The Clean Energy Biofuels Act of 2008: Promoting Advanced Biofuels in Massachusetts

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The First Annual TIMBR Conference on Cellulosic Biofuels
September 19, 2008
University of Massachusetts, Amherst
Creating A Greener Energy Future For the Commonwealth

Drivers for Green Energy Policies

- High Oil Cost and Dependency
- Energy Security
- Economic Development
- New England at end of pipeline
- Climate Change
Clean Energy Leadership

Governor’s Clean Energy Agenda

- Created nation’s first combined Energy & Environment Secretariat led by Secretary Ian Bowles
- Rejoined Regional Greenhouse Gas Initiative (RGGI)
- Accelerating growth of clean energy cluster
  - Evergreen Solar
  - DOE Wind Blade Test facility
- Commonwealth Solar: 250 MW by 2017
- Leading-by-Example Executive Order 484
- Advanced Biofuels Task Force
- Supports Cape Wind
- Green Jobs Initiative
Clean Energy Legislation - 2008

- Green Communities Act
- Clean Energy Biofuels Act
- Global Warming Solutions Act
- Green Jobs Act
- Massachusetts Ocean Act
Clean Energy Biofuels Act

Presentation Outline

Rationale and Technical Background: 
*Advanced Biofuels Task Force*

Provisions of the Act
Advanced Biofuels Task Force

- ABTF Created in November 2007 by Legislature and Governor
  EEA Secretary Chair, A&F Secretariat, Legislators, Biofuels Company
- Public Hearings, Testimony, Expert Witnesses
- Final Report and Recommendations Issued in Spring 2008
  See:  http://www.mass.gov/envir/biofuels/

- Potential Economic Benefits to MA
  - Leading academic research and private enterprise
  - Mature advanced biofuels sector could contribute to MA economy by 2025 (*assumes predominant use of all available cellulosic resource is for biofuel*)
    - Replace up to 6% of petroleum
    - $280 million to $1 billion annually
    - 1,000 – 4,000 permanent jobs, 150 – 760 temporary jobs
ABTF – Key Findings/Recommendations

- **Regulatory Recommendation**
  - **Low Carbon Fuel Standard**: Prioritize efforts to implement a regional, technology neutral, and performance based LCFS.
  - **Targeted mandates**: As bridge to LCFS, implement carefully targeted mandates (percentage requirements for biofuels) that adhere to strict environmental (GHG) standards.
ABTF – Key Findings/Recommendations

● Incentives
  - Exempt cellulosic ethanol from state’s gasoline tax
  - Consider incentives for advanced biofuels production (e.g. production tax credits)
  - Possible fund to attract advanced biofuels R&D

● Infrastructure/Feedstock Development
  - Limited investments in ethanol/biodiesel stations
  - Analysis of measures to increase use and sale of flex fuel vehicles
  - Incentives to encourage smaller, regional bio-refineries
  - Focus on local feedstocks including forest biomass, energy crops, algae
Clean Energy Biofuels Act

Key Definitions and Provisions of the Act

- Life Cycle GHG Reduction Criteria
- Gas Tax Exemption for Cellulosic Biofuel
- Bioheat Minimum Content Requirement
- Biodiesel Minimum Content Requirement
- Low Carbon Fuel Standard
- Special Commission to Study Incentives
Clean Energy Biofuels Act

Life Cycle Greenhouse Gas Emissions Reduction Criteria for Eligible Biofuels

- Cellulosic Biofuel/Ethanol: at least 60% reduction
- Biodiesel/Distillate Fuels: at least 50% reduction
- Reduction relative to conventional fuel sold in 2005
- Biofuel GHG Emissions inclusive of direct and indirect (land use change) impacts
- Biofuel suppliers provide GHG documentation and receive certification from DOER
- Waste feedstocks may be exempt from full life-cycle analysis
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Fuel Tax Exemption for Cellulosic Biofuel/Ethanol

- State Fuel Tax: 21 cents/gal
- Tax per gallon reduced in proportion to the percentage of the fuel content (by energy content) consisting of eligible cellulosic biofuel
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Bioheat Minimum Content Requirements

- Applied to #2 heating fuel used in residential, commercial, and industrial heating applications

- Minimum Content Requirement Schedule
  - 2% eligible biofuel by July 1, 2010
  - 3% July 1, 2011
  - 4% July 1, 2012
  - 5% July 1, 2013

- Feasibility Study to extend requirement to #4 and #6 heating fuels
Clean Energy Biofuels Act

Biodiesel Minimum Content Requirements

- Applied to all diesel motor vehicle fuel for use in transportation

- Minimum Content Requirement Schedule
  - 2% eligible biofuel by July 1, 2010
  - 3% July 1, 2011
  - 4% July 1, 2012
  - 5% July 1, 2013
Clean Energy Biofuels Act

Bioheat/Biodiesel Minimum Content Requirements

- Delay Trigger
  - DOER may file report for delay requirements due to
    1) lack of supply,
    2) lack of blending facilities, or
    3) unreasonable cost
  - DOER to study feasibility/benefits of employing a statewide average requirement, rather than requirement for every gallon sold
  - If sufficient Low Carbon Fuel Standard is adopted by MA, then minimum content requirements will expire
Clean Energy Biofuels Act

- **Low Carbon Fuel Standard:** Governor and Secretary shall seek agreement amongst RGGI states to implement a LCFS for the transportation sector.

- **Special Commission:** Will be convened to study feasibility and effectiveness of various forms of incentives to promote the development and use of advanced biofuels.
Questions / Comments ??

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UMass Energy Crop Site Trials
with DOER and DAR
Switchgrass and Crambe