

Federal Biomass Policy: Current and Future Policy Options

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Ensuring Forest Sustainability in the Development of Wood Biofuels and
Bioenergy Symposium
February 9, 2009
Washington, D.C.

EESI: *Advancing Innovative Solutions!*



- Dedicated to promoting sustainable societies through innovative policies on energy, climate, transportation, agriculture, buildings, and smart growth
- A non-profit organization founded in 1984, by a bipartisan Congressional Caucus
- Provides timely information regarding science, policy, and technologies
- Conducts 30+ Congressional briefings a year
- Builds coalitions and networks
- Three program areas;
 - Climate and Energy
 - Transportation and Energy
 - Sustainable Biomass and Energy
- EESI Associates Program allows companies and individuals to participate

Overview

- The purpose of this presentation is to set the stage for this afternoon's discussion:
 - A review of existing federal bioenergy policy as it relates to woody biomass from forests.
 - An overview of EESI's stakeholder work seeking to identify the biggest issues and concerns regarding the use of forest materials as an energy feedstock
 - A quick review of some of the options looking forward.

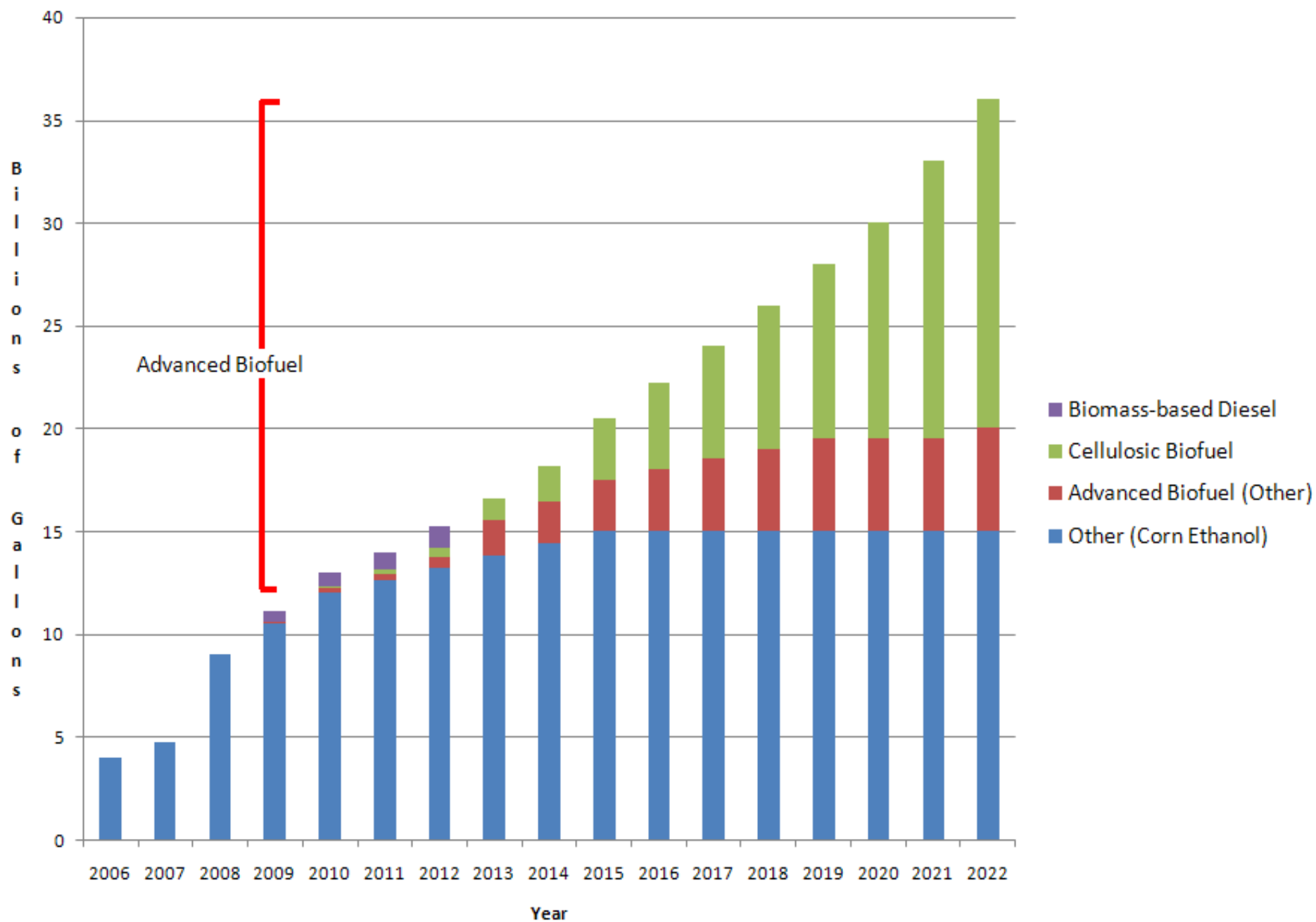
Existing Federal Incentives

- Tax Credits
 - VEETC - \$0.51/gallon, changing to \$0.45/gallon
 - Small Ethanol Producers Credit – \$0.10/gallon for first 15 mg
 - Total output <60 million gallons per year
 - Cellulosic Biofuels Credit - \$1.01/gallon
 - Renewable Diesel - \$1.00/gallon
 - Production Tax Credit (electricity)
 - Closed-loop biomass - \$0.019/kWh
 - Open-loop biomass - \$0.009/kWh
 - Combined Heat and Power (CHP) Credit – 10% on first 15 MW
 - Biomass Stoves - \$300 credit, >75% fuel efficient
- Ethanol Tariff – \$0.54/gallon

Renewable Fuels Standard (Energy Independence and Security Act of 2007)

- 36 billion gallons of renewable fuels by 2022
- 21 billion gallons of cellulosic biofuels
- Definition of renewable biomass excludes some forests and feedstocks
 - All Public Lands, except for hazardous fuels reduction in the “immediate vicinity” of communities
 - Natural forests with a natural heritage ranking of rare, imperiled, etc.
 - Old growth, late successional forests
 - Commercial materials from naturally-regenerating stands
