

# Policies Supporting Cellulosic Ethanol Production

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September 27, 2006

*Legislative and Policy Trends Supporting Renewable Energy*

Energy Expo 2006

Iowa City, Iowa

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# Cellulosic Ethanol ...

- Ethanol derived from any lignocellulosic or hemicellulosic matter that is available on a renewable basis
- Sources: trees, wood and crop residues, grasses, fibers, energy crops, and other non-petroleum wastes
- Federal legislative support via the Biomass Research and Development Act of 2000, extended by the 2002 Farm Bill and the Energy Policy Act of 2005

# Biomass R & D Act of 2000

- Directed the Agriculture and Energy Departments to cooperate and coordinate policies and procedures for promotion of bio-based products
- Established the Biomass R & D Board and Technical Advisory Committee
- Created the Biomass R & D Initiative with a specific area of concentration for cellulosic biomass

# The 2002 Farm Bill

- 1<sup>st</sup> farm bill with an energy title
- Extended the termination date of the Biomass R & D Act to Sept. 2006
- Provided additional funding for biomass R & D via the Biomass R & D Initiative and the Bioenergy Program
- Established biorefinery grants and created a program for the federal procurement of bio-based products

# The Energy Policy Act of 2005

- Built on previous pieces of legislation
- Continued the Bioenergy Program and set goals to develop techniques to increase energy production from biomass and make fuels from lignocellulosic materials price-competitive with gasoline
- Directed at least 45% of the Biomass R & D Initiative funds to cellulosic biomass activities
- Created production incentives for cellulosic biofuels

# Production Incentives

- Goal: 1 billion gallons of cellulosic biofuel per year and biofuel price-competitiveness by 2015
- Per gallon production incentive set by the Sec. of Energy until
  - 2008 or
  - 100 million gallons per year of cellulosic biofuel
- Then a reverse auction sets the incentive until
  - 2015 or
  - 1 billion gallons per year of cellulosic biofuel

# Production Incentives (cont.)

- Bidders submit desired incentive and estimated production
- Incentive paid on actual production
- Funding for auction set at \$250 million

# Other Features of the Energy Act

- Preprocessing and harvesting grants for cellulosic biomass
- Minimum target of 250 million gallons of renewable fuel from cellulosic biomass by 2013
- Production credit: 1 gallon of cellulosic biomass ethanol = 2.5 gallons of renewable fuel (until 2013)
- Additional loan guarantees and grants



# Loan Guarantee Program and R & D Grants

- Loans up to 20 years, 80% of cost of the facility, and \$250 million
- Design capacity at least 30 million gallons/year
- R & D grants for states with RFG requirements
- Funded at \$25 million/year through 2010

# Assistance Grants and Tech. Program

- Assistance grants to build cellulosic ethanol facilities
- Funding: \$650 million in 2007, \$400 million in 2008
- Advanced Biofuel Technologies Program to fund projects to develop at least 4 different conversion techniques for cellulosic ethanol
- Funding: \$110 million/year through 2009