

Updates: Indian Energy Federal Policy & Program Support For Tribes

Tribal Renewable Energy Solutions And Partnerships

RETECH 2012

The 4th Annual Renewable Energy Technology Conference and Exhibition

Tony Crooks

USDA Rural Development



Committed to the future of rural communities.

Agenda

- Presidential Secure Energy Goals
- Food, Conservation, and Energy Act of 2008
- USDA Rural Development Advanced Biofuels, Renewable Energy, and Energy Efficiency programs to Tribal Nations

President Obama's Commitment to Renewable Energy

“To put people back to work today, reduce our dependence on foreign oil, together we will double our renewable energy production.”



Blueprint for a Secure Energy Future

March 30, 2011

- **Develop and Secure America's Energy Supplies**
 - Lead the World Towards Safer, Cleaner, and More Secure Energy Supplies
- **Provide Consumers with Choices to Reduce Costs and Save Energy**
 - Reduce Consumer Costs at the Pump
- **Innovate Our Way to a Clean Energy Future**
 - Harness America's Clean Energy Potential
 - 4 “First of its kind” advanced biorefinery technologies in the next two years



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- Increasing economic opportunity in rural America
- Improving the quality of life of all rural Americans

Food, Conservation, and Energy Act '08

Energy Title Programs with Mandatory Funding

\$1.1 billion to leverage renewable energy industry investments in new technologies and feedstocks

- **Biomass Crop Assistance Program (BCAP) – \$70 M**
- **Biomass Research and Development Initiative -- \$118 M**
- **Biorefinery Assistance -- \$75 M ('09), \$245 M ('10)**
- **Bioenergy Program for Advanced Biofuels -- \$300 M**
- **Rural Energy for America Program (REAP) -- \$255 M**
- **Biobased Markets Program -- \$9 M**
- **Biodiesel Fuel Education Program -- \$5 M**
- **Biofuels Infrastructure Study -- \$1 M**
- **Repowering Assistance -- \$35 M**

Sustainable Bioenergy Supply Chain



2008 Farm Bill – Title IX

Renewable energy programs administered by
USDA Rural Development



- **Biorefinery Assistance Program**
- **Repowering Assistance Program**
- **Advanced Biofuels Payment Program**
- **Rural Energy for America Program (REAP)**



Advanced Biofuels programs

“FIRST OF ITS KIND”

Section 9003 - Biorefinery Assistance Program

- Provides loan guarantees of up to \$250 million for the construction and retrofitting of commercial scale biorefineries that produce advanced biofuels
- **Mandatory Funding (available until expended):**
 - FY 2009 - \$75 Million
 - FY 2010 - \$245 Million

Section 9003 Biorefinery Assistance Program

Summary of 32 applications received, 2009 to present

Number	Technology	Feedstock	Advanced Biofuel
3	Anaerobic digestion	Animal manure, Municipal solid and food wastes	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

Section 9003 - Biorefinery Assistance Program

Investments in “First of its kind” commercial production

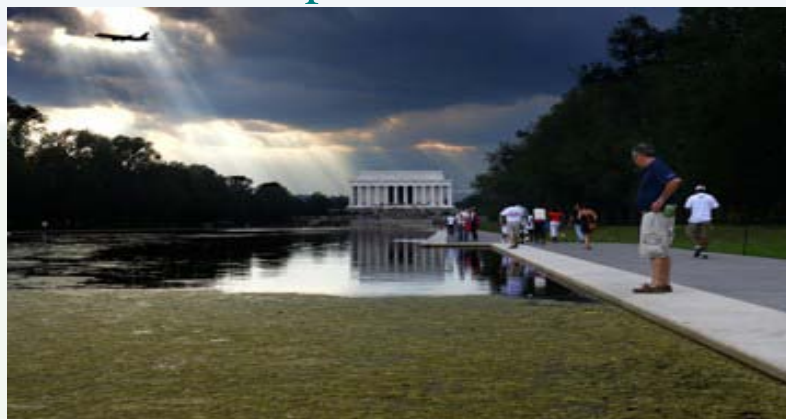
- **Loan Note Guarantees issued:**
 - Sapphire Energy, Inc., New Mexico, \$54.5 million
 - INEOS New Planet BioEnergy, Florida, \$75 million
 - Fremont Community Digester, Michigan, \$12.8 million
- **Conditional Commitments awarded:**
 - Enerkem Corporation, Mississippi, \$80 million
 - Coskata, Inc., Alabama, \$87.5 million
 - Zechem, Oregon, \$232.5 million
 - Fiberright, Iowa, \$25 million
 - Fulcrum Sierra Biofuels, Nevada, \$105 million
 - Chemtex, North Carolina, \$99 million