- Comprehensive Energy Act of 2008 (H.R. 6899) contained a ‘sense of congress’ that the definition should be amended to better reflect.

Federal Renewable Fuel Mandate by Fuel Type and Year (2006-2022)



DOE Biomass Program

- In Dec. 2007, DOE announced over \$1 billion in multi-year funding for biorefineries
- Integrated Biorefinery Demonstration Program (Epack 05 932[d]) and other authorities
 - \$625 million for 15 commercial and demonstration scale cellulosic biorefineries
 - Many use wood: Range Fuels, Verenium, Flambeau, New Page, RSE Pulp, Mascoma, etc.
- Loan Guarantees

Farm Bill Reauthorization

- 2002 Farm Bill: *Farm Security and Rural Development Act of 2002 (P.L.107-171)*
 - First Ever Energy Title (Title IX) - \$405 million in mandatory funding over five years
- 2008 Farm Bill: *Food, Conservation, and Energy Act of 2008 (P.L. 110-246)*
 - Energy Title (Title IX) - \$1 billion in mandatory funding over 5 years
 - 12 new and expanded programs

2008 Farm Bill

- Renewable Biomass Definition
 - Different from RFS Definition
 - Includes materials from public lands, if harvested during preventative treatments to reduce hazardous fuels, address infestation, restore 'ecosystem health', etc.
 - Includes renewable plant material from non-federal lands, including trees, wood waste/residue, and yard waste

Biobased Markets Program (Sec. 9002)

- Voluntary labeling (BioPreferred) of biobased products.
- Requires federal agencies to maximize procurement of biobased products and submit reports to Congress
- Establishes Testing Centers and education grants
- \$1 mil for FY12, \$2 mil/yr FY09-12
- For a full catalog of BioPreferred products visit:
<http://www.usda.gov/procurement/programs/biopreferred.htm>

Farm Bill Energy Programs

- Biorefinery Assistance (Sec. 9003)
 - Competitive grants and loan guarantees for construction and retrofitting of biorefineries which produce Advanced Biofuels
 - \$320 mil until expended (\$75 mil FY09, \$245 mil FY10)
- Repowering Assistance (Sec. 9004)
 - Assistance to biorefineries in existence at enactment to replace the use of fossil fuels with renewable biomass
 - \$35 mil FY09, until expended

Bioenergy Program for Advanced Biofuels

(Sec. 9005)

- Expansion of the CCC Bioenergy Program
- Provides payments to biofuel producers to support and expand production of advanced biofuels
- \$300 mil (\$55 mil FY09, \$55 mil FY10, \$85 mil FY11, and \$105 mil FY12)



