U.S. Bioenergy Policies: What is Currently Being Done and What Needs to be Done?

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EESI: Advancing Innovative Solutions!

- Dedicated to promoting sustainable societies through innovative policies on energy, climate, transportation, agriculture, and smart growth
- Founded in 1984, by a bipartisan Congressional Caucus
- Provides timely information regarding science, policy, and technologies
- Organizes ~20 Congressional briefings a year
- Builds coalitions and networks
- Publishes 3 electronic newsletters
  - BCO – Bioenergy, Climate Protection & Oil Reduction
  - Climate Change News
  - National Clean Bus update
- EESI Associates Program allows companies and individuals to participate
Ag can be a part of the Clean Energy and Climate Solution

- There is No Silver Bullet
- New Policies
- New Technologies
- New Feedstocks (including wastes)
- Conservation & Efficiency Efforts
- Decreased Petroleum for Transportation Needs
  - Flex-Fuel Vehicles/Plug-In Hybrids
  - Biobased products and renewable energy can reduce fossil energy use/ greenhouse emissions
SHE'S TAPPED DRY, SIR...

UY-OH.

NON-RENEWABLE RESOURCE.

ANTI-CONSERVATION POLICIES.
Broad Goals

• Climate Change
• Environmental Stewardship
• National Energy and Security
• Public Health
• International Competitiveness
• Bridge Between Urban and Rural Communities
• Diversify and Grow the Domestic Agriculture Portfolio while Decreasing Dependence on Export Markets
  – Economic Development
  – Local Ownership
Enacted Bioenergy Policy
2002 Farm Bill (P.L. 107-171): Energy Title

- Sec. 9002 Procurement of Biobased Products ($1 mil/yr)
- Sec. 9003 Biorefinery Development Grants
- Sec. 9004 Biodiesel Fuel Education Program ($1 mil/yr)
- Sec. 9005 Energy Audit and Renewable Energy Development Program
- Sec. 9006 RE/EE Improvements ($23 mil/yr)
- Sec. 9007 Hydrogen and Fuel Cell Technologies
- Sec. 9008 Biomass R&D Act of 2000 ($63 mil/yr)
- Sec. 9009 Carbon Sequestration Research
- Sec. 9010 CCC Bioenergy Program ($150 mil/yr)
Federal Procurement of Biobased Products

• Requires Federal agencies to purchase biobased products that meet price, availability, and performance standards
• Provides for a voluntary labeling program of certified “biobased products”
• Provides financial assistance for testing of biobased products by manufacturers
• Labeling program slow to be implemented
• Round 4 of proposed rules designating items
  – For a full list visit: http://www.biobased.oce.usda.gov/public/index.cfm
Renewable Energy Systems & Energy Efficiency Improvements Program

- Purchase of renewable energy systems and energy efficiency improvements for agriculture producers and rural small businesses
- During the first 4 years USDA spent $87 mil in grants and $24 mil in loan guarantees for more than 800 projects
  - 170 mil/yr of ethanol and biodiesel
  - 330+ megawatts of wind power
  - 1.3 million tons of CO₂ Reductions
- FY07 Solicitation: Grant applications due May 18, 2007 and loan guarantee applications due July 2, 2007.
  - $11.4 million competitive grant funds
  - $176.5 million in guaranteed loan authority
- FY06 Awards Announced on August 30, 2006
  - 375 recipients of renewable energy and energy efficiency for $17.5 mil
  - 12 recipients received grants and loan guarantees from three different states for more than $9 mil
Biomass Research & Development Act

- Executive Order 13134: DEVELOPING AND PROMOTING BIOBASED PRODUCTS AND BIOENERGY, issued in August of 1999
- Multi-agency effort to coordinate and accelerate all Federal biobased products and bioenergy research and development
- USDA/DOE Joint Solicitation since FY03
- Vision: For Bioenergy and Biobased Products in the United States, 2006
  - Updated the Roadmap through 3 regional meetings
    - Notes from the meetings may be found at: http://www.biomass.govtools.us/default.asp
Some Wins

• Renewable Fuel Standard
• Clean Renewable Energy Bonds
• Extension and Expansion of Production Tax Credit
• Biomass Research and Development Act of 2000
• New USDA Biomass Programs
• Integrated Biorefinery Demonstration Projects
• Production Incentives for Cellulosic Biofuels (reverse auction)
• Loan Guarantee Program
Renewable Fuels Standard (Sec. 1501)

- 7.5 billion gallons of renewable fuels to be sold or dispensed in 2012
- One gallon of cellulosic ethanol or waste-derived ethanol will be counted as 2.5 gallons
- After 2012, the 2.5-to-one ratio no longer applies, but the RFS will require annual minimum of 250 million gallons of cellulosic biomass fuels
Biorefineries

• Integrated Biorefinery Demonstration Projects (Sec. 932(d), EPAct ’05) - capital to build biorefineries

• February 2007, DOE announced $385 million for 6 cellulosic ethanol biorefinerries
  – More than 130 million gallons of cellulosic ethanol annually
  – Biobased products, including: power, methanol, hydrogen, and ammonia.
  – Each biorefinery will use more than 700 tons of feedstocks per day
    • feedstocks include agriculture residues such as corn stover, wheat and rice straw; wood residues, wood based energy crops; and landfill organic wastes
Loan Guarantees

Policy Options
• Loan Guarantees (Title XVII & XV, EPAct ’05)
  – Risk mitigation for new technology
    • avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases
  – Difference between EPAct ’05 Title XVII and XV
  – $4 billion in loan authority authorized in the Continuing Resolution
  – Competition for funds: Senators Bingaman (D-NM) and Domenici (R-NM) interested in coal-to-liquids and nuclear power
What still needs to be done...
Parallel Legislation & Jurisdiction

- **Farm Bill**
  - Several issues can be included here: rural development, forest products, land-grant universities, feedstock production, biorefinery development, etc.