Sapphire Energy, Columbus, New Mexico

First 3rd generation biorefinery

- \$54.5 million loan guarantee;
\$50 million DOE grant
- 1 MMGY; Advanced aviation fuel HRJ and HRD
- Fixes approximately 56 metric tons of CO₂ per day
- 2014 Completion



Fremont Community Digester, Fremont, Michigan

- \$12,825,000 Guaranteed Loan
- Complete Mix Anaerobic Digester
- 2.86 Megawatts electricity; 300 tons/day industrial food waste
- Partnership with leading Western Michigan businesses
- Fall 2012 completion/operation



INEOS New Planet Energy, Vero Beach, Florida

First Commercial Scale Cellulosic Ethanol Producer

- \$75 million loan guarantee; \$50 million DOE grant; \$2.5 million State of Florida grant
- MSW and citrus pulp to 8 million gallons per year of cellulosic ethanol and 6 MW of electricity
- Mechanical completion 4/12; Commissioning complete 9/12
- **On schedule to produce 2 MG in 2012!**



Section 9004 -- Repowering Assistance Program

- Provides payments to eligible biorefineries to replace fossil fuels used to produce heat or power with renewable biomass
- Provides \$35 million for FY 2009 that will remain available until the funds are expended
- Awards to date –
 - Lincolnway Energy, LLC, Nevada, Iowa, \$1,995,272.
 - Western Plains Energy, Oakley, Kansas, \$5,000,000.

Section 9005 -- Advanced Biofuels Payment Program

- Payments to eligible producers to support and ensure an expanding production of advanced biofuels
- Assistance to existing production and awards new production (incremental)
- **Mandatory Funding:**
 - \$55,000,000 FY 2009
 - \$60,000,000 FY 2010
 - \$85,000,000 FY 2011
 - \$105,000,000 FY 2012

Advanced Biofuel Payments, 2009-2012

Producer	2009-2010	2010-2011	2012 (3 quarters + Q4 2011)	All
BIOMASS BASED DIESEL	\$12,084,817	\$88,735,811	\$22,949,899	\$123,770,527
ETHANOL (Non Corn Kernel Starch)	\$4,749,375	\$34,873,480	\$9,019,389	\$48,642,244
SOLID FUEL (PELLETS)	\$1,523,789	\$11,188,805	\$2,893,780	\$15,606,374
ANAEROBIC DIGESTERS	\$180,655	\$1,326,506	\$343,077	\$1,850,238
Total	\$18,538,636	\$136,124,602	\$35,206,145	\$189,869,383



Rural Energy for America

FLAGSHIP



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Section 9007 -- Rural Energy for America Program (REAP)

- Formerly Section 9006 – Renewable Energy Systems and Energy Efficiency Improvements Program
- 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

Rural Energy for America Program (REAP)

Continued

- Grant Limits:
 - \$500,000 for Renewable Energy Systems (or 25% of TPC)
 - \$250,000 for Energy Efficiency Improvements
- Loan Guarantee Limits:
 - \$25 Million Cap
 - Cap Federal share at 75% of project costs
- **Mandatory Funding:**
 - FY 09 - \$55 Million + \$5 million discretionary
 - FY 10 - \$60 Million + \$39 million discretionary
 - FY 11 - \$70 Million + \$5 million discretionary
 - FY 12 - \$70 Million (Actual \$22 M mandatory + \$2.5 M discretionary)

Rural Energy for America Program (REAP)

Notice of Interim Rule Making published April 14, 2011

- The inclusion of **flexible fuel pumps** that dispense blended liquid transportation
- **Clarifying language to accommodate Section 17 corporations (DOI).**
- The removal of **citizenship requirements** provided the proposed project is located in a State and the applicant has a place of business located in a State.
- The **modification of the rural area requirement** for projects proposed by **agricultural producers** to allow such projects to be located in non-rural areas.
- The addition of a new paragraph to clarify how the Agency addresses **changes in equipment for energy efficiency improvements** for determining eligible project costs.



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Rough and Ready Lumber Company
Cave Junction, Oregon

Biomass Co-generation (1.5 MW)
\$500,000 grant
\$2,350,000 loan guarantee

In 2007, Rough and Ready Lumber Company wanted to increase their output of dried, ready-for-market lumber. Their kilns, however, were powered by a 35-year-old boiler that was not up to the job.