Rural Energy for America Program

- Financial Assistance for agriculture producers and rural small businesses
 - Grants, loan guarantees and incentive payments for renewable energy systems, energy efficiency improvements, and feasibility studies
- Grants for energy audits (state agencies, cooperatives, educational institutions and utilities)
- Reserves 20% of funds for projects of \$20,000 or less
- \$255 mil mandatory funding (\$55 mil FY09, \$60 mil FY10, \$70 mil FY11, and \$70 mil FY12)

Rural Energy Self-Sufficiency Initiative

(Sec. 9009)

- Grants for community-wide rural energy systems that reduce conventional energy use and increase renewable energy sources
 - Cost-share up to 50%
 - Assess energy use in rural community
 - Evaluate ideas for reducing energy use
 - Develop and install integrated renewable energy systems, including biopower.
- \$20 mil discretionary (\$5 mil/yr FY09-12)

Biomass Crop Assistance Program (BCAP)

(Sec. 9011)

- Financial assistance for establishment and production of dedicated biomass energy crops
- Infrastructure for harvesting storage and transportation of biomass to local biorefineries and biopower facilities
 - Matching payments of \$1/ton provided by the biomass conversion facility up to \$45/ton
 - Forest biomass is eligible
- Mandatory funding “such sums as are necessary” for FY08-12

Community Wood Energy Program (Sec. 9013)

- Helps communities develop wood energy plans and purchase wood energy systems for use in public buildings
- Provides grants up to \$50,000 or up to 50% of the cost
- \$5 mil/yr discretionary FY09-12



Forest Biomass for Energy (Sec. 9012)

- U.S. Forest Service competitive research and development program to encourage the use of forest biomass for energy
- Priority areas include the **utilization of low-value forest byproducts** to produce energy, the integration of energy production with existing manufacturing streams, the development of new transportation fuels and improvement of growth and yield of trees intended for energy feedstocks
- \$5 mil/yr discretionary FY09-12

Biomass Research & Development Act (BRDI)

- Coordination between USDA, DOE, other agencies, and TAC on bioenergy research
 - Competitive contracts and financial assistance
 - Priority areas include biofuels, biobased products and feedstock development
 - Reauthorization \$118 mil (\$20 mil FY09, \$28 mil FY10, \$30 mil FY11, and \$40 mil FY12)
- Other research programs and studies in Energy Policy Act of 2005, EISA 07, and farm bill

Woody Biomass Utilization Grants

- Administered by the U.S. Forest Service
- Provides funding for projects that use low-value wood derived from forest restoration activities in national forests, including hazardous fuels reduction, insect and disease mitigation, and clean-up after catastrophic weather events.
- Most recent solicitation (September 2008) announced the availability of \$4 million dollars.

Other Incentives

- There are a number of additional incentives that could be used for bioenergy activities
 - USDA Value-added Producer Program, Rural Business Enterprise Grants, etc.
- There are also a number of forestry and land management programs that could be relevant to using woody biomass for energy
 - Stewardship Contracting, etc.

EESI's Stakeholder Work

- Sustainable Forest Biomass Discussion Series
 - ~400 stakeholders, conference calls to discuss issues relating to forest sustainability and bioenergy
- Policy Paper (in progress)
 - Recommendations to ensure that bioenergy policies provide clean energy AND complement good forest stewardship objectives
 - Literature review, stakeholder questionnaires

Stakeholder Views: Areas of Consensus

- Sustainability is of **prime** concern
 - Means different things to different people
 - Broad concern for biodiversity, ecosystem function, soil productivity, recreational opportunities, no risks to old growth
- Climate change is a big part of sustainability
 - Bioenergy must demonstrate that it is truly a climate-friendly source of energy.
 - Bioenergy must not conflict with carbon sequestration efforts in forests.