- **Energy Bills**
  - Renewable portfolio standard, national interconnection and net-metering, expanded Renewable Fuel Standard, tax credits, etc.

- **Climate Bills**
  - Carbon tax, cap and trade, low carbon fuel etc.
Farm Bill Reauthorization

Policy Options
• Research
• Feedstocks
• Rural development

Actions of Interest
• Complications
• 7 different farm related pieces of bills
Policy Options

- Appropriate feedstocks for all different regions of the country
- Increased yields with low inputs
- Sustainable harvesting and storage techniques
- Holistic approach on the interaction between climate, soil, native species, water, wildlife habitat, natural pests and the production of biomass feedstocks

Political Realities

- Funding continues to go down for Landgrants
- DOE is taking the lead in research, but USDA will be heading up feedstock development (Biomass Research & Development Act 2000)
- Competition for funds: research vs. grants and loans for biorefineries
Feedstock Production in the FB

Policy Options
• Modify the Conservation Reserve Program (CRP) to include land dedicated to grow energy crops.
• Increase and modify Conservation Security Program (CSP) to include energy crops.
• Create a new program (WTO compliant) dedicated to conservation and energy production?

Political Realities
• Sen. Harkin (D-IA) is discussing the possibility of including bioenergy in CSP.
• Rep. Peterson (D-MN) is interested in a new energy reserve possibly similar to what National Wildlife Federation is talking about.
• Environmental groups are divided.
Rural Development in the FB

Policy Options
- Increased Human Capacity Infrastructure
  - Public-private partnerships, Management assistance, Strategic business and financial planning, Continuing education, Spur innovation
- Biorefineries: Grants and Loans
  - Need to get plants up and running to demonstrate technologies.

Political Realities
- Expanded Sec. 9006 with broad support from Congress to get plants in the ground
- Bipartisan support for renewable energy
Rural Development: Forestry

Policy Options
• Pulp and Paper Industry
  – Jobs, Infrastructure and High value biobased products
• Federal Programs
  – Biomass Utilization (EPAct ‘05)

Political Realities
• Public vs. Private Forests and environmental concerns
• Forestry community is a bigger player than in the past
• Little funding for this
Farm Bill Complications

- Tight budget year (PAYGO)
- Lower budget baseline
- Changes in the current commodity program
- Trade negotiations and WTO
- Increased number of interest groups: energy, forestry, specialty crops, etc.
- Implications for local ownership due to consolidation of the industry
Energy Bills

• Biofuels
  – Modifications to the Renewable Fuel Standard
  – Biorefinery Grants and Loan Guarantees
  – Excise Tax Credits

• Power & Electricity
  – Renewable Portfolio Standard, Net-metering and National Interconnection Standards
  – Tax Credits

• Infrastructure Development
  – Vehicles
  – Fueling Pumps
Renewable Fuel Standards

Policy Options

• Sustainable Production Standard
  – Environmental Groups

• Low Carbon Fuel Standard
  – Sen. Sanders (I-VT), S.309
  – Rep. Inslee (D-WA), bill to be introduced

• Oil-displacement Standard
  – National Security, Sen. Lugar (R-IN)

• Cellulosic carve-out addition to an expanded standard
  – 30 billion gallon carve-out
Political Reality

• At least 8 different Renewable Fuel Standards
• Senators Bingaman (D-NM) & Domenici (R-NM)
    • 36 BGY (billion gallons a year) by 2022
    • 15 Billion cap on conventional ethanol (from corn)

Questions about the bill?

• Should coal-to-liquids be in this bill?
• Is the definition of ‘advanced fuels’ sustainable?
• Is the goal big enough?
Power and Electricity

• Extend and Expand Production Tax Credit
  – Are there other technologies/feedstocks that could use this credit?
  – Should there be a thermal tax credit?
  – Clean Renewable Energy Bonds (CREB) extension

• Renewable Portfolio Standard
  – Grows a market & infrastructure for biomass

• National Net Metering & Standardized Interconnection
  – Encourages production
  – Creates long-term financial stability if producer is getting paid a fair price for their energy
Infrastructure: Vehicles

- Restrict FFV CAFE credit to those vehicles optimized for ethanol
  - Sen. Bingaman (D-NM) S. 987 provides funds to research optimization
  - Sen. Feinstein (D-CA) S. 1073 mandates automakers to optimize vehicles
- Flex-Fuel Plug-in hybrids
  - Sen. Biden (D-DE) S. 1055 battery and electric vehicle research
  - Senators Kerry (D-MA) and Snowe (R-ME) S.485 Flex-fuel Plug-in hybrids consumer credit
Infrastructure: Pumps

Policy Options

• Credits for Installation of Alternative Fueling Stations (Sec. 1342, EPAct of '05)
  – Senate Biofuels Conference: Independents vs. big oil companies, who benefits from the current tax credit for fueling pumps?

  – Mandates Major oil companies install fueling pumps

  – Requests study of pipeline and infrastructure needs
Climate Bills

Policy Options
• Low Carbon Fuel Standard
• Cap and Trade
• Carbon Tax
• Discreet energy measures

Political Realities
• Majority Leader Reid (D-NV)
  – Sanders (I-VT) & Boxer (D-CA) S. 309 - Global Warming Pollution Reduction Act of 2007
• Speaker of the House Pelosi (D-CA): wants bill by July 4th
  – Select Comm. on Energy Independence & Global Warming
  – Waxman (D-CA) H.R. 1590 - Safe Climate Act of 2007
• 14 different climate resolutions or bills
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