

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

Jetta Wong

Environmental & Energy Study Institute
122 C St. NW, Suite 630
Washington, DC 20001
Phone: (202) 662-1885
Fax: (202) 628-1825
www.eesi.org

Presented for:

Embassy of Sweden & Swedish Trade Council
Creating Sustainable Cities - Part 2
Fueling Energy Independence – Bioenergy's Role in the Solution
House of Sweden, Washington, D.C.
May 8, 2007



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**



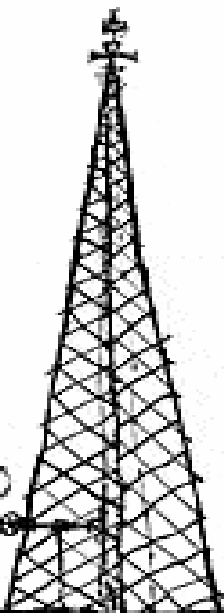
Ag can be a part of the Clean Energy and Climate Solution

- **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



MAT DAVIES THE JOURNAL NEWS 4/30
© 2006 WWW.LATVOD.COM

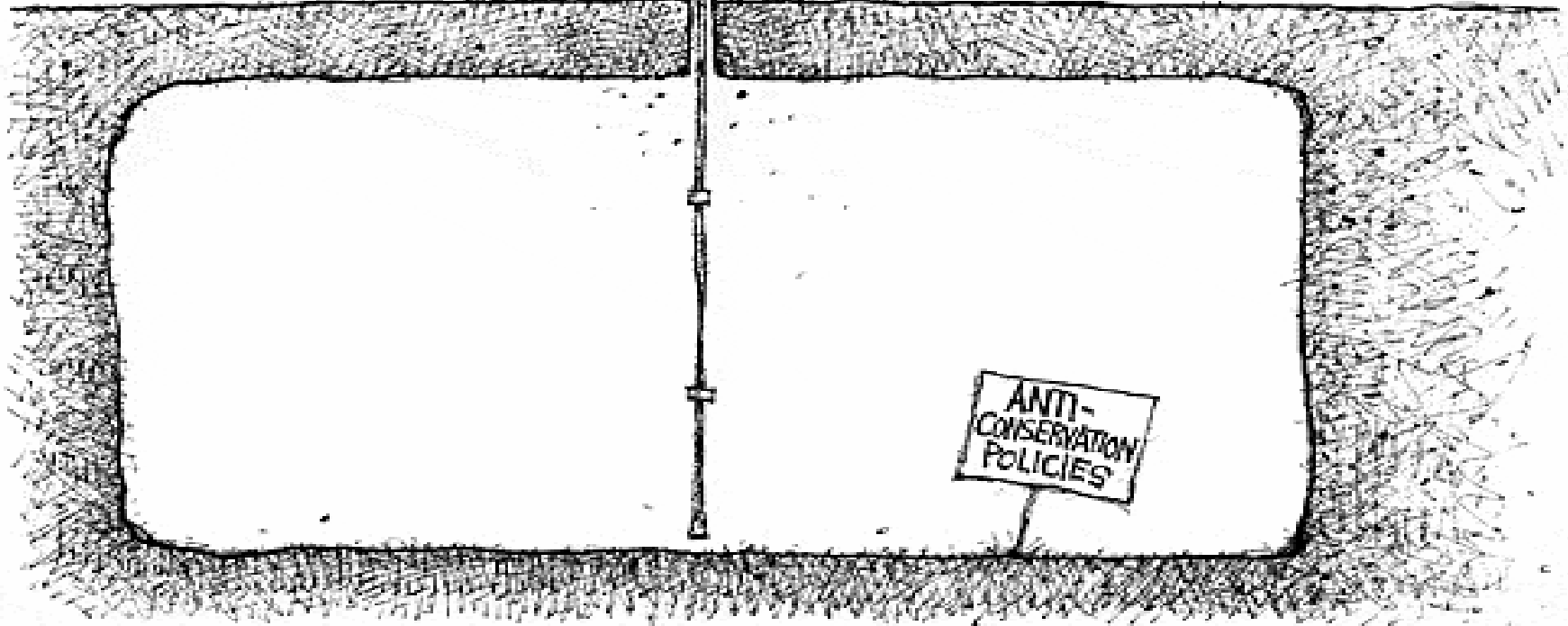
SHE'S
TAPPED DRY,
SIR...



OH-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>



Energy Policy Act of 2005 (P.L. 109-58)

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), EPA Act '05) - capital to build biorefineries
- February 2007, DOE announced \$385 million for 6 cellulosic ethanol biorefineries
 - 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, EPLaw '05)
 - Risk mitigation for new technology
 - avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases
 - Difference between EPLaw '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





Research in the Farm Bill

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 (EPA Act '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





Renewable Fuel Standard (con't)

Political Reality

- At least 8 different Renewable Fuel Standards
- Senators Bingaman (D-NM) & Domenici (R-NM)
 - **Biofuels for Energy Security and Transportation Act of 2007 (S.987)**
 - 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

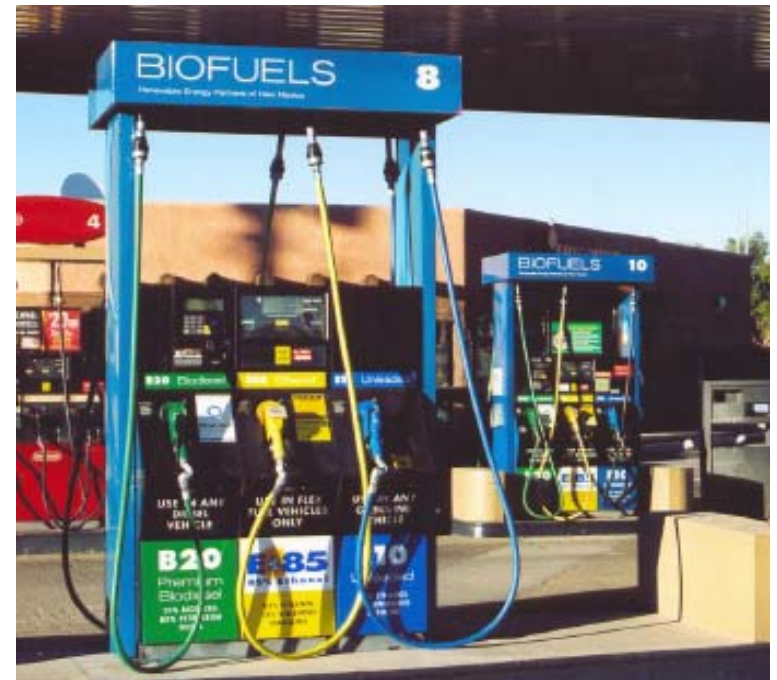
- Restrict FFV CAFE credit to those vehicles optimized for ethanol
 - Sen. Bingaman (D-NM) S. 987 provides funds to research optimization
 - Sen. Feinstein (D-CA) S. 1073 mandates automakers to optimize vehicles
- Flex-Fuel Plug-in hybrids
 - Sen. Biden (D-DE) S. 1055 battery and electric vehicle research
 - 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?
- Senator Lugar (R-IN): S.162 – National Fuels Initiative Act of 2007
 - Mandates Major oil companies install fueling pumps
- Senator Bingaman (D-NM): S. 987 – Biofuels for Energy Security and Transportation Act of 2007
 - 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**



For more information contact:

Jetta Wong

(202) 662-1885

jwong@eesi.org

or

Carol Werner

(202) 662-1881

cwerner@eesi.org

www.eesi.org