

# **USDA RURAL DEVELOPMENT**

## **FINANCING BIOMASS PROJECTS IN RURAL AREAS**

**BIOMASS FOR ENERGY, ECONOMY AND NATURE  
CONFERENCE**

**Longwood College**

**September 10 – 11, 2013**



# USDA ENERGY MATRIX MAP

[www.usda.gov/energy](http://www.usda.gov/energy)



# 2008 Farm Bill – Title IX

Renewable energy programs administered by  
USDA Rural Development

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- Rural Energy for America Program (REAP) (9007)
- Biorefinery Assistance Program (9003)
- Advanced Biofuels Payment Program (9005)



United States Department of Agriculture

# *Rural Energy for America Program*

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**FLAGSHIP**



**United States Department of Agriculture**

## Rural Energy for America Program (REAP)

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- The REAP was first authorized by the 2002 Farm Bill and reauthorized in subsequent Farm Bills.
- Establishes a grant and loan guarantee program to assist agricultural producers and rural small businesses in purchasing renewable energy systems and making energy efficiency improvements
- Establishes a grant program for energy audits, technical assistance and feasibility studies



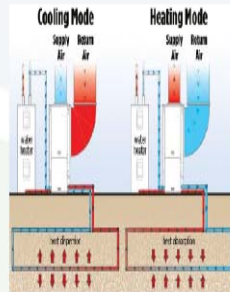
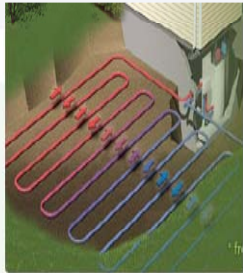
# ELIGIBILITY

- Must be an Agricultural Producer or Rural Small Business
- Must be a citizen of the U.S.
- Must not have federal judgments or delinquent federal taxes
- The project must be for the purchase of a renewable energy system or energy efficiency improvement. For energy efficiency projects applicants must have an energy audit.
- Grant request must not exceed 25 percent of the total eligible project costs.
- Commercially available and replicable technology
- Technically Feasible
- Located in a rural area; Ag producers do not have to be in a rural area
- Applicant must own the system and control the operation and maintenance of the project
- Applicant must show adequate revenues for Operation & Maintenance
- Can be a private entity (including a sole proprietorship, partnership, or corporation); cooperative or an electric utility
- **Non-Profit organizations and public entities are not eligible**

# RENEWABLE ENERGY TYPES

## GEOHERMAL

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



## BIOMASS and BIOENERGY PROJECTS

- Biodiesel, Ethanol
- Wood Pellet Mfg
- Boilers fueled by Biomass



# WIND & HYDROPOWER

## SOLAR

Small and Large Projects - Electric and Thermal Projects



*Thermal*



*Thermal & Electric*



*Electric*



*Thermal*



*Thermal & Electric*



*Electric*



# ENERGY EFFICIENCY IMPROVEMENTS

## GRAIN DRYER REPLACEMENTS

Old



New

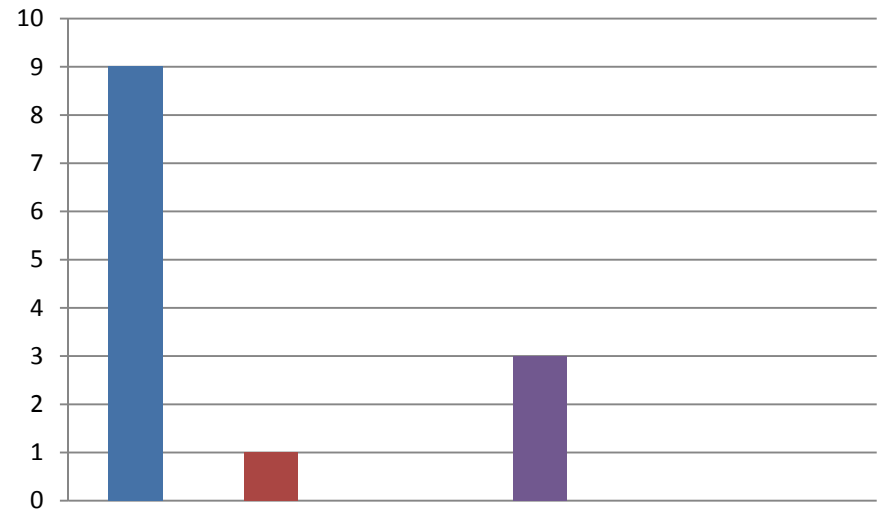
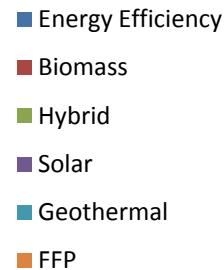
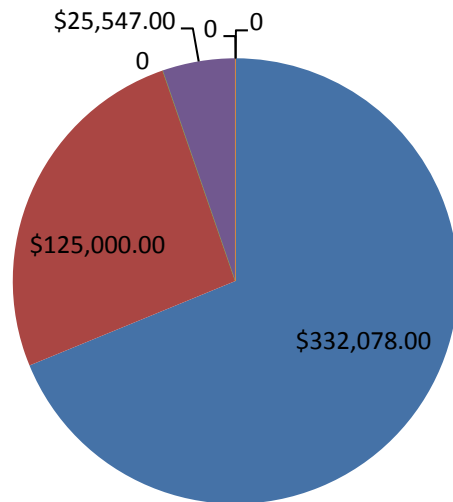


