



Biomass R&D Technical Advisory Committee

June 5-6, 2014

Elliott Levine

DOE Updates

TAC Housekeeping

Travel Process

- Natalie Roberts is the point of contact for all questions related to TAC travel and reimbursement. She can be reached at: natalie.roberts@ee.doe.gov or 202-586-2325.
- Reimbursement submission deadline for the June meeting: **July 15th**

Future Meeting Dates

- Tentative dates for Q3 and Q4 meetings have been identified below and will be confirmed during the meeting:
 - Q3: Week of August 18-22, 2014
 - Q4: Week of December 1-5, 2014

New Members Nominations

- A Federal Register Notice was released on 5/19, soliciting nominations for new members.
- The nominee's name, resume, biography, and any letters of support must be submitted via one of the following methods:
 - Email to elliott.levine@ee.doe.gov
 - Overnight delivery service to:
Designated Federal Official for the Committee
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy
Mail Stop EE-3B
1000 Independence Avenue, SW
Washington, DC 20585
- The solicitation closes 6/9/2014.

<https://www.federalregister.gov/articles/2014/05/19/2014-11497/biomass-research-and-development-technical-advisory-committee>

July 2013 Cyber Security Incident Credit Monitoring Services

- DOE confirmed a cyber incident occurred at the end of July 2013, which resulted in the unauthorized disclosure of federal employee Personally Identifiable Information (PII).
 - No classified data was targeted or compromised.
 - Some TAC members were notified that they were among those exposed.
- DOE does not believe that PII theft was the primary purpose of the attack.
 - Files containing PII made up less than 1 percent of the total number of files known to be compromised.
- DOE originally offered affected personnel free credit monitoring for one year as well as provide recommendations and best practices for minimizing the potential for identity theft.
- NEW: DOE will extend credit monitoring services for another 12 months for all who were hacked and who signed up for the Experian service. Experian should notify you of the renewal.
 - You can contact PII Incident Call Center at 1-855-719-4496.

Q2 Binder Elements

Contents:

1. Biomass R&D Technical Advisory Committee Meeting Agenda
2. Biomass R&D Act (as amended)
3. Biomass R&D Technical Advisory Committee Charter
4. Biomass R&D Technical Advisory Committee Members and Subcommittee Assignments
5. Biomass R&D Board Members and Operations Committee Members
6. Speaker Bios
7. DOE and USDA Biomass Updates
8. Proposed 2014 TAC Meeting Dates
9. 2013 Final Recommendations
10. Site Visit Information
11. NEW: BRDI Awards History

Agenda at a Glance - Day 1 of 2

Thursday, June 5th

Introduction and Welcome

- 8:00 am – 8:30 am: Breakfast (*to be provided for the Committee*)
- 8:30 am – 9:00 am: Welcome – *Committee Co-Chairs*

Presentations and Updates

- 9:00 am – 9:45 am: DOE Updates – *Elliott Levine (DOE)*
- 9:45 am – 10:15 am: USDA Updates – *Harry Schomberg (USDA)*
- 10:15 am – 10:30 am: Break
- 10:30 am – 11:15 am: Biomass R&D Initiative Update – *Daniel Cassidy (USDA) and Mark Elless (DOE)*
- 11:15 am – 11:45 am: LPO Solicitation – *Valri Lightner (DOE)*

Lunch

- 11:45 am – 12:45 pm (*to be provided for the Committee*)

Presentations and Discussion

- 12:45 pm – 1:15 pm: Update to the National Biofuels Action Plan – *Harry Baumes (USDA)*
- 1:15 pm – 2:00 pm: Feedstocks Panel
 - Fuels from Corn Stover – *Doug Karlen (Ames Regional Feedstock Center)*
 - Example Application of the Feedstock Readiness Level Tool – *Rob Mitchell (USDA)*
- 2:00 pm – 2:45 pm: Expansion of the Bioeconomy – *Jonathan Male (DOE)*
- 2:45 pm – 3:15 pm: Overview of Bioeconomy Analysis – *Bryce Stokes (CNJV) and Michael Talmadge (NREL SI)*
- 3:15 pm – 3:30 pm: Break
- 3:30 pm – 3:45 pm: Public Comment
- 3:45 pm – 4:00 pm: Instructions for Committee Breakouts – *Committee Co-Chairs*
- 4:00 pm – 5:30 pm: Subcommittee Breakouts – *Committee*

