

USDA Update on the Biobased Economy



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BIOMASS RESEARCH AND DEVELOPMENT
TECHNICAL ADVISORY COMMITTEE MEETING
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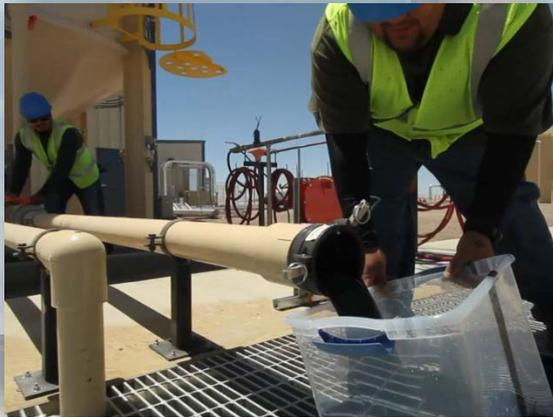
Agriculture Act of 2014 -Title IX Authorization

- **BioPreferred Program: \$3 million each year FY 2014-18**
- **Biorefinery Assistance Program: (\$100MFY14, \$50M in each FY15,16)**
- **Repowering Assistance: \$12 million available until expended**
- **Bioenergy Program for Advance Biofuels: \$15 million each year FY 2014-18**
- **Rural Energy for America Program: \$50 million each year FY 2014-18**
- **Biomass Research and Development Initiative: \$3 million each year FY 2014-18**
- **Biomass Crop Assistance Program: \$25 million each year FY 2014-18**



Advanced Biofuel Provisions

- **Biorefinery Assistance Program - \$200 million (\$100M FY14, \$50M in each FY15,16)**
 - Loan guarantees for first-of-a-kind, commercial-scale projects
 - Includes renewable chemical & biobased product manufacturing (up to 15%)



Concentrated algae, ready for extraction at Sapphire Energy, Columbus, New Mexico. (photo credit: Sapphire Energy)



INEOS New Planet BioEnergy facility, Vero Beach, Florida (photo credit: INEOS Bio)



Fully operational community digester, Fremont, Michigan (USDA photo)



2009 – 2012 BAP Awardees

Loan Note Guarantees issued:

- **Sapphire Energy, Inc., New Mexico: \$54.5 million (paid in full)**
- **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**



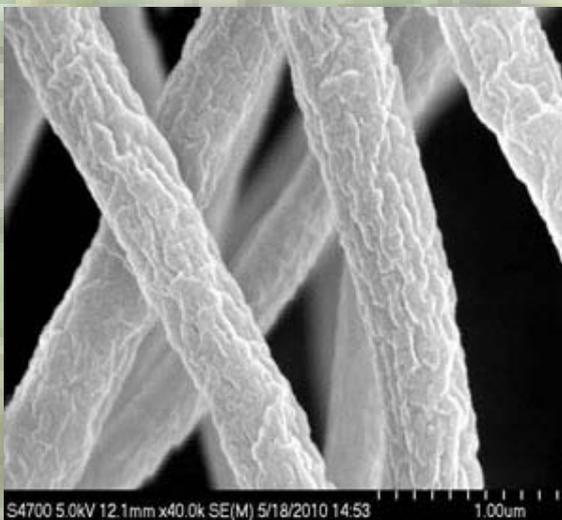
FY 2014 Biorefinery Assistance Applications

NOFA closed January 30, 2014.

- **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**
 - **Solid fuel pellets from woody biomass**
 - **2 Biodiesel from waste greases and oils**



Partnership between U.S. Endowment for Forestry and Communities and the U.S. Forest Service



- Three-year partnership will promote cellulosic nanomaterial as a commercially viable enterprise
- Seeks to overcome technical barriers to large-scale wood-based nanotechnology processing, while filling gaps in the science and technology that are needed for commercialization
- Building on work done by the Forest Products Laboratory in Madison, Wis



Agriculture and Food Research Initiative (AFRI)

- **Awarded nearly \$10 million to a consortium of academic, industry and government organizations led by Colorado State University**
- **Research will focus on utilization of insect-killed trees in the Rockies as a sustainable feedstock for bioenergy**
- **Project will undertake comprehensive economic, environmental and social/policy assessment, and integrate research results into a web-based, user-friendly decision support system**
- **Part of USDA's effort to develop modern solutions for climate challenges in agriculture and natural resource management**



USDA-DOE Joint Program on Biomass Genomics Research

USDA-NIFA-funded

University of Florida, Gainesville, Fla., \$1,000,000

Oregon State University, Corvallis, Ore., \$1,000,000

DOE-funded

Colorado State University, Ft. Collins, Colo.,
\$1,385,763

University of Georgia, Athens, Ga., \$1,314,235

University of Illinois, Urbana, Ill., \$998,564

Purdue University, West Lafayette, Ind., \$863,576

University of North Carolina, Chapel Hill, N.C.,
\$1,543,490

Project descriptions can be found online at:

<http://genomicscience.energy.gov/research/DOEUSDA/#page=news>



FY 2013 RBS Bioeconomy Performance

Area	Number of Projects	Number of States	Investment (millions)
Energy Programs	264	46	\$64.7
Business and Industry Program	12	11	\$48.8
Cooperative Programs	17	12	\$2.2
Specialty Programs	18	16	\$2.1
Total	311	48	\$117.8

2014 Agency Goal:
Provide at least 3 percent of available funds to support companies involved with biobased products and bioenergy.