# FY2012 Project Funding

FY 2012

13 Projects Funded including 1 guaranteed loan  
for \$236,625

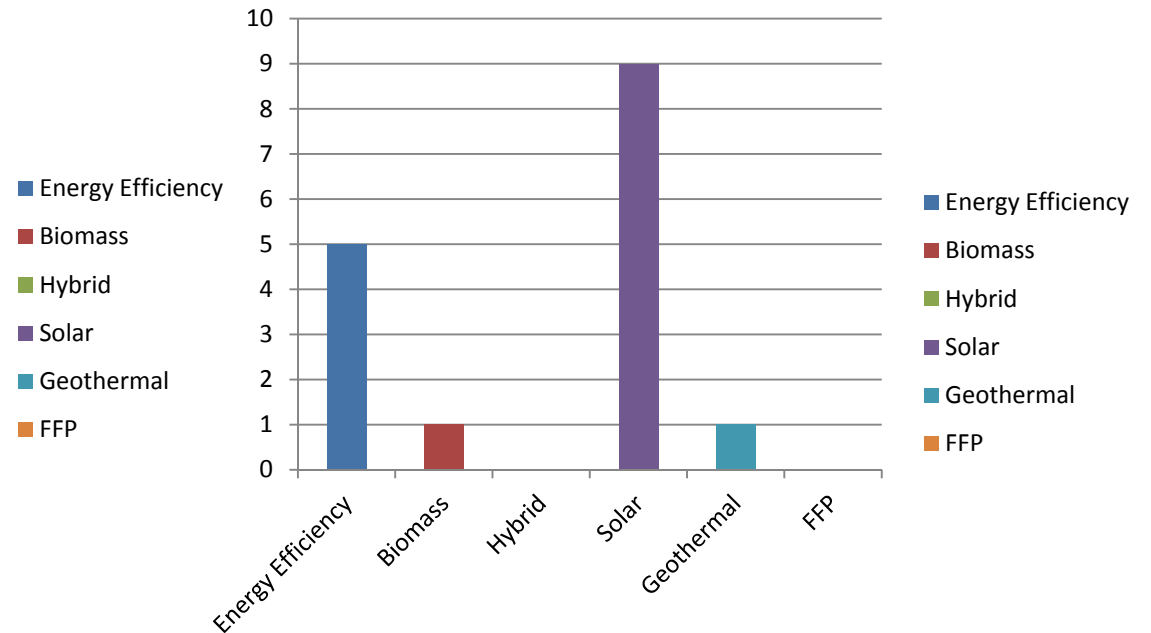
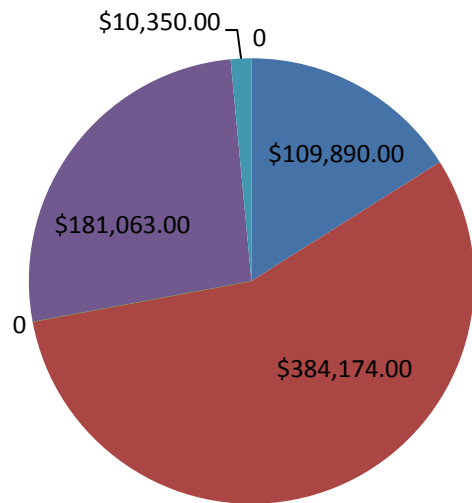
Total Funding - \$482,625



# FY2013 Project Funding

16 Projects Funded

Total Funding - \$684,478



# *Biorefinery Assistance Program*

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**FIRST OF ITS KIND**



**United States Department of Agriculture**

# Biorefinery Assistance Program

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- Provides loan guarantees of up to \$250 million for the construction and retrofitting of commercial scale biorefineries that produce advanced biofuels