Agenda at a Glance - Day 2 of 2

Friday, June 6th

Welcome

- 8:00 am – 8:30 am: Breakfast *(to be provided for the Committee)*

Discussion and Breakouts

- 8:30 am – 9:00 am: Instructions to Committee Breakouts – *Committee Co-Chairs*
- 9:00 am – 11:00 am: Subcommittee Breakouts
- 11:00 am – 12:00 pm: Subcommittee Report Outs
- 12:00 pm – 12:15 pm: Finalize Committee Work Plan

Public Comment

- 12:15 pm – 12:30 pm: Public Comment

Closing Remarks

- 12:30 pm – 1:00 pm: Final Comments – *Co-Chairs*

Closed Lunch

- 1:00 pm – 2:00 pm: Lunch *(to be provided for the Committee)*

Biomass R&D Act and Authorizations

- The Committee was established by the Biomass Research and Development Act of 2000 (Biomass Act).
 - This has been amended by the Food, Conservation and Energy Act of 2008 (FCEA). The revised Biomass R&D Act outlines the Committee's objectives, membership requirements, and duties.
- The recent Agricultural Act of 2014 (Farm Bill) reauthorized the Committee. The Biomass R&D Initiative (BRDI) was also reauthorized; however, the annual mandatory funding amount was cut to \$3M/year.
- The Biomass R&D Act also established the Biomass R&D Board and the BRDI.

Duties of the Committee Regarding BRDI

- To advise the Secretaries of Energy and Agriculture through the points of contact with respect to the Biomass R&D Initiative (BRDI).
- To evaluate and make recommendations in writing to the Board to ensure the following:
 - Funds authorized for the Initiative are distributed and used in a manner that is consistent with the objectives, purposes, and considerations of the Initiative.
 - Solicitations are open and competitive with awards made annually and that objectives and evaluation criteria of the solicitations are clearly stated and minimally prescriptive, with no areas of special interest.
 - The points of contact for funding proposals under this title are selected on the basis of merit, as determined by an independent panel of scientific and technical peers predominantly from outside the Departments of Energy and Agriculture.
 - Activities under this Title are carried out in accordance with this Title.
- The Committee Charter specifically calls for the TAC to make recommendations related to the BRDI.

Committee Recommendations and Annual Report

- DOE and USDA General Counsels have advised that a broader biomass R&D scope is permissible. The 2014 TAC recommendations should be written to address the findings and needs of the Committee in the following areas:
 - Specific Committee Reporting Obligations - BRDI
 - Information Requests from the Board
 - Subcommittee Recommendations
 - Sustainable Feedstocks Production and Logistics Recommendations
 - Conversion Recommendations
 - Products, Markets, and Systems Recommendations
- Recommendations are used to inform the Biomass R&D Board and provided to DOE and USDA Programs.
 - A report of recommendations consented to by the TAC to frame the TAC Annual Report to Congress.

Recommended TAC 2014 Work Timeline

Date	Committee Objectives
<p>Q1 2014 February 27-28, 2014 Place: Washington, DC</p>	<ul style="list-style-type: none"> • Update on DOE R&D activities • USDA update on biomass R&D activities and Farm Bill • Subcommittee staffing plan • Determine initiatives to be examined by TAC - BRDI and others • Determine committee needs to execute assignment • Provide guidance on BRDI solicitation • Determine need and location of site visit
<p>Q2 2014 Week of June 5-6, 2014 Place: Washington, DC</p>	<ul style="list-style-type: none"> • Subcommittees to: <ul style="list-style-type: none"> • Begin framing general subcommittee-related R&D recommendations outside of the listed areas with problem statement • Provide recommendations for R&D based on the topics presented such as the feedstocks panel • Provide R&D recommendations to BRDI based on the pathway selected by NIFA or other • Provide consideration to any applicable public comments • Review prior years work to revisit any topics
<p>Q3 2014 Week of August 18, 2014 Place: TBD</p>	<ul style="list-style-type: none"> • Subcommittees to: <ul style="list-style-type: none"> • Prioritize challenges/problems • Flesh out recommendations • Draft recommendations
<p>Q4 2014 Week of Dec 1, 2014 Place: Washington, DC</p>	<ul style="list-style-type: none"> • Finalize and approve 2014 recommendations • Discuss annual report and PPT needs and write-up schedule

