

Federal Funding and Incentives for Woody Biomass Utilization and Bioenergy

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Federal Incentives & Resources for Renewable Energy Projects

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Financial and Other Incentives for Renewable Energy Projects- Overview

- **Clean Renewable Energy Bonds (CREBs)**
- **Modified Accelerated Cost-Recovery System (MACRS)**
- **Production Tax Credit (PTC)**
- **Renewable Energy Production Incentive (REPI)**

Federal, Agricultural and Rural Programs which may Apply to Renewable Energy Projects- Overview

- **Section 9006 Guaranteed Loan**
- **New Market Tax Credits (NMTC)**
- **Business and Industry Guaranteed Loan Program**
- **Rural Business Enterprise Grants (RBEG)**
- **Rural Economic Development Loan and Grant (REDLG)**

Clean Renewable Energy Bonds (CREB)

- Established by 2005 Energy Act, CREBs as a financing mechanism for public sector/tax-exempt renewable energy projects (munis and electric co-ops).
- 0% interest rate - the borrower pays back only the principal of the bond, and the bondholder receives federal tax credits in lieu of the traditional bond interest.
- Tax credit funds are allocated by the Secretary of the U.S. Treasury Department.
- Original Allocation (Jan 1, 2006 – Dec. 31, 2007) - \$800 million. Over 786 applicants from 40 states applied for \$2.5 billion funds.
- 2008 Allocation, \$400 million of CREBs are allocated: \$250 million for cities/counties/tribes, and \$150 million for co-ops
- No funds for CREBs are currently allocated for 2009; however, Congress is considering allocating \$2.0 billion

Modified Accelerated Cost-Recovery System Depreciation (MACRS)

- Under the Modified Accelerated Cost-Recovery System (MACRS), business can recover investments in certain property through depreciation deductions.
- The MACRS establishes a set of class lives for various types of property, ranging from three to 50 years,.
- For solar, wind and geothermal property placed in service after 1986, the current MACRS property class is five years.
- 2005 Energy Act : fuel cells, microturbines, and solar hybrid lighting technologies are now classified as 5-year property.
- Ethanol plants typically claim "5 year property" lives; IRS may be challenging (seeking "'7 year property" classification").

Production Tax Credit (PTC)

- Wind
- Closed-loop biomass
- Open-loop biomass
- Geothermal energy
- Small irrigation power (150 kW – 5 MW)
- Landfill gas
- Refined coal
- Hydropower
- Municipal solid waste (burns fuel; not gasifies)
- Indian Coal

This recently extended in the emergency economic package passed by Congress in November 2008.

Renewable Energy Production Incentive (REPI)

- **The Renewable Energy Production Incentive (REPI) provides financial incentive payments for electricity produced and sold by new qualifying renewable energy generation facilities.**
 - 2¢ per kilowatt-hour
 - 10-year duration subject to the availability of annual appropriations
- **Eligible owners:**
 - Not-for-profit electrical cooperatives
 - Public utilities
 - State governments
 - Commonwealths, territories, possessions of the U.S., the District of Columbia
 - Indian tribal governments, or a political subdivision thereof
 - Native Corporations that sell the project's electricity to someone else.

Qualifying facilities includes biomass except for municipal solid waste combustion

USDA Business and Industry Guaranteed Loans

(1 of 2)

Eligible Recipients: Cooperatives, corporations, partnerships, Indian Tribe, public body or individual.

Purpose:

- To improve, develop, or finance business, industry, and employment and improve the economic and environmental climate in rural communities.
- Guaranty quality loans bolster the existing private credit structure which will provide lasting community benefit.
- Not marginal or substandard loans or for relief of lenders having such loans

USDA Business and Industry Guaranteed Loans (2 of 2)

- **Loan Amounts:**
 - Up to \$10 million typical Limit
 - Between \$10 and \$25 million require Administrator's approval
 - Between \$25 and \$40 million require Secretary Approval for rural cooperative organizations that process value-added agricultural commodities.
- **Guarantee Amount:**
 - Negotiation with Lender
 - Up to 80% of loans of \$5 million or less
 - Up to 70% of loans between \$5 and \$10 million
 - Up to 60% of loans exceeding \$10 million

USDA Rural Business Enterprise Grants (RBEG)

- **Eligible Recipients:** Rural public entities (towns, communities, state agencies and authorities), Indian tribes and rural private, non-profit corporations.
- **Purpose:** to benefit small and emerging private businesses in rural areas, defined as those that will employ 50 or fewer new employees and have less than \$1 million in projected gross revenues.
- Eligible funds in 2007 (\$40 million). To be used for:
 - Acquisition or development of land, easements, or rights of way
 - Construction, conversion, renovation, of buildings, plants, machinery, equipment, access streets and roads, parking areas, utilities
 - Pollution control and abatement
 - Capitalization of revolving loan funds including funds that will make loans for start ups and working capital
 - Training and technical assistance
 - Distance adult learning for job training and advancement
 - Rural transportation improvement; and project planning.

