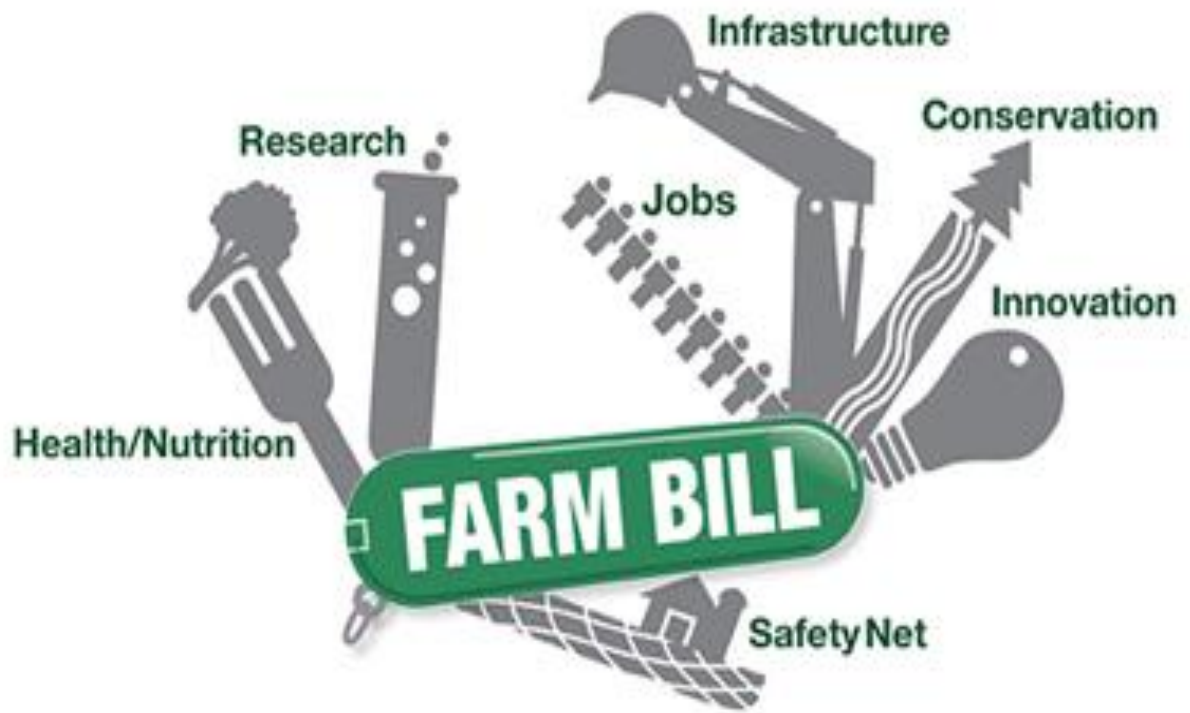




# Project Finance and Investments

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**Biomass 2014**  
**Growing The Future Bioeconomy**