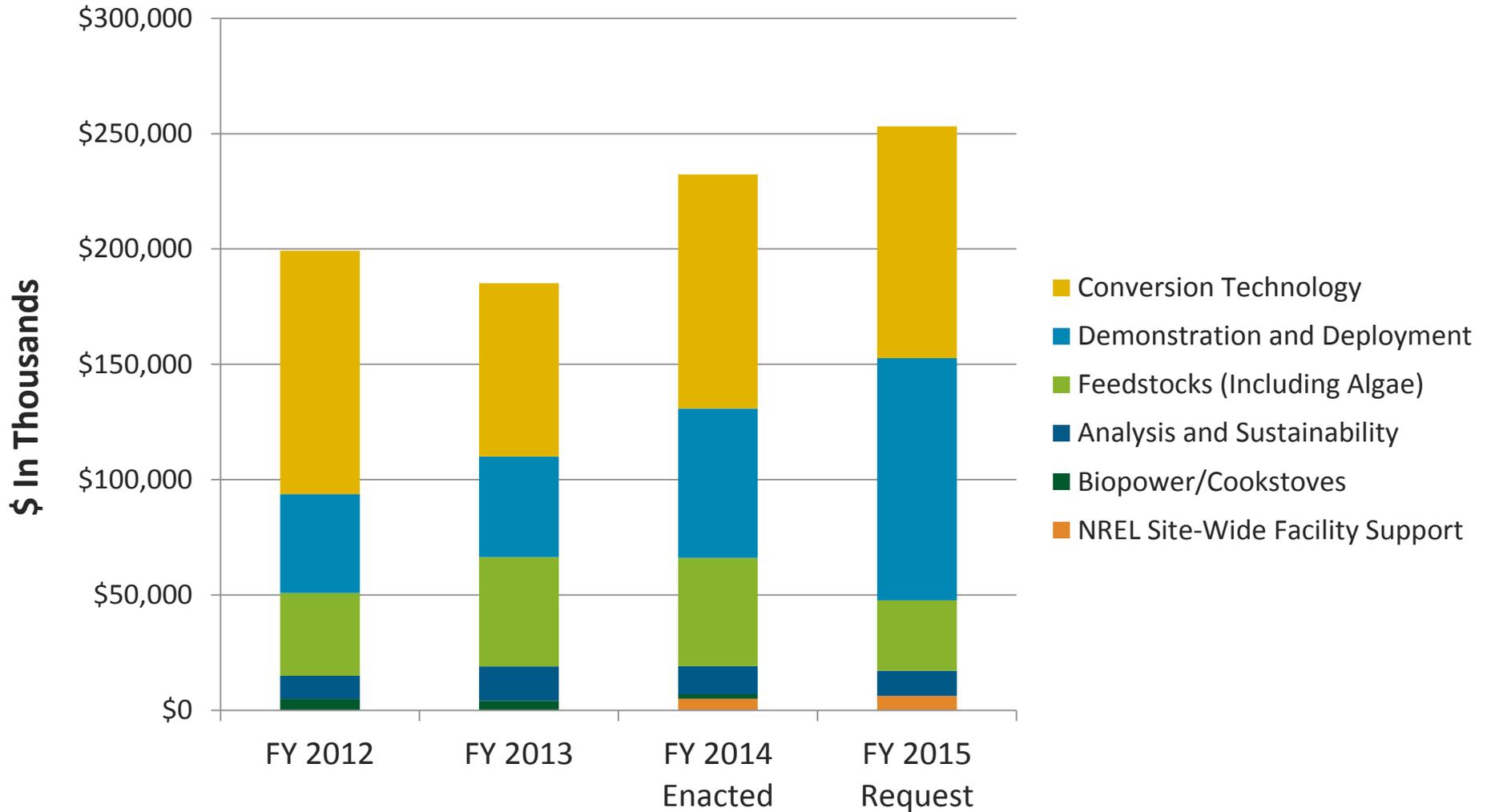
U.S. DOE's BETO Announcements & Updates



DOE 2014 Strategic Plan

- Secretary Moniz recently announced the 2014 Strategic Plan for the Department of Energy: <http://www.energy.gov/budget-performance>
- This is a comprehensive blueprint to guide the DOE's core mission of ensuring America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions.
- The Plan is organized into 12 strategic objectives, aimed at three distinct goals – Science and Energy, Nuclear Security, and Management and Performance. These objectives represent the broad cross-cutting and collaborative efforts taking place across the Department's headquarters, site offices, and National laboratories. These include, among other things:
 - Advancing the goals of the President's Climate Action Plan by supporting prudent development, deployment, and efficient use of “all of the above” energy resources that also create new jobs and industries;
 - Delivering the scientific discoveries and major scientific tools that transform our understanding of nature and strengthen the connection between advances in fundamental science to technology innovation;
 - Maintaining the safety, security, and effectiveness of the nation's nuclear deterrent without nuclear testing; and
 - Strengthening key science, technology, and engineering capabilities and modernizing the national security infrastructure.

Bioenergy Technologies Office Budget History



Innovation throughout the Bioenergy Supply Chain

Research, Development, and Demonstration at Increasing Scale

Feedstock Supply

Develop sustainable and affordable feedstock supply and efficient logistics systems.



Conversion R&D

Develop commercially viable technologies for converting feedstocks into liquid transportation fuels and products.



Demonstration at Increasing Scale

Validate integrated technologies at cost-shared pilot-, demonstration-, and pioneer-scale facilities.



Crosscutting

Sustainability