# Biorefinery Assistance Program

## Investments in “First of its kind” commercial production

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- **Loan Note Guarantees issued:**
  - Sapphire Energy, Inc., New Mexico, \$54.5 million
  - INEOS New Planet BioEnergy, Florida, \$75 million
  - Fremont Community Digester, Michigan, \$12.8 million
  
- **Conditional Commitments awarded:**
  - Enerkem Corporation, Mississippi, \$80 million
  - Zechem, Oregon, \$232.5 million
  - Fiberight, Iowa, \$25 million
  - Fulcrum Sierra Biofuels, Nevada, \$105 million
  - Chemtex, North Carolina, \$99 million



United States Department of Agriculture



## ZeaChem Boardman Biorefinery, LLC, Boardman, Oregon

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- \$232,500,000 Guaranteed Loan
- 25MMG cellulosic ethanol facility
- Expected operational in 2014
- Feedstock – 70% Woody Biomass (hybrid poplar) 30% agriculture residue (wheat straw, corn stover)
- 250,000 gal. demonstration facility completed
- Strong Federal support:
  - US DOE \$25M IBR grant
  - USDA NIFA AFRI \$12 million for demo
  - USDA BCAP award to assist with feedstock establishment



- *Advanced Biofuel Producer Payment Program*

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United States Department of Agriculture



# Advanced Biofuel Producer Payment Program

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- Supports and ensures an expanding production of advanced biofuels by providing payments to eligible advanced biofuel producers



# Eligible Producers

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- Individual, corporation, company, joint stock company, group of organizations, or non-profit entity that produces and sells an advanced biofuel



# Advanced Biofuel

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- A fuel derived from renewable biomass, other than corn kernel starch
- Biofuel derived from cellulose, hemicellulose, or lignin;
- Biofuel derived from sugar and starch (other than ethanol derived from corn kernel starch);
- Biofuel derived from waste material, including crop residue, other vegetative waste material, animal waste, food waste, and yard waste;
- Diesel-equivalent fuel derived from renewable biomass, including vegetable oil and animal fat;
- Biogas (including landfill gas and sewage waste treatment gas) produced through the conversion of organic matter from renewable biomass; *Landfills are required to segregate non-renewable and renewable biomass to be eligible.*
- Butanol or other alcohols produced through the conversion of organic matter from renewable biomass; or other fuel derived from cellulosic biomass.

# REAP Bioeconomy Investments, 2003 - 12

Technology	Number of Projects	Grant Amount	Loan Guarantee Amount	Leverage Amount
ANAEROBIC DIGESTERS	187	\$47,169,249	\$32,370,538	\$415,642,417
SOLID FUEL PRODUCTION	145	\$18,281,411	\$37,531,486	\$291,445,105
BIOFUELS	61	\$10,964,134	\$30,832,306	\$198,398,073
THERMAL CONVERSION	109	\$7,390,563	\$25,213,591	\$59,137,636
OTHER	51	\$5,321,504	\$22,439,921	\$43,842,810
<b>Total</b>	<b>553</b>	<b>\$89,126,861</b>	<b>\$148,387,842</b>	<b>\$1,008,466,041</b>

Year	Number of Projects	Grant Amount	Loan Guarantee Amount	Leverage Amount
2003	46	\$11,181,845	\$0	\$384,538,682
2004	48	\$12,357,010	\$0	\$46,093,479
2005	27	\$7,136,408	\$10,100,000	\$68,929,806
2006	60	\$9,540,129	\$13,278,671	\$49,602,876
2007	63	\$8,352,826	\$53,013,888	\$207,340,163
2008	66	\$9,220,128	\$6,748,899	\$38,369,017
2009	61	\$7,385,434	\$17,372,569	\$34,576,162
2010	88	\$11,129,449	\$21,328,535	\$73,121,071
2011	73	\$11,057,968	\$18,102,890	\$84,579,928
2012	21	\$1,765,664	\$8,442,390	\$21,314,857
<b>Total</b>	<b>553</b>	<b>\$89,126,861</b>	<b>\$148,387,842</b>	<b>\$1,008,466,041</b>





## Rural Development - Rural Business-Cooperative Service

### Web Links

- USDA Rural Development [www.rurdev.usda.gov](http://www.rurdev.usda.gov)
- Rural Business-Cooperative Service  
[www.rurdev.usda.gov/rbs](http://www.rurdev.usda.gov/rbs)
- Rural Area Eligibility – [www.rurdev.usda.gov/rbs](http://www.rurdev.usda.gov/rbs)

# CONTACT INFORMATION

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