**“It’s like a Swiss Army knife.”**

*- President Obama 2/7/14*

# Sustainable Bioenergy Supply Chain

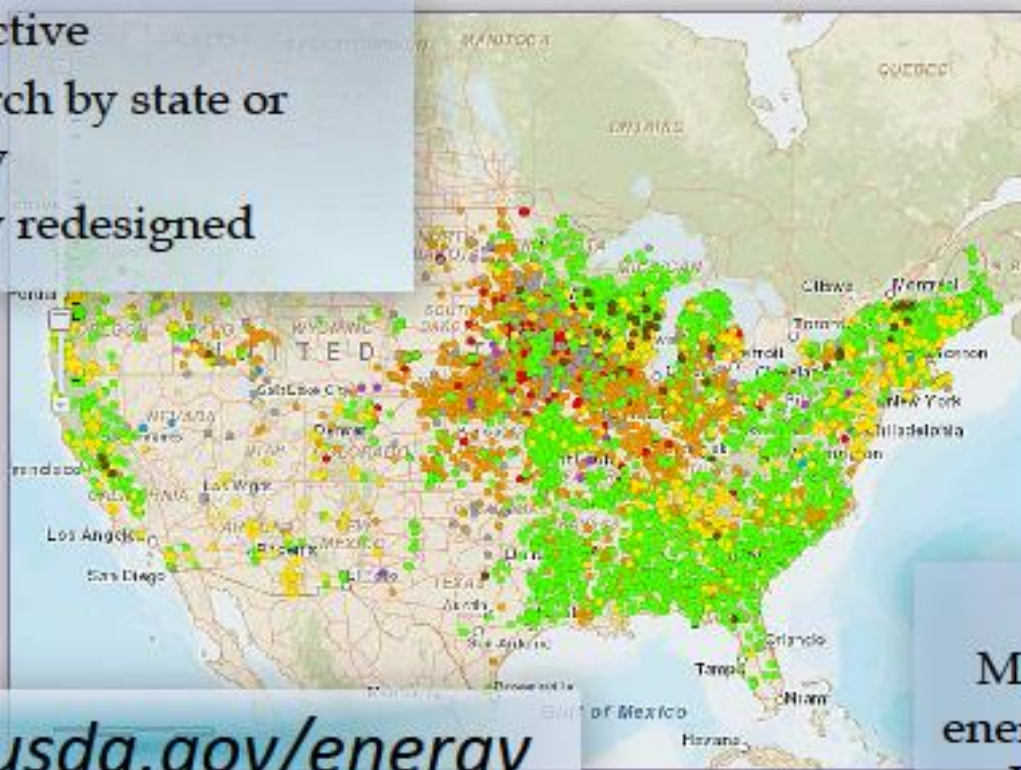




# USDA Energy Web Portal

## *Energy Investments Map 2.0*

- Interactive
- Research by state or county
- Newly redesigned



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

More than 14,000 visible  
energy projects from across  
USDA Mission Areas



## Rural Energy for America Program Investments, 2003-13

Year	Number of Projects	Grant Amount	Loan Guarantee Amount	Leverage	Total Project Cost
2003	114	\$21,707,373	\$0	\$545,381,487	\$567,088,860
2004	167	\$22,812,049	\$0	\$136,984,587	\$159,796,636
2005	156	\$22,237,268	\$10,100,000	\$193,511,453	\$225,848,721
2006	395	\$21,209,435	\$24,158,862	\$190,332,768	\$235,701,065
2007	436	\$19,123,191	\$57,270,743	\$243,396,339	\$319,790,273
2008	764	\$34,239,666	\$15,566,169	\$158,032,939	\$207,838,774
2009	1,559	\$54,409,524	\$57,569,031	\$167,381,847	\$279,313,511
2010	2402	\$86,332,404	\$73,799,918	\$299,373,011	\$459,424,426
2011	2,012	\$62,519,999	\$34,577,549	\$331,529,788	\$428,122,603
2012	872	\$21,634,127	\$14,278,112	\$124,560,958	\$160,473,196
2013	1,422	\$40,082,065	\$32,557,550	\$250,715,746	\$323,355,361
<b>Total</b>	<b>10,299</b>	<b>\$405,815,033</b>	<b>\$320,668,933</b>	<b>\$2,641,200,922</b>	<b>\$3,366,261,359</b>