Promote the positive economic, social, and environmental effects of bioenergy.

Strategic Analysis

Conduct market, policy, environmental, and other analyses to inform planning and decisions.

Biomass Key Challenges

- Reliable supply
- Consistent quality
- Affordable delivery

Pretreatment Key Challenges

- Biomass feeding
- Biomass sizing and moisture
- Solids handling
- Construction materials

Conversion Key Challenges

- Products yields
- Construction materials
- Catalysts
- Fermentation organisms

Product Key Challenges

- Separations
- Catalytic upgrading
- Recycle loops

Recently Closed FOAs and RFIs

Renewable Carbon Fibers (DE-FOA-000096)

- Submission Deadline was 4/11/2014.
- Open FOA to develop a cost competitive pathway to produce high performance carbon fiber for vehicle lightweighting from renewable non-food biomass.
- Up to \$12M total funding, award size \$6-\$12M, for up to 40 months.

BETO Incubator (DE-FOA-0000974)

- Submission Deadline was 5/23/2014.
- 5 awards expected to be issued.
- Open FOA for “off-roadmap ideas” for ideas at TRL 2-4.
- Up to \$10M total funding, award size between \$0.5-2.0M, for up to 12-24 months.

Biological and Chemical Upgrading for Advanced Biofuels and Products (DE-FOA-0001085)

- Concept Paper Submission Closed 5/1; Full Applications due 6/13/2014.
- Open FOA to diversify the Biochemical Technology Area’s Portfolio to include a variety of chemical and biological upgrading technologies for the production of a suite of hydrocarbon fuels, fuel intermediates and chemicals (beyond ethanol).
- Up to \$10M total funding, award size between \$1.0-3.5M, for up to 36 months.

Input on Biofuel Pathways RFI (DE-FOA-0001124)

- RFI Responses were due 5/30/2014.
- The RFI sought stakeholder input regarding the 8 representative biofuel pathways that the DOE’s Bioenergy Technologies Office (BETO) has selected to guide its R&D strategy in the near-term. DOE also seeks input on other pre-commercial pathways that it should consider in the near- to long-term.

