Federal Funding and Incentives for Woody Biomass Utilization and Bioenergy

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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)

Adapted from Stoel Rives - Harvesting Green Energy Conference - Jan 2008
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)

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
Modified Accelerated Cost-Recovery System Depreciation (MACR)

- 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”).

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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.

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 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

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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.

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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.

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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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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.

www.fpl.fs.fed.us/tmu/grant-2008/biomass-2008/
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

www.fs.fed.us/woodybiomass/
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)

www.doi.gov/initiatives/biomass.html
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

Legend
- 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
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.
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
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

- **Food, Conservation, and Energy Act of 2008: Farm Bill**

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
Key biofuels-related provisions of EISA and the 2008 farm bill include:

- 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].
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.

Adapted from Stoel Rives- Harvesting Green Energy Conference- Jan 2008
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/