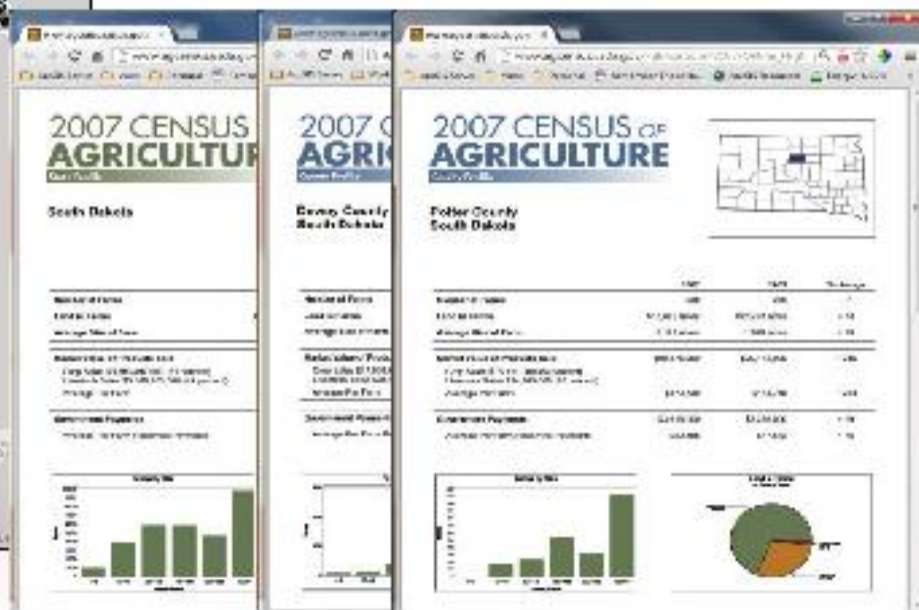
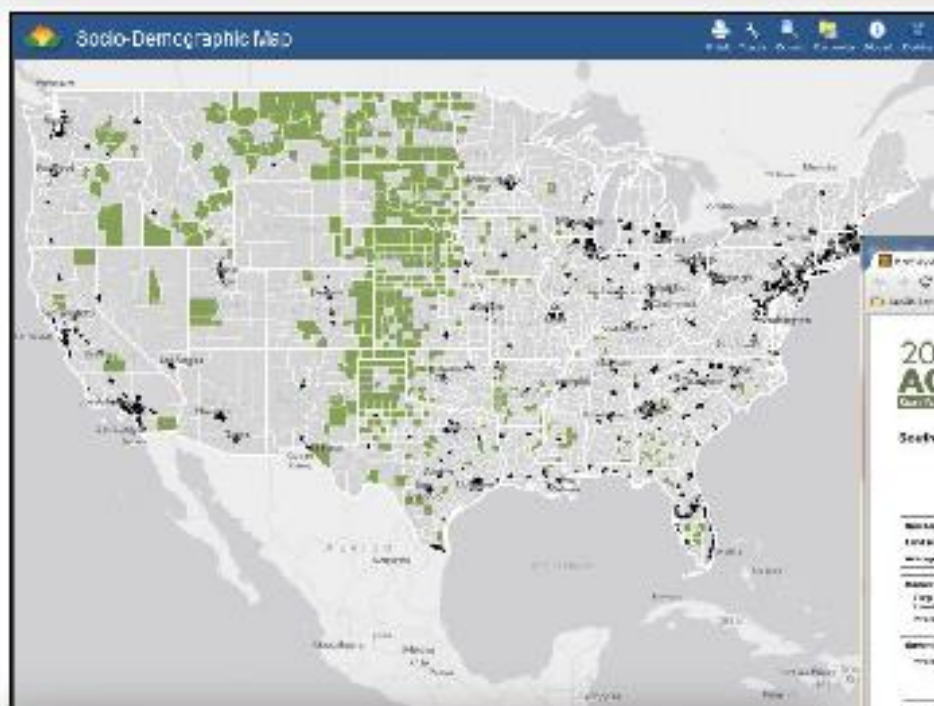
# REAP Investments by Technology, 2003-13

Technology	Number of Projects	Grant Amount	Loan Guarantee Amount	Leverage Amount	Total Project Cost
BIOMASS	508	\$96,072,846	\$169,512,842	\$1,149,248,561	\$1,414,967,817
WIND	647	\$69,640,803	\$45,422,876	\$627,575,736	\$741,972,182
ENERGY EFFICIENCY	6,733	\$151,936,387	\$52,602,860	\$435,485,686	\$638,996,535
SOLAR	1712	\$59,280,144	\$31,960,953	\$302,999,452	\$394,149,081
HYDROELECTRIC	34	\$2,994,570	\$19,704,500	\$43,353,508	\$66,302,579
GEOHERMAL	282	\$6,442,431	\$1,136,443	\$27,051,591	\$34,630,466
FLEXIBLE FUEL PUMP	98	\$5,435,448	\$0	\$21,761,200	\$27,196,648
HYBRID	39	\$1,863,460	\$328,459	\$7,387,842	\$9,559,761
	<b>10,051</b>	<b>\$393,666,089</b>	<b>\$320,668,933</b>	<b>\$2,614,863,577</b>	<b>\$3,327,775,069</b>
EA/REDA	85	\$7,998,559		\$5,089,011	\$13,087,570
FEASIBILITY STUDY	163	\$4,150,386	0	\$14,698,370	\$18,848,755
	<b>248</b>	<b>12,148,945</b>	<b>0</b>	<b>26,337,346</b>	<b>38,486,290</b>