Current Waste-to-Energy (WTE) Activities in BETO

Currently Active WTE Projects in BETO Portfolio

- Waste-to-Energy Life Cycle Analysis
- Waste-to-Energy Technoeconomic Analysis
- Enhanced Anaerobic Digestion
- Biogas to Liquid Fuels and Chemicals Using a Methanotrophic Microorganism

Tremendous Interest in the Future of WTE

- Multiple proposed projects for FY15, including collaborative efforts across National Laboratories.
 - Targets key U.S. waste streams representing a 111 Trillion Btu by 2030
 - Moves beyond traditional WTE technologies like incineration
 - Industry partners looking to capitalize on this opportunity

Laying the Groundwork

- Strategic values document, opportunities matrix, resource loaded plan
- **Road-mapping workshop in late summer 2014**

INEOS and Sebring Green Racing with Cellulosic Ethanol

INEOS Biorefinery

- First commercial production of cellulosic ethanol in the United States using gasification technology
- Expected to produce 8 million gallons per year of cellulosic ethanol and 6 megawatts of power from wood and vegetative waste.
- Created 400 construction jobs; 65 permanent jobs are expected for operation.
- Major construction began in October 2010, commissioning was completed in June 2013, and commercial production of cellulosic ethanol was announced in July 2013.
- DOE share = \$50 million; cost share = \$82 million.

Green Racing

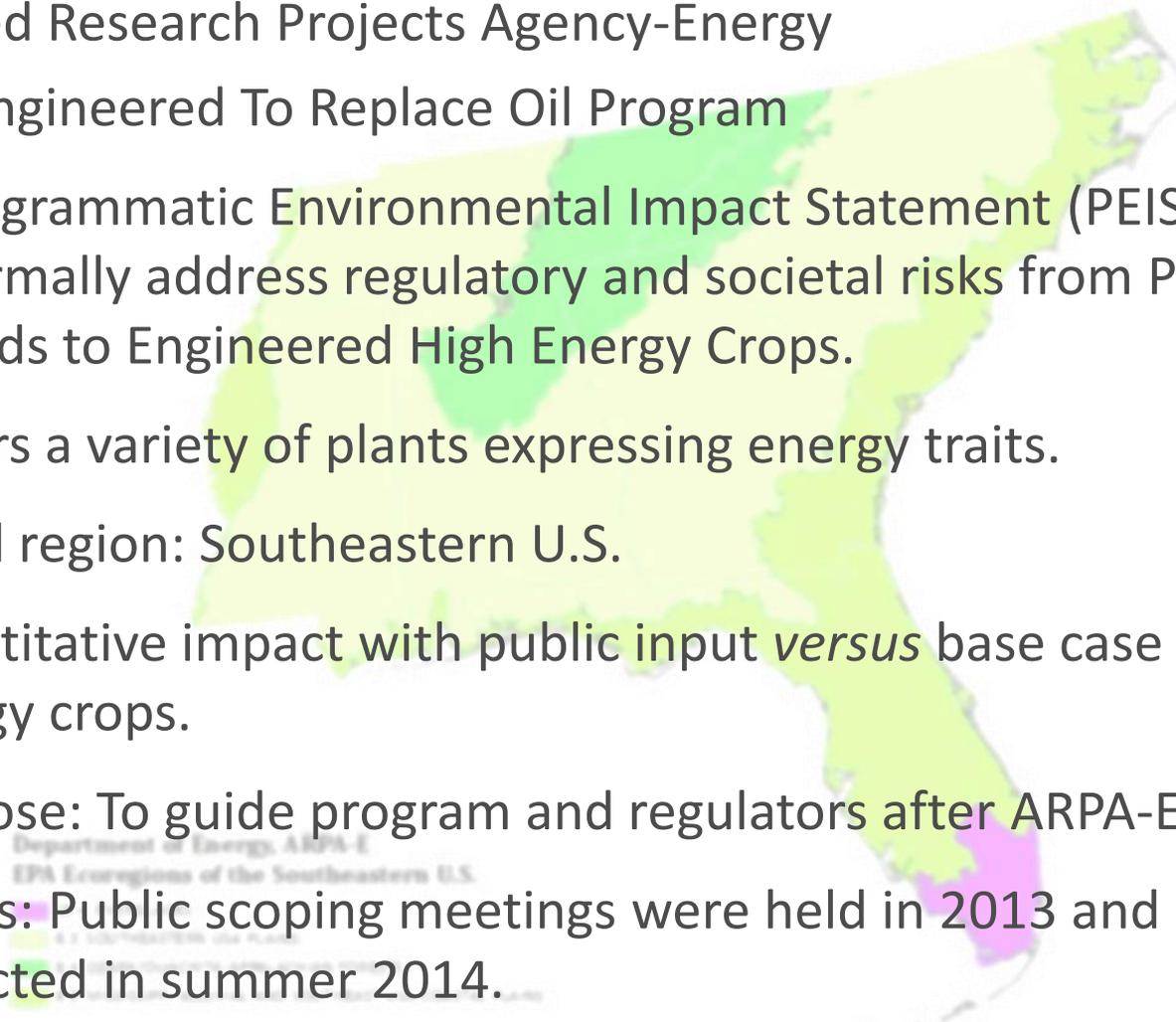
- On Friday, March 14, 2014, DOE officials participated in a green racing event at Sebring International Raceway, in Sebring, Florida.
- INEOS Bioenergy provided cellulosic ethanol from its DOE-supported, Vero Beach, Florida biorefinery.
- NASCAR's International Motor Sports Association uses its Green Racing series to help promote and rapidly develop cleaner fuels that can be transferred to consumer vehicles.