The total cost of the project amounted to \$6 million. In addition to the assistance provided through REAP, the cost was further offset by a State of Oregon \$1.675 million Business Energy Tax Credit.

Another \$1.7 million will be paid by the Energy Trust of Oregon at a rate of \$42 per megawatt-hour as the company produces power over the 5 years of production.



- 3 full-time jobs at the lumber company***
- 7-10 jobs forest stewardship and harvest contractors***
 - 1.5 megawatts produced from biomass***



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Payback reduced from 15 yrs to 5 yrs!

AgPower Jerome, LLC

Lincoln, Idaho

Anaerobic Digester

\$500,000 Grant

\$21.2 million Total Project Costs

AgPower Jerome, LLC, of Lincoln County is one of four similar projects in Idaho that are partnering with ID dairymen.

AgPower partners with large dairy herds to provide high quality bedding material and nutrient management services in return for the opportunity to generate significant renewable energy revenues from the manure collected on the premises.



Soon to generate 29.9 megawatts/year



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Wampler's Farm Sausage

Lenoir City, Tennessee



- Wampler's Farm Sausage Company is family owned for three generations; in business since 1937.
- **REAP Guaranteed Loan of \$1,230,585** to install solar panels
- 2,240-panel, 502 kilowatt array
- Displaces 12-15 percent of the company's electricity consumption,
- Believed to be the state's largest industrial installation.



Photo courtesy: MICHAEL PATRICK/NEWS SENTINEL



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Berkshire East Ski Area

Charlemont, Mass.

Ski Area Powered by Renewable Energy

- USDA Rural Development provided a **\$1,588,613 Renewable Energy for America Program Loan Guarantee** to assist the ski resort in the purchase and construction of a 900KW wind turbine.

Benefits to the ski resort business and the environment.

- Provides power for the entire business's needs -- snow making equipment, lodge, lifts, and canopy tour business.
- Reduces the use of fossil fuels to the ski area.
- Excess energy capacity -- resort completely sustainable and provides renewable energy credits to local non-profits.
- Reduced energy costs make the resort competitive.



Berkshire East Ski Area's 900KW Wind Turbine

Section 9007 REAP Investments

Renewable Energy Systems/Energy Efficiency Improvements, 2009 - 11

Technology	Number	Grant Amount	Loan Amount	Total Project Cost	MWH
Energy Efficiency	4,070	\$ 97,393,055	\$ 41,850,622	\$ 410,444,118	3,287,298
Solar	937	\$ 33,709,107	\$ 17,832,930	\$ 171,376,648	162,976
Biomass	158	\$ 29,115,735	\$ 56,226,851	\$ 320,231,633	2,502,675
Wind	318	\$ 21,252,628	\$ 39,668,057	\$ 194,810,127	132,726
Flexible Fuel Pump	66	\$ 4,284,342	\$ -	\$ 26,477,711	353,292
Geothermal	146	\$ 3,264,002	\$ 645,987	\$ 21,412,238	41,789
Hydroelectric/Hydropower	17	\$ 2,185,799	\$ 8,092,000	\$ 36,541,431	26,222
Hybrid	21	\$ 730,916	\$ 213,902	\$ 3,188,548	781
Total	5,733	\$ 191,935,584	\$ 164,530,349	\$ 1,184,482,455	6,507,759



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Section 9007 REAP Investments, 2012

Technology	Number of Projects	Grant Amount	Guaranteed Amount	Total Development Cost	MWH
ENERGY EFFICIENCY	507	\$7,925,564	\$767,372	\$37,557,461	133,262
SOLAR	210	\$6,470,619	\$3,647,900	\$62,255,256	21,026
WIND	57	\$2,554,043	\$1,420,450	\$19,332,330	58,495
BIOMASS	21	\$1,765,664	\$8,442,390	\$31,522,911	489,189
GEOTHERMAL	28	\$745,154	\$0	\$3,025,310	39,225
FLEXIBLE FUEL PUMP	13	\$471,065	\$0	\$1,966,442	72,015
HYDROPOWER/HYDROELECTRIC	4	\$360,135	\$0	\$1,587,685	927
HYBRID	4	\$72,904	\$0	\$319,198	96
EA/REDA	10	\$880,000	\$0	\$1,303,383	
FEASIBILITY STUDY	18	\$388,979	\$0	\$1,603,220	
Total	872	\$21,634,127	\$14,278,112	\$160,473,196	814,236

Wealth creation

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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