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USDA Rural Economic Development Loan and Grant (REDLG)

■ The REDLG Program:

- Provide funding to rural projects through local utility organizations
- USDA provides zero interest loans to local utilities which they, in turn, pass through to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas.
- The ultimate recipients repay the lending utility directly. The utility is responsible for repayment to the Agency
- Grants are awarded on a competitive bases, and for FY2007, could be up to \$300,000

USDA Section 9006 Guaranteed Loan

- **Eligible Applicants:** Agricultural producers and small rural businesses
- **Purpose:** makes available competitive grant funds and guaranteed loans for the purchase of renewable energy systems and energy improvements.
 - The project must occur in a rural area and implement pre-commercial or commercially available and replicable technology.
 - No research and development.
 - The applicant must provide at least 75% of eligible project costs, and grant assistance to a single individual or entity can not exceed \$750,000.
 - Eligible projects include biofuels, hydrogen, and energy efficiency improvements, as well as solar, geothermal, and wind.
- Project developers will work with local lenders, who in turn can apply to USDA Rural Development for a loan guarantee up to 85 percent of the loan amount.
 - Maximum of \$10 million per project, minimum of \$5,000
 - Loans up to 50% of the project's cost

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New Market Tax Credits (NMTC)

- The New Markets Tax Credit (NMTC) Program permits taxpayers to receive a credit against Federal income taxes for making qualified equity investments in designated Community Development Entities (CDEs).
- CDE must invest substantially all funds in low-income communities.
- Credit = 39% of the investment over a seven-year credit allowance period.
 - 5% each of the first three years
 - 6% each of the last four years
- Investors may not redeem their investments in CDEs prior to the conclusion of the seven-year period.
- New Rule requires significant level of 2008 NMTC allocations to be invested in rural communities, so good potential for renewable energy investment.

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Specific Federal Agency Programs

U.S. Forest Service- financial incentives

■ **Wood Biomass Grants**

- \$4.0 Million annually
- \$250,000 each grant with 20% non-federal matching
- Grants that address the nationwide challenge in dealing with low-valued material removed from hazardous fuel reduction activities, restoration of insect and diseased conditions or catastrophic weather events through marketable forest products and/or energy products.

■ **State Wood Energy Grants**

- \$800,000 in FY2007 awarded to State Foresters to support the development of projects that will help jump start statewide programs that implement wood-to-energy-technology.

U.S. Forest Service- other assistance

- Coordinated Resource Offering Protocol- facilitating available local biomass supply
- Stewardship Contracting
- Forest Products Technology and Marketing Assistance
- Harvesting technology guidelines
- Fuels for Schools and Beyond
- R&D
 - Processing and conversion technology
 - Sustainability- soils, habitat, productivity, & economics
 - Improved short rotation wood energy crops
 - Life-cycle analysis of wood energy systems
 - Land use change- strategic analysis in Resource Planning Act

Bureau of Land Management- DOI

- Includes option for biomass removal in all service contracts, unless reserved as ecologically inappropriate.
- Department has authority to issue research and development and transportation subsidy grants for biomass.
- Participates in Regional Biomass Supply Assessments (coordinated resource offering protocol)

