

US Department of Agriculture

Ammonia Fuel Conference

October 13, 2009

Kansas City, MO.

Chris Cassidy

USDA

- Organization
- Renewable Fuels Portfolio
- Status of Funding
- Future Plans



Committed to the future of rural communities.

- *Increasing economic opportunity in rural America*
- *Improving the quality of life of all rural Americans*

President Obama's Commitment to Renewable Energy

“To put people back to work today, and reduce our dependence on foreign oil tomorrow, we will double renewable energy production.”



“USDA is working to expand energy opportunities by producing alternative forms of energy and fuel, and to ensure that we are doing the research necessary to allow agriculture to transition away from its rather significant dependence on fossil fuels.”

*Tom Vilsack
Agriculture Secretary*



Partnerships

- DOE, DOD, State, DOT, FAA, DOC, EPA, DOI.
- REE, ARS, CSREES, ERS, OCE, OEPNU, FS, FSA, FAS, NRCS.

USDA RD

- National Office DC
- 47 State Offices
 - Renewable Energy Coordinator
 - Business & Coop Director / Specialists
 - Engineer
 - Architect
 - Environmental Coordinator
 - ~ 500 Local & Satellite Offices

7 Strategies

- Regional Collaboration
- Regional Systems
- Community Building
- Renewable Energy Opportunity
- Business Creation
- Strategic Partners & Cooperatives
- Capital Markets

Renewable Energy System/Energy Efficiency Improvement Grants and Loans Specific Technology Categories

- **Biomass, digesters**
- **Biomass, bioenergy**
- **Geothermal, electric**
- **Geothermal, direct use**
- **Hydrogen**
- **Hydrokinetic**
- **Solar, small**
- **Solar, large**
- **Wind, small**
- **Wind, large**
- **Energy Efficiency Improvements**

Portfolio

Funding for Ammonia from Renewable Sources

Alternative Fuels

and

Advanced Technology

Ammonia Fuel from Renewable Sources

- Wind
- Solar
- Biomass
- Hydrokinetic

Business, Cooperative, & Energy Programs

- Business & Industry Loan Guarantee
- Renewable Energy Loans Guarantee: 9007-REAP
- Renewable Energy Grants: 9007
- Energy Efficiency Grants: 9007
- Intermediary Relending Program
- Biomass Research & Development & Demonstration Initiative Grant: 9008
- Value Added Producer Grant
- Biorefinery Assistance: 9003
- Bioenergy Program for Advanced Biofuels: 9005

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Renewable Opportunity

- All inclusive
- National Security
- Rural Economic Development: Jobs, technological advancement, business retention & expansion, local \$ retention, multiplier effect
- Alleviate Poverty
- Lower energy costs
- Hedge against fossil fuel price increases
- Protect the environment

Solution

- **Conservation**
- **Energy efficiency**
- **Develop Renewable Energy Supply**

Approach

2008 Farm Bill Title IX

- 9008 Biomass Research Development & Demonstration Initiative:
- 9003 Biorefinery Assistance Program: Scale up to commercial scale
- 9007 REAP Renewable Energy Systems & Energy Efficiency
- 9004 Repowering Assistance
- 9005 Bioenergy Program for Advanced Biofuels
- B&I Business and Industry
- VAPG Value Added Producer Grant

USDA/DOE
Biomass Research and
Development Initiative Program

Section 9008

Purpose

- **Provide financial assistance to support research, development, and demonstration on biobased products, biofuels, bioenergy, and related processes**
- **Promote greater innovation and development as related to biomass**

Eligible Applicants

- **Institutions of Higher Education**
- **National Laboratories**
- **Federal Research Agencies**
- **State Research Agencies**
- **Private Sector Entities (includes companies, corporations, cooperatives, and other entities that compete in the market place)**
- **Non-profit organizations specialized in RD&D of RE**
- **Consortia of 2 or more eligible entities**

Cost Share

- **Minimum of 20% – R&D**
- **Minimum of 50% –
Demonstration**
- **Must be from Non-Federal
sources, can include in-kind**

Technical Topic Areas

- **Feedstock Development**
- **Biofuels & Biobased Product Development: Ammonia**
- **Biofuel Development Analysis**

Processing

- **Administered at National Office**
- **Pre-application required**
- **Full-application (invitation only)**
- **Grants.gov – mandatory**
- **USDA responsible for administration every other year**
 - **USDA FY09, DOE FY10, etc.**

Scoring Criteria:TBD

- Criterion 1: Technical Relevance and Merit
– 40 %
- Criterion 2: Technical Approach/Workplan
– 25%
- Criterion 3: Fossil Energy Displacement, Energy Efficiency, Rural Economic Development, and Environmental Benefits
– 20%
- Criterion 4: Technical Management and Facility Capabilities
– 15%

Peer Review Process

- Consensus Panel Review
 - Scientific and Technical Peers
- Non-Agency Personnel
- Pre and Full Applications