ARPA-E PETRO PEIS

Advanced Research Projects Agency-Energy Plants Engineered To Replace Oil Program

- A programmatic Environmental Impact Statement (PEIS) is underway to formally address regulatory and societal risks from PETRO with regards to Engineered High Energy Crops.
- Covers a variety of plants expressing energy traits.
- Initial region: Southeastern U.S.
- Quantitative impact with public input *versus* base case of existing energy crops.
- Purpose: To guide program and regulators after ARPA-E.
- Status: Public scoping meetings were held in 2013 and a draft PEIS is expected in summer 2014.



Department of Energy, ARPA-E
EPA Exemptions of the Southeastern U.S.

DOE-SC recently closed two FY14 funding opportunities for basic research relevant to biofuels production from biomass:

- **Plant Feedstock Genomics for Bioenergy: A Joint DOE-USDA Funding Opportunity (DE-FOA-0001034)**
 - Approximately \$5M available for fundamental research building on plant genomics for improvement biomass traits relevant to biofuels production and accelerate breeding of dedicated bioenergy feedstocks.
 - Issue Date: 11/19/2013
 - Application Due Date: 2/25/2014
- **Systems Biology of Microbes to Enable Next-Generation Biofuels Production (DE-FOA-0001060)**
 - Approximately \$8M available for fundamental research aimed at advancing systems biology understanding and developing genetic tools for microorganisms relevant to deconstruction of plant biomass and synthesis of next generation biofuels.
 - Issue Date: 12/20/2013
 - Application Due Date: 3/14/2014

DOE BRDI Awards Summary

BRDI Awards Summary Update

- The full BRDI Awards Summary will be added to the TAC library

Summary of Biomass R&D Solicitation Awards

- 2002-2006 Awardees
 - ADM (\$4.1)
 - Cargill (\$10.9M)
 - Natureworks (\$44.9M)
 - Dupont (\$37.2M)
- 2006 Awardees
 - Cleantech Partners (\$2.4M)
 - Lucigen Corporation (\$1.5M)
 - Edenspace Systems (\$5.5)
- 2007 Awardees
 - General Electric (\$1.0M)
 - Iowa State University (\$1.4M)
 - Purdue University (\$1.7M)
 - University of Minnesota (\$0.7M)
- 2010 Awardee
 - Metabolix (\$9.9M)
- 2011 Awardee
 - Iowa State University (\$4.4M)
- 2013 Awardee
 - Humboldt State University (\$5.8M)

BRDI - Humboldt State University (HSU)



- Waste to Wisdom: Utilizing forest residues for the production of bioenergy and bio-based products.
- Total project budget: \$7,469,320
 - DOE Share: \$5,881,974
 - HSU Cost Share: \$1,596,346 (21%)
- Project Period: 3 years
- 15 regional partners involved
 - 3 Universities (California, Oregon, and Washington)
 - Forest Service and Bureau of Land Management
 - Local Non-profit Community-based Organizations
 - Federal Research Scientists
 - Industrial Forest Landowners
 - Biomass Conversion Technology Development Companies