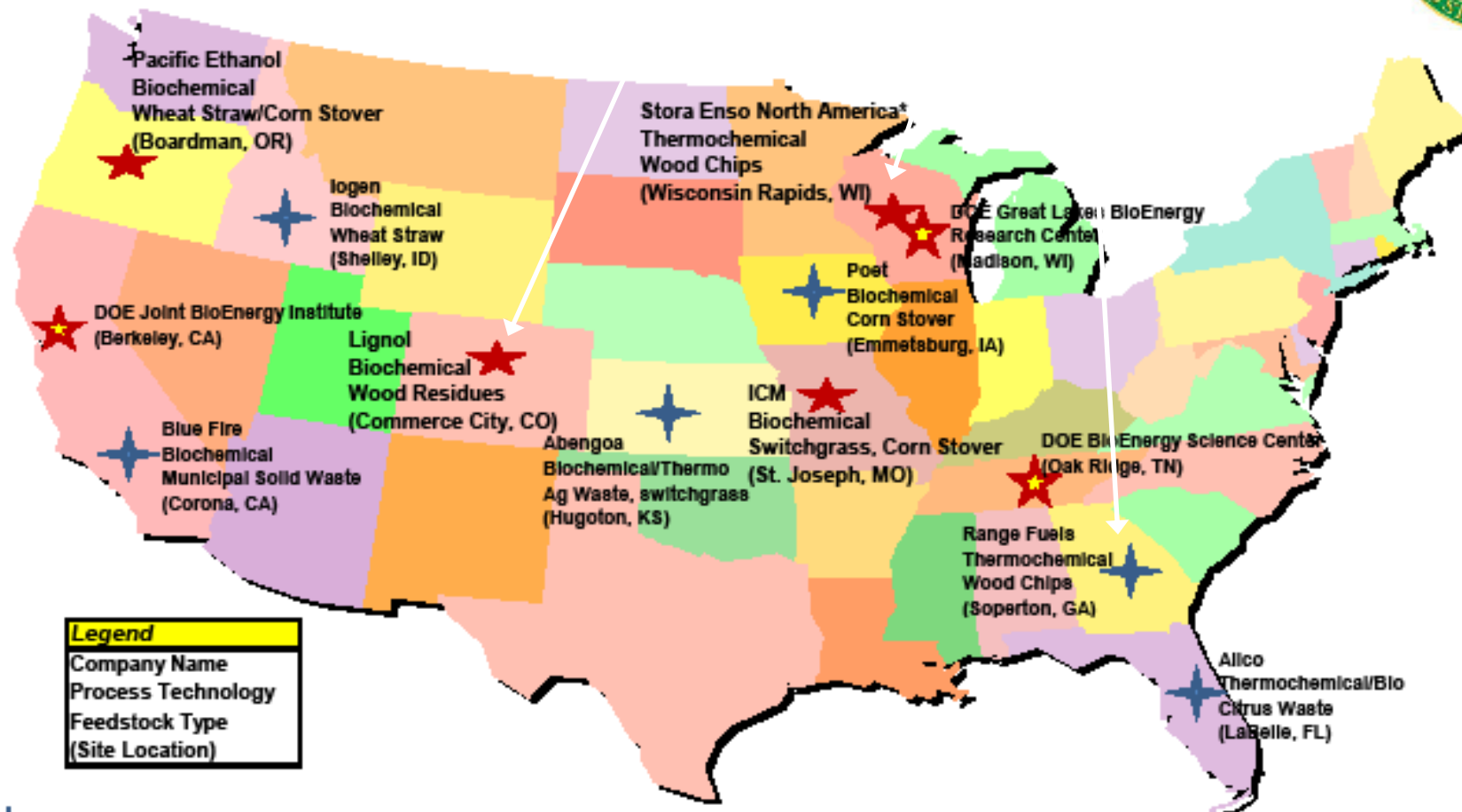
Department of Energy

- Commercial Scale Demonstration Biorefineries
- Small Scale Demonstration Biorefineries
- Bioenergy Research Centers
- Regional Feedstock Assessments
- Federal Energy Management Program (for federal facilities)
- Voluntary Reporting of Greenhouse Gases Program

<http://www1.eere.energy.gov/biomass/>

Major DOE Biofuels Project Locations

Geographic, feedstock and technology diversity



- Six Commercial-Scale Biorefinery Projects; DOE will invest up to \$385 million
- Four Small-Scale Biorefinery Projects; DOE will invest up to \$114 million (first round)
- Three Bio-Energy Centers; DOE will invest up to \$405 million

* Acquired by NewPage Corporation

EPA- bioenergy related programs

- Combined Heat and Power Programs
- Lead agency for the Renewable Fuels Standard (RFS)
- Air Quality– Supreme Court decision to regulate CO₂ under the Clean Air Act
- Waste Stream Diversion
- Water Quality
- Eco-labeling

USDA Cooperative State Research, Education, and Extension Service (CSREES)

Advances knowledge for agriculture, the environment, human health and well-being, and communities by supporting research, education, and extension programs through the Land-Grant University System and other partners.