# USDA Energy Web Portal

## Renewable Energy Tool



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



# Energy Web v2.0

The screenshot shows a video player interface. The main content area has an orange background with the USDA logo at the top center. Below the logo, the text reads 'United States Department of Agriculture' and 'Welcome to the USDA'. The main title is 'Energy Investment Report Tool Tutorial'. Below the title is a graphic of a sun rising over two green leaves. At the bottom of the slide is a horizontal strip with three images: a fire, water, and a leaf. Below the strip is the URL 'www.usda.gov/energy'. The video player controls at the bottom show a play button, a progress bar, and a timestamp of '0:00 / 6:56'. There are also icons for closed captions, a menu, and a full screen button.

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







## Section 9003 Biorefinery Assistance Program Summary of 32 applications received, 2009 to 2012

Number	Technology	Feedstock	Advanced Biofuel
3	Anaerobic digestion	Animal manure, Municipal solid and food wastes	Renewable Natural Gas/Electricity (2008 FB definition)
5	Thermo-chemical (F-T and similar processes)	Woody Biomass, Municipal solid waste	Green diesel, Green gasoline, Aviation Fuel, F-T waxes
6	Biochemical (Enzymatic and steam hydrolysis)	Woody Biomass, Energy grasses, Crop residues	Cellulosic ethanol
3	Thermo-chemical/ Bio-chemical hybrids	Woody Biomass, Municipal solid waste	Cellulosic ethanol
3	Lipid Hydro-cracking (UOP process)	Algae oil, non-food oilseeds (Camelina, high stearic canola), yellow grease, waste food oil	Hydro-treated Jet (HRJ), Hydro-treated Diesel(HRD), Naphtha
5	Traditional (methyl ester) biodiesel	Soy oil, yellow grease, waste food oils, reclaimed corn oil (ethanol distillers syrup)	Biodiesel
7	Others	Various	Anhydrous ammonia

# Fiberight



# ZeaChem



# Fulcrum BIOENERGY



# INEOS Bio

# FREMONT Community Digester





## Section 9003 - 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:**
  - Zechem, Oregon, \$232.5 million
  - Fiberight, Iowa, \$25 million
  - Fulcrum Sierra Biofuels, Nevada, \$105 million
  - Chemtex, North Carolina, \$99 million



## FY 2014 Biorefinery Assistance Applications

NOFA closed January 30, 2014.

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- 8 applications received;
- \$510 million in loan guarantee authority requested;
- 4 States – Texas, Louisiana, Georgia, North Carolina;
- 5 Technologies:
  - 2 Green gasoline, diesel, and advanced aviation from woody biomass;
  - Cellulosic ethanol from algae;
  - 2 Anaerobic digesters using swine manure as principle feedstock;
  - Solid fuel pellets from woody biomass; and
  - 2 Biodiesel from waste greases and oils.



# Agriculture Act of 2014

## Title IX Appropriations, Fiscal Years 2014-18

Program Name	Mandatory Funding (Million)	Availability
Biobased Markets Program	\$3	Annually
Biorefinery Assistance Program*	\$200	Until expended
Repowering Assistance Program	\$12	Until expended
Bioenergy Program for Advanced Biofuels	\$15	Annually
Rural Energy for America Program	\$50	Annually
Biomass Research and Development Initiative	\$3	Annually
Biomass Crop Assistance Program	\$20	Annually



## Section 9003 – Biorefinery Assistance Program 2014 Farm Bill Changes

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- Name – “Section 9003 – Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program”
- Purpose -- Assist in the development of new and emerging technologies for the development of:
  - Advanced Biofuels
  - Renewable Chemicals
  - Biobased product manufacturing



## Section 9003 – Biorefinery Assistance Program 2014 Farm Bill Changes

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### Renewable Chemical –

A monomer, polymer, plastic, formulated product, or chemical substance produced from renewable biomass.

- Renewable chemical implementation is not specified in the FB.
- Presently under agency review.



