacement $86,609
  – Less: grant amount $20,000
  – Final Costs to customer $66,609
  – Return on total project costs 8.8 years
Grocery Store Lighting Upgrades

LED Lighting installation
Reduce electric consumption by 120,000kwh/year
Energy Efficiency Improvement - Custom Packaging Plant

Company requested financial assistance in replacing 398 of the 400 watt metal halide lighting fixtures with 398 T5 fixtures. Total area covered was approximately 227,000 square feet.

- Existing Energy Costs: $93,965
- Existing annual usage: 1,268,093 kWh
- Total Project costs: $138,879

- Expected energy usage new lights: 349,656 kWh
- Expected annual energy savings: 918,437 kWh
- Expected annual cost savings: $68,056
- Reduction in Energy usage: 72.4%
- Return on investment: 2.03 years.

Verified actual savings of 975,000 kWh in first year.
Bakery Geothermal Installation

Project involved the installation of a geothermal system to provide heating and cooling needs of the bakery plus provide hot water for the facility.

• Benefits:
  – Provide hot water, heating and cooling needs for the bakery.
  – Reduced energy consumption by approximately 50%
  – Lower maintenance costs and longer life expectancy for system over conventional methods.
  – Fits in with the company’s “Green” energy plan.

• Project Costs:
  – Total cost of geothermal system $36,663
  – Less: grant amount $ 9,165
  – Final Costs to customer $27,498
Bakery Geothermal

Bakery Geothermal Installation
Anaerobic Digester Project

Construction of an anaerobic digester in Sheffield, Ohio that will produce 7,029,000 kWh annually. The system will be constructed at the waste water treatment plant. The system will use bio-solids and regional food wastes to generate the methane which will be used to power the generators.

Total Project costs: $3,200,000
Loan Guarantee: $1,650,000
Grant: $500,000
Project Equity: $1,050,000
Anaerobic Digester Project

Actual production in 2013 was 9,213,000 kWh
Fennville, MI

This project is a complete mix, two-stage Anaerobic Digester system for a 2300 head dairy operation. The amount of energy that is being produced has made the farm self-sufficient, with all excess energy being sold to a local utility.
Southeastern Illinois

Tim Ridgley utilized REAP to install 90 solar panels on his 2,700-acre southeastern Illinois farm where he grows corn, soybeans and wheat. His son also raises beef cattle. Adding the panels to the 72 he previously installed, he has been able to generate 100% of his electricity needs for the farm and save around $300/month.
How to Apply


• Submit applications any time of year.

• Deadlines for FY 2016:
  • October 30, 2015
  • April 30, 2016
Additional Funding & Technical Assistance

- State Agencies & Programs
- Incentives From Local Utilities
- Commercial Lenders
- Database of State Incentives for Renewable and Efficiency
  
  [www.dsireusa.org](http://www.dsireusa.org)
Rural Energy for America Program (REAP)

www.rd.usda.gov/reap

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