BRDI Project Goal & Technical Area (HSU)

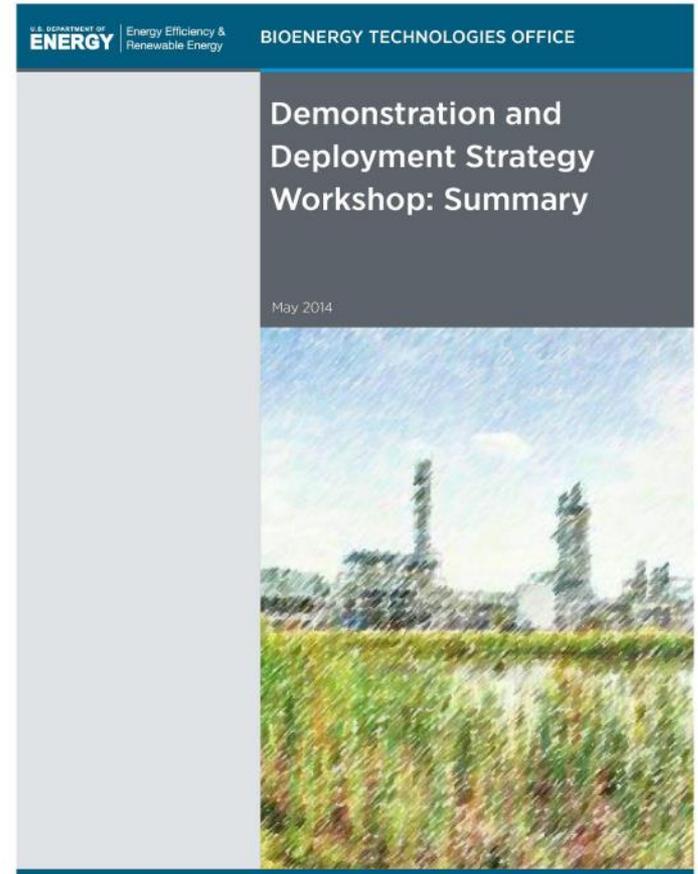
- **Overall Project Goal:**
 - Production of bioenergy and bio-based products through effective utilization of forest residues by development of new biomass conversion technologies and optimized biomass operations logistics.
- **Three Technical Areas (TAs):**
 - TA 1: Feedstock Development
 - Forest residue sorting, arranging, baling, chipping/grinding, and screening to produce quality feedstock.
 - TA 2: Biomass Conversion Technology Development
 - Gasification to produce biochar,
 - Pyrolysis to produce torrefied pellets, and
 - Densification to produce briquettes.
 - TA 3: Biofuels and Biobased Products Development Analysis
 - Evaluate economic/environmental impacts and ecological sustainability of new biomass conversion technologies and optimized biomass operations.
 - Identify and incorporate stakeholders' interests and concerns in new technology development and implementation.

BRDI Timeline (HSU)