Stakeholder Views: Areas of Consensus

- There is a lot that we don't know..
 - Impacts of increased removals on soils, water, habitat, nutrients, etc
 - Feedstock assessment, procurement, and supply/demand
- Some are positive about moving forward using adaptive management, others want to 'wait and see'
- Strong consensus that a continued focus on research is of paramount importance

Stakeholder Views: Areas of Consensus

- The economics of biomass harvest and use is widely seen as the largest barrier to greater use of bioenergy
 - Cost of harvest and transportation can be prohibitive
 - Fiber supply and pricing
 - Increased biomass prices could benefit landowners, but hurt other wood-users and reduce the cost competitiveness of bioenergy.
 - Increased harvesting could be unsustainable
 - Cost of conversion technology (cellulosic ethanol)

Stakeholder Views: Areas of Consensus

- Federal policy should shift away from its heavy focus on liquid transportation fuels and give equal attention to all forms of bioenergy.
 - Thermal, electric, and CHP are often more appropriate to community scale endeavors
 - Thermal bioenergy (firewood, pellets) is seen as an established technology with high wood-use efficiency
 - The justification for focusing on liquid fuels is that U.S. energy security and energy independence is the motivating factor

Stakeholder Views: Public Trust

- The perceived trustworthiness of land managers is intrinsically connected with the sustainability consequences of using wood for fuel
 - Most bioenergy detractors recognize that there is an inherent potential for silviculturists to use woody biomass for good ends (habitat, biodiversity, restoration)
 - However, many do not trust the forest products industry, federal land managers, or the market system to act in the best interest of the environment
 - This issue is especially relevant to the public lands debate, with many groups having a culture of seeing the forest service as the “enemy”.

Stakeholder Views: Public Trust

- Mistrust is related to underlying philosophical disagreements over the proper use of the forest resource ('Conservation vs. Preservation')
 - The perception that public land managers (or the forest products industry) do not share the same values as stakeholders is one of the biggest barriers to trust)
 - Management objectives and values are usually built in to laws (organic acts, etc.) and private sector business plans, putting some stakeholders on the defensive.
- Fortunately, stakeholder opinion (and the literature) is very positive on the ability of collaborative efforts to break down barriers and build public trust. Successful collaborations usually result in reduced litigation and greater community support.

Future Federal Policies and Issues

- Research programs
 - Competitive R&D funding, block grants, experiment stations, NAS or agency research
 - Production of feedstocks, conversion technology, environmental impacts, forestry and restoration science
- Incentives to increase overall use of renewables
 - Bioenergy = renewable energy?
 - Federal Renewable Electricity Standard (RES)
 - Could potentially include equivalent for thermal energy (AZ)
 - Federal Low Carbon Fuel Standard (LCFS)
 - Feed-in tariffs (renewable energy payments)

Future Federal Policies and Issues

- Tax Incentives
 - Production Tax Credits, Investment Tax Credits, Income Tax Credits
 - Where to focus funds? Liquid fuels? CHP? Electric?
- Grants, payments, loan guarantees for start-up and production of bioenergy and feedstock production
 - Biorefineries, biopower plants, pellet plants, etc.
 - Feedstock production – harvest, storage, and transportation.
- Negative incentives for fossil fuels
 - Carbon Tax, Gasoline Tax, Gasoline Floor
 - Cap-and-trade legislation.

Future Federal Policies and Issues

- Sustainability programs and policies
 - Biomass assessments, local and national
 - Definition of renewable biomass, what is included and what is excluded
 - Sustainability provisions in bioenergy programs
 - Management Plans, Monitoring, Oversight, etc.
 - Sustainability guidelines or best management practices (BMPs)
 - Federal and/or state Level?
 - Mandatory or voluntary?
 - Role for FSC, SFI, Tree Farm, etc.?

Future Federal Policies and Issues

- Forestry Programs and Policies
 - Incorporate and promote biomass harvesting as a silvicultural tool and/or forestry objective
 - Private lands programs – FLEP, Forest Legacy, etc.
 - Expand Woody Biomass Utilization Grant Program
 - Public-private partnerships, stewardship contracting, etc.
- Woody Biomass on Public Lands
 - Should biomass harvesting be allowed? Under what circumstances?
 - Role of NEPA, Healthy Forests, NFMA, PLMA, etc.
 - Role of collaboration in addressing issues of public trust and sustainability

Future Federal Policies and Issues

- Refocus incentives on woody biomass use instead of bioenergy, per se.
 - Equality among all biomass users (energy, pulp, products)
 - Addresses forest restoration objectives
 - Shifts focus away from climate change
- Remove incentives for woody biomass altogether
 - Eliminate tax credits (PTC, VEETC, CHP, renewable diesel, cellulosic) and funding
 - Eliminate RFS or exclude woody biomass
 - Exclude wood from RES, LCFS, Feed-in Tariffs, etc.

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