Additional Considerations

- Synergies & continuity
- Maximize environmental, economic, social benefits of Biofuel production
- Small scale production & local and on-farm Biofuel use
- Advanced Aviation Fuels

Integrated Biorefineries / Systems

Ammonia

Algae



Algae



Cellulosic Biomass



Feedstock Diversification



Feedstock Diversification



Feedstock Diversification



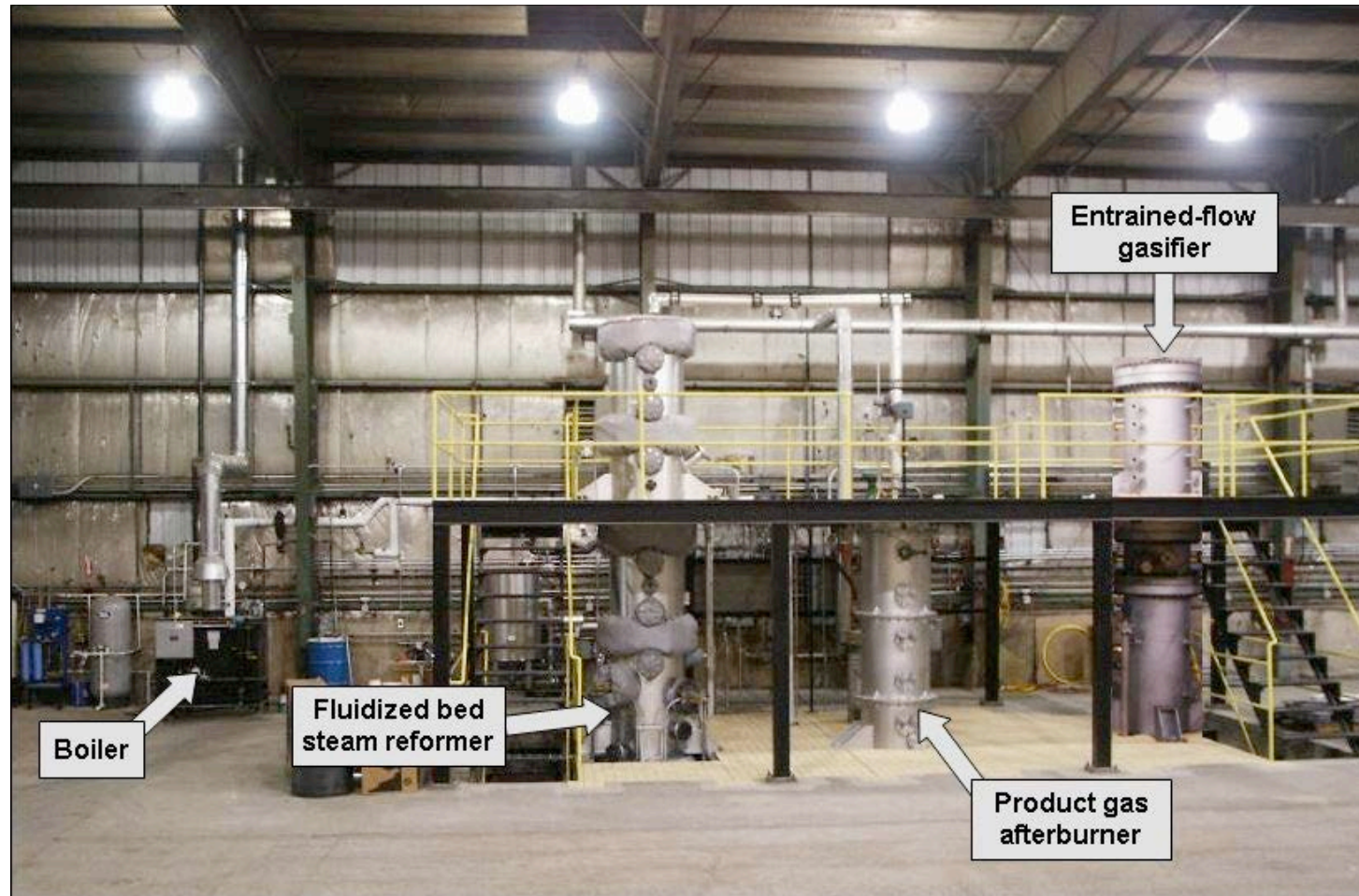
Pyrolysis



Pyrolysis



Gasification



Advanced Aviation Biofuels



Advanced Aviation Biofuels



Focus

- Feasibility Study
- Business Plan
- Technical Report
- Environmental

Status

- FY 2010 Started October 1, 2009.
- Regular Program Funding
- Farm Bill Program Funding: 9003 (\$245 +150), 9004 (\$35 + 15), 9005 (\$55), 9007 (\$ 60), 9008 (\$28)
- ARRA Funding

Future

- Unique Opportunity
- Increased levels of funding
- Rolling application cycles
- All funding notices for grants will be published in the Federal Register
- Contact State Renewable Energy Coordinators or National Office.

Contact

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Thank You