USDA CSREES Opportunities

- Agriculture and Food Research Initiative (AFRI) Program
 - Area 71.2 Biobased Products and Bioenergy Production
 - \$5.4 Million
 - Improved utilization of forestry residues
 - Development of cost effective biocatalysts
 - Improved lignocellulosic conversion
 - Cost-effective and affordable biobased product development
 - Eligibility open to Universities, Individuals, NGOs, Small Businesses, and Experiment Stations

USDA CSREES Opportunities

- Small Business Innovative Research (SBIR)
 - Area 8.8 Biofuels and Biobased Products
 - Emphasis Areas:
 - Biofuel Production: Economically and Environmentally Sustainable
 - New crops for the production of non-food biobased products
 - New processes for manufacturing of biobased plastics
 - \$20 Million available in SBIR
 - Eligibility limited to small businesses

USDA CSREES Opportunities

- Sustainable Agriculture Research and Education Program (SARE)
 - Research and Education Grants
 - Professional Development Grants
 - Producer Grants to support farmers and ranchers with innovative approaches
 - Partnership Grants to support on-farm research

USDA CSREES NEW Opportunity

- 9008 Biomass Research & Development Initiative
 - Joint solicitation with Department of Energy
- FY 2009: \$20 Million increasing to \$40+ Million by FY 2012; Mandatory Money!
- Emphasis areas
 - Feedstock Development and Harvesting
 - Biofuels and Biobased Product Development
 - Life-cycle Analysis and Modeling including economic, environmental, and social considerations

Examples of USDA CSREES Woody Projects

- State University of New York: 15 Willow demonstrations for energy production
- Forest Concepts LLC: Optimization of collection and handling systems
- University of Georgia: Education for sustainable forestry and bioenergy production

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USDA NRCS Opportunity

- Natural Resources Conservation Service (NRCS)
 - Promotes conservation of soil, water, and other natural resources
- Conservation Innovation Grant (CIG)
 - Intended to stimulate the development and adoption of innovative conservation approaches and technologies for agricultural production.
 - \$20 Million

NRCS Conservation Innovation Grant Projects

- Forest Restoration Partnership, Oregon:
 - Development of Aspen management manual for bioenergy and biobased products
- Kennebec County Soil and Water District, Maine:
 - On-farm energy audits and conservation practices; including wood utilization
- Iowa State University:
 - Market-based modeling to promote stewardship in the bioeconomy

Recent Legislation

- **Energy Independence and Security Act (EISA-2007) : Renewable Fuel Standard**
- **Food, Conservation, and Energy Act of 2008: Farm Bill**

Key biofuels-related provisions of EISA and the 2008 farm bill include:

- A major expansion of the renewable fuel standard (RFS) established in the Energy Policy Act of 2005 (P.L. 109-58) [EISA];
- Expansion and/or modification of tax credits for ethanol [farm bill];
- Grants and loan guarantees for biofuels (especially cellulosic) research, development, deployment, and production [EISA, farm bill];
- Studies of the potential for ethanol pipeline transportation, expanded biofuel use, market and environmental impacts of increased biofuel use, and the effects of biodiesel on engines [EISA, farm bill];
- Expansion of biofuel feedstock availability [farm bill];
- Reauthorization of biofuels research and development at the U.S. Department of Energy [EISA] and the U.S. Department of Agriculture and Environmental Protection Agency [farm bill]; and
- Reduction of the blender tax credit for corn-based ethanol, a new production tax credit for cellulosic ethanol, and continuation of the import duty on ethanol [farm bill].

EISA – Renewable Fuel Standard

- Expands the Renewable Fuel Standard to 36B gal/yr of renewable fuel by 2022 (vs. 7.5B gal/yr by 2012, from EPAct 2005)
- Fuels include:
 - Corn ethanol
 - Advanced biofuels
 - Cellulosic ethanol and ethanol from other non-corn biomass sources
 - Biomass-based Diesel (Biodiesel)
 - Biogas
 - Butanol and other alcohols from biomass
 - Other fuels from cellulosic biomass
- EPA will develop regulations to implement
- Corn Ethanol limited to 15B of 36B gallons in 2022 – remaining 21B gallons is Advanced Biofuels
- Biodiesel must be at least 1B gallons in 2022

Other Federal Energy Programs

■ **Small ethanol producer credit**

- The 2005 Energy Act changes the definition of a "small ethanol producer" to include a production capacity of up to 60 million gallons (instead of the up to 30 million gallons originally established by Congress in 1990). The tax credit also equals \$.10 per gallon to the small ethanol producer (or its owners in pass through entities).

■ **DOE State Energy Program Funding**

- DOE's State Energy Program (SEP) provides funding to states and U.S. overseas territories for them to address their energy priorities. State energy offices manage all SEP-funded projects, and many of them use this funding for alternative fuels projects.

2008 Farm Bill

Food, Conservation, and Energy Act
of 2008

(new slide presentation)

Also look for--

- State Incentive
 - Climate Action Plans
 - Renewable Portfolio Standards
- State Governor's Energy Office
- State Economic Development Agency
- Regional Biomass Partnerships- through regional governor's associations

Thanks

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http://www.forestsandrangelands.gov/Woody_Biomass/