Business & Industry Program

FY 2013 Business and Industry Program

12 projects

11 states

\$48.8 million

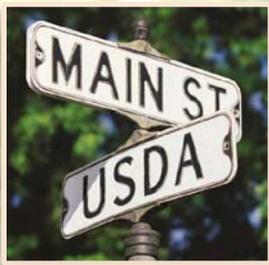


- Nebraska's Laurel Biocomposites received a \$5 million loan for equipment and working capital to convert distillers grain into a new bio-based product that replaces and/or enhances traditional petrochemical-based resins in various plastics.
- When operational, the company will produce 48 million pounds of finished bio-resin product.
- Located in a community of 964 people, Laurel Composites is creating 9 jobs and saving 3 jobs.



FY2014 BioPreferred/Biobased Product Goals

- Begin including biobased clauses in **all** new janitorial/custodial and operations and maintenance procurements immediately.
- Expand this requirement to include all USDA construction, food service, and vehicle maintenance contracts in the next three months.
- Purchase biobased products valued at \$1,000,000 Department-wide during FY 2014.
- Support Federal government goal of \$10,000,000 in biobased product purchases during FY 2014.



Farm to Fleet Program

- Makes biofuel part of regular, operational fuel purchase and use by the military
- Forthcoming solicitation for F-76 & JP-5 from DLA-Energy
- Funds from USDA's Commodity Credit Corporation (CCC) will assist the effort

Nov. 2010 - A U.S. Navy HH-60S Seahawk helicopter assigned to Air Test and Evaluation Squadron (HX) 21 is fueled with a Camelina-based biofuel before a test flight at Naval Air Station Patuxent River, Maryland. (photo credit: U.S. Navy / released)

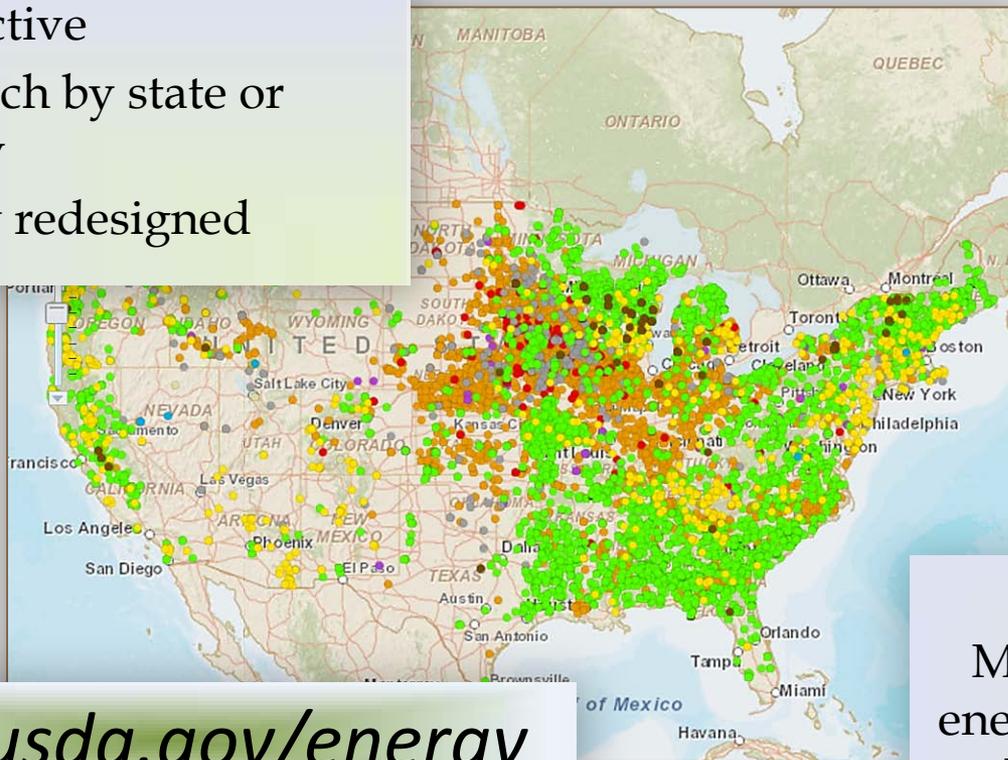




USDA Energy Web Portal

Energy Investments Map 2.0

- Interactive
- Research by state or county
- Newly redesigned



www.usda.gov/energy

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



Energy Web v2.0

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A rural landscape featuring a red barn with a white roof on the left, a dirt road leading into the distance, and several white wind turbines scattered across the horizon. The sky is overcast with grey clouds. The foreground shows green grass and a field of golden corn.

Thank you!

For more information on USDA Energy
and Bioeconomy Programs, visit:

www.usda.gov/energy