

9th Annual Southern BioProducts & Renewable Energy Conference

Presented By Arnold R Klann, President & CEO



2010 BlueFire Ethanol Fuels, Inc.

About BlueFire Ethanol Fuels, Inc.

- Publicly traded on OTCBB – BFRE
- Exclusive licensee of Arkenol Technology for North America
- Staff has been involved in developing technology since 1992 as Arkenol
- Experienced staff consists of technology and project developers of energy projects, since 1989, as ARK Energy, Arkenol, Inc. and now BlueFire
- Cellulose to ethanol pilot facility operated in California from 1995 to 2000 and again starting in 2009 for sugar production
- Technology demonstrated by JGC Corporation (major Japanese engineering and construction company) from 2000-2006
- Production facilities will be fully integrated in existing landfills, power plants or other strategic locations across North America
- Recipient of \$88MM Department of Energy Grant



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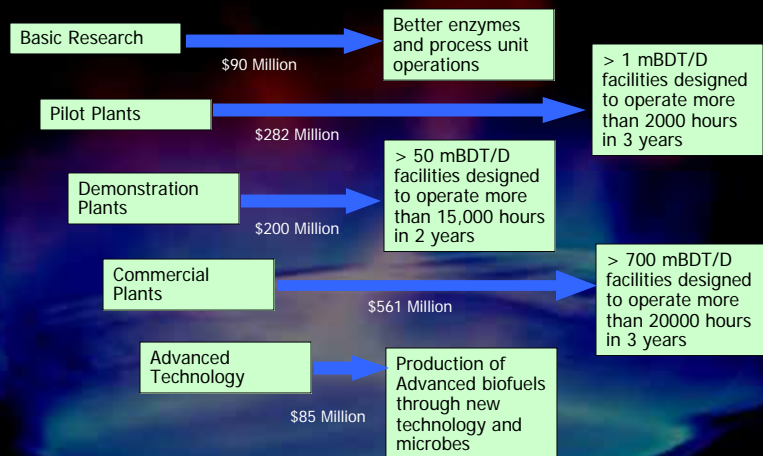
BlueFire Today

- **Leader in cellulosic ethanol development**
 - Fully licensed “shovel ready” plant ready for construction
 - Completing development of 2nd project in Fulton, Mississippi
- **Solazyme – Biodiesel/Biojet**
 - Supplying sugar for cellulosic heterotrophic algae production development
- **Reestablished R&D capability with Applied Power Concepts – Dr. William Farone**
 - Provide cellulosic sugars for fermentation technology providers
 - Prototype patent improvements for life extension
 - New end product development



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DOE Recent Funding Distribution



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DOE 932 Commercial Scale-up Program

Commercial-Scale Biorefinery Demonstrations



DOE investments in cellulosic biofuels will accelerate commercialization and help create a biofuels market based on non-food feedstocks.

Performers	Feedstock Type	Conversion Technology	Status of Project
Abengoa	Agricultural Residue	Biochemical	Phase 1-Cooperative Agreement signed Sept. 2007
Bluefire	MSW	Biochemical	Phase 1-Cooperative Agreement signed Sept. 2007.
Poet	Corn cobs Corn Fiber	Biochemical	Phase 2-Technology Investment Agreement – Signed Oct. 2008
Range Fuels	Woody Waste	Gasification + Mixed Alcohol synthesis	Phase 2-Technology Investment Agreement – Signed Nov. 2007 Ground Breaking Nov. 2007

Bluefire is poised to sign its Phase 2 agreement after NEPA certification in May 2010.