## Section 9003 – Biorefinery Assistance Program 2014 Farm Bill Changes

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### BioBased Product Manufacturing --

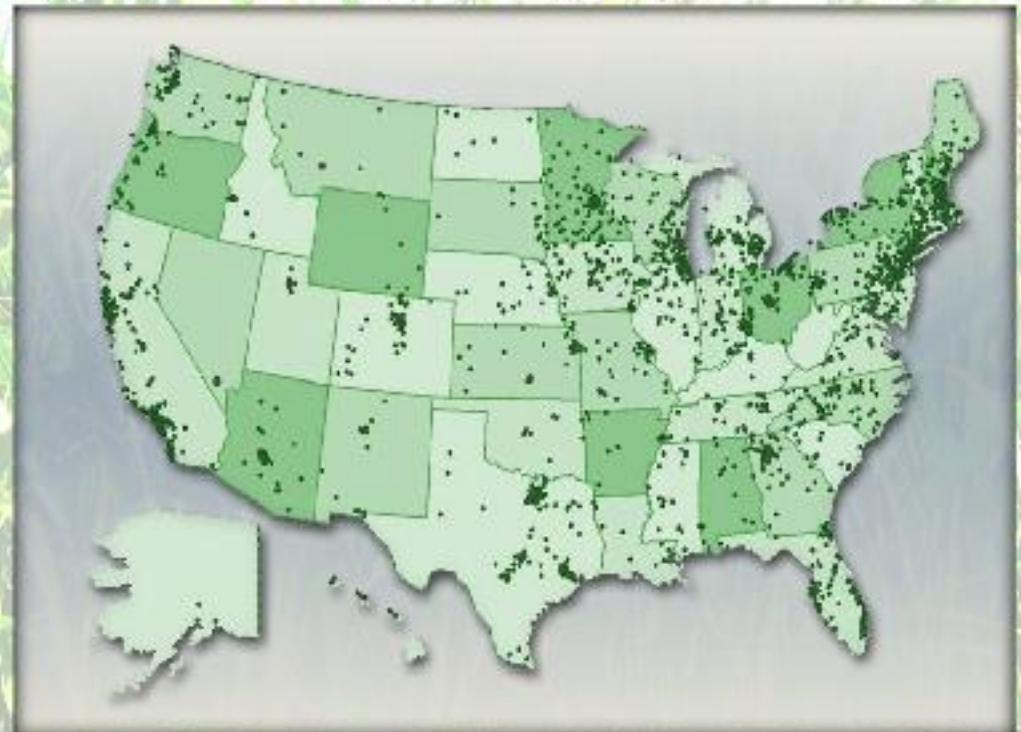
Development, construction, and retrofitting of technologically new commercial-scale processing and manufacturing equipment and required facilities that will be used to convert renewable chemicals and other biobased outputs of biorefineries into end-user products on a commercial scale.





# BioPreferred/Biobased Product Marketing

Nearly 1,000 individual products registered



[www.biopreferred.gov](http://www.biopreferred.gov)



## Section 9003 – Biorefinery Assistance Program 2014 Farm Bill Changes

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“Of the total amount of funds made available for fiscal years 2014 and 2015 under subparagraph (A), the Secretary may use for the cost of loan guarantees under this section not more than 15 percent of such funds to promote biobased product manufacturing.”

Mandatory Funding (available until expended):

- FY 2014 - \$100 Million
- FY 2015 - \$50 Million
- FY 2016 - \$50 Million



## Section 9003 – Biorefinery Assistance Program 2014 Farm Bill Funding

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- Regulation changes to 7 CFR 4279-C are required before a new Notice.
- Anticipated late in 2014 (target).
- Application Guide to be revised and made available (changes will be required with changes to regulation).



## Section 9007 – Rural Energy for America Program Overview

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- Establishes a grant and loan guarantee program to assist agricultural producers and rural small businesses in purchasing and installing renewable energy systems and making energy efficiency improvements.
- Establishes a grant program for energy audits and renewable energy development assistance.



# *Wealth creation*

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Multiplier effect --

USDA leveraged investments create a multitude of secondary and tertiary employment opportunities and business startups in rural areas and serve as an incubator to new green technologies.



# Thank you!

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(202) 841-6097