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Renewable Fuel Standard

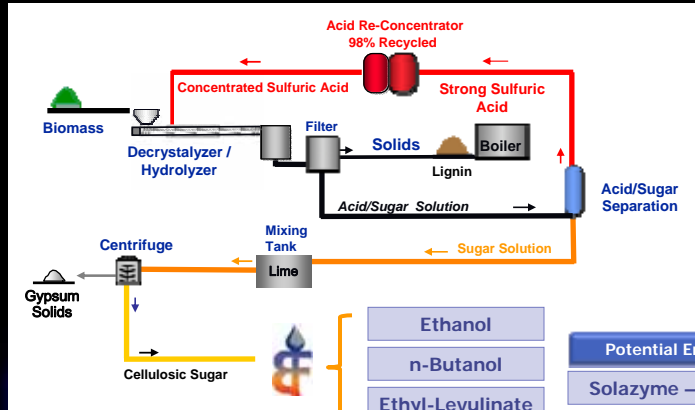
- Establishes specific annual volume standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that must be used in transportation fuel.
- Lays the foundation for achieving significant reductions of GHG from the use of renewable fuels, reductions of imported petroleum and further development of our nation's renewable fuels sector.
- Since the cellulosic standard is lower than the level otherwise required by EISA, cellulosic credits are made available to obligated parties for end-of-year compliance, should they need them, at a price of \$1.56 per gallon (gallon-RIN).
- Required renewable fuel volume continues to increase under RFS2, reaching 36 bg by 2022.

2010 RFS Volume Standard	
Total RFS Volume Standard	12.95 B gallons
Cellulosic	6.5 MM gallons
Biomass based Diesel	1.15 B gallons

Lifecycle GHG Thresholds Specified in EISA (percent reduction from 2005 baseline)	
Renewable Fuel	20%
Advanced biofuel	50%
Biomass based Diesel	50%
Cellulosic biofuel	60%



Simplified Process Flow Diagram



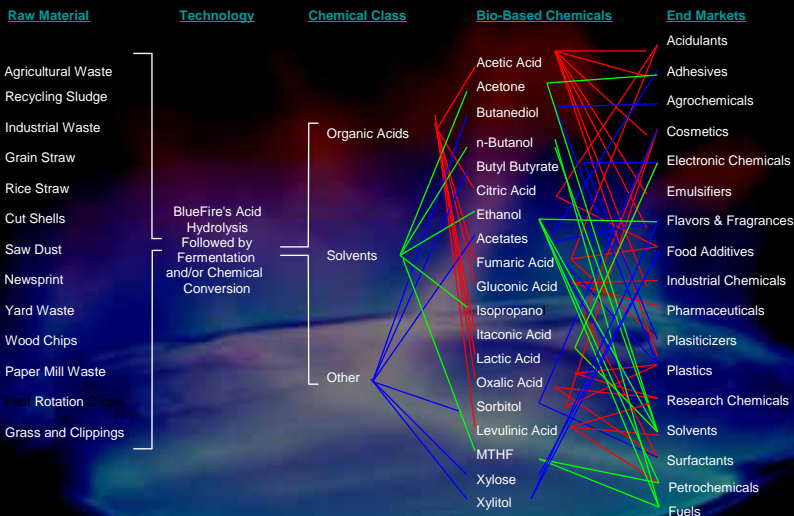
All end products listed are either renewable biofuel blending components or direct petroleum replacements

- | Potential End-Product Partners |
|--------------------------------|
| Solazyme – Bio-Diesel (Algal) |
| DesignerBiofuels™ |
| Bio-Gasoline |
| Bio-Butanol |
| Bio-Diesel |



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BlueFire Technology Provides Competitive Entry into Bio-based Chemicals and Target Market Segments



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Feedstock Flexibility



Municipal Waste

- Non-Recyclable Paper
 - Grass clippings
 - Wood Chips
 - Construction & Demolition Debris (woody portion)
- Tree prunings
Lumber
Landscaping Residue



Agricultural

- Corn Stover
 - Straw (Wheat, Rice, etc...)
- Energy Crops
Sugar Cane Bagasse

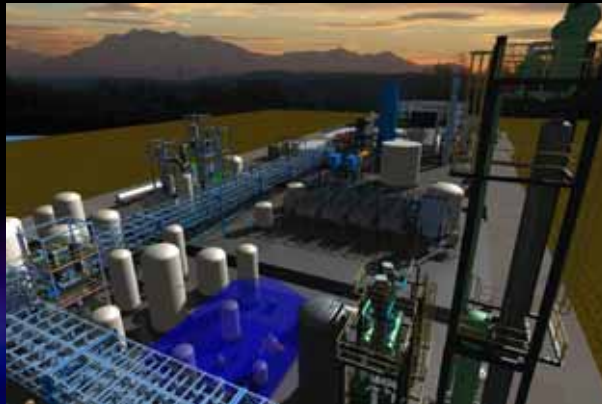


Forestry Waste

- Wood Chips
 - Saw Mill Waste
- Harvesting Slash
Paper Mill Waste



Lancaster Biorefinery



- 3.9 mm gpy denatured ethanol
- Fully permitted
- Engineering design complete to allow construction
- Shovel-ready upon completion of financing



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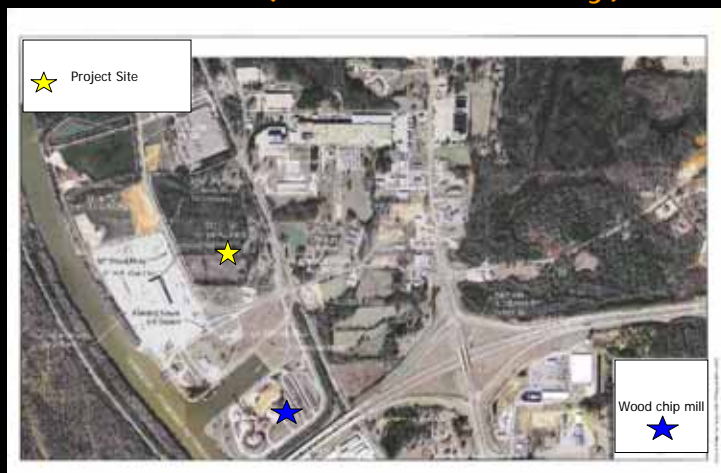
Fulton, Mississippi Project Summary

- 700 metric dry tons per day cellulosic feedstock -woodwastes (minimum)
- Ethanol Capacity – Nearly 19MM gpy denatured
- By-product lignin used to provide facility thermal needs
- Natural gas for start-up – est. 18MMscfy
- Water Supply – est. 900 gpm
- Wastewater discharge from cooling process – est. 90 gpm
- Electric load – est. 7MWe (pot. Self-generation of 2.6MWe) net 4.5 MWe purchased



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Fulton, (Itawamba County) MS



- 40 acre site within Port of Itawamba in Fulton, Mississippi
- Adjacent to American Cellulose Corporation chipping mill
- Permitting to be complete mid 2010
- Jobs

- Peak Construction – 500
- Operations (on/off-site) – 65-70
- Including indirect and ancillary – 3,804 (based on President Council of Economic Advisers Estimates of Job Creation from ARRA, May 2009 – guidance to agencies on jobs from government spending -\$92,000/job)



Financing – Fulton Current Status

DOE 932 Award
\$8 million Phase 1 approved
\$81 million Phase 2 approved

DOE Loan Guaranty
2-phase process:
1-Qualification app in mid Feb 2010
2-Pending Phase 1 approval

Equity Contribution
Equity Players Identified,
1st year Tax Credits
and Reductions avail.
>30% 15 yr After Tax IRR

Permitting in Progress
FEL 2 Complete
FEL 3 Commenced

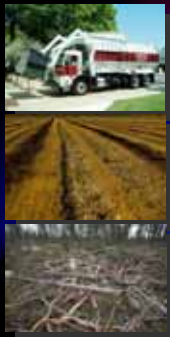


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Key Take-Aways

- Leading Cellulosic Biofuel Technology -
- Production Capability Close to Consumption -
- Feedstock Flexibility and Multiple End Product Advantage -
- Recipient of \$88 Million Department of Energy Award -



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