	Technical Area/Milestone/Quarter	Year 1				Year 2				Year 3			
		1	2	3	4	1	2	3	4	1	2	3	4
TASK 2: Feedstocks Development													
<i>Biomass Collection & Processing</i>	Sorting, arranging, comminution, and screening												
	Feedstock quality control experiments												
	Biomass operations integrated with MBCTs												
<i>Baler Technology</i>	Productivity & cost analysis for forest residue types												
	Development of baling system logistics												
<i>Transportation Analysis & Feedstock Scheduling</i>	Biomass feedstock pathway development & analysis												
	Landscape scale feedstock scheduling model												
	Model validation & modification												
TASK 3: Biofuels and Biobased Products Development													
<i>Biochar production</i>	Scale up and develop field ready unit												
	Operate biochar unit at BSI headquarters in CO												
	Operate biochar unit at field site in CA												
<i>Pyrolysis / Torrefaction</i>	Adapt unit for field operation												
	Operate unit at field site in CA												
	Scale up unit												
<i>Briquetting</i>	Assess suitability of briquetting unit for field use												
	Operate briquetter and assess energy requirements												
<i>BCT analysis</i>	Assess waste heat use, test heat-to-electric technology												
	Field test of BCTs with various feedstocks												
	Data analysis												
TASK 4: Biofuels and Biobased Products Development Analysis													
<i>Economics & Marketing</i>	Integrated engineering/costing models												
	Market assessment & strategic marketing plans												
	Economic impacts of biochar carbon sequestration												
<i>Social Impacts</i>	Social, environmental and economic evaluation												
	Avoided cost analysis												
<i>Ecological sustainability</i>	Site selection & field trial: Biochar application												
	Lab testing: Chemical analysis of soil samples												
	Greenhouse: Seed germination, biochar application												
<i>Life Cycle Analysis</i>	LCI/LCA development												
	Spatial analysis and inventory assessment												
<i>Outreach & Information Dissemination</i>	Website development, technology transfer & marketing												
	Organize webinars, workshops and conferences												
	Periodic evaluation & submission progress report												
	Annual project meeting at HSU												
	Submission of final report												

Demonstration & Deployment Summary Report

- Report will include priority recommendations in the following areas:
 - Standards Development and Market Analysis
 - Facilities / Test Beds
 - Feedstock Handling
 - Equipment Development
 - Outreach and Partnering Efforts
 - Economic Value
 - Funding Support
- Watch for the report to appear on the BETO website in the coming weeks!



Indirect Liquefaction Strategy Workshop

Public workshop occurred March 20-21, 2014 at NREL, in Golden, Colorado

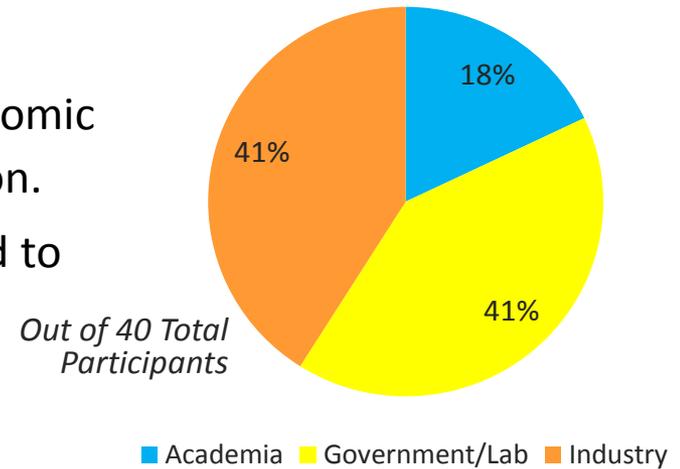
Workshop's goals:

- To discuss, learn, and document the technical and economic hurdles of cost-competitive biomass indirect liquefaction.
- To clearly define the research and development needed to overcome those hurdles.
- To identify a timeline for completing that research, development, and demonstration.

Workshop's outcomes:

- Some key challenges discussed were in the areas of feedstock interface, catalyst production and validation, and accessible modeling.
- Participants highlighted the usefulness of open data and sharing past lessons learned and best practices.

Workshop Participants



Upcoming Workshops

BETO Process Integration and Carbon Efficiency (PRINCE) Workshop

June 11–12, 2014

- BETO is hosting a workshop to explore advances in biological and chemical conversion of lignocellulosic feedstocks to biofuels and bioproducts.
- BETO would like to collect feedback regarding the state of the art and key research and development needs for various processes including, but not limited to, deconstruction of biomass to usable intermediates, upgrading of intermediates to fuels and chemicals, separations technologies, and process integration.
- The event is open but with limited space and will be held in Lakewood, Colorado.

BETO Herbaceous Feedstock Workshop (Invitational Only)

June 24–26, 2014

- BETO is hosting an agriculture-focused workshop to assess the state of the science, current research needs, and tools and methodologies for deploying landscape design for bioenergy systems.
- The event is invitation only and will be held in Chicago, Illinois.

ARPA-E Plant Phenotyping Workshop

June 18-19, 2014

- ARPA-E is hosting a workshop to understand barriers and identify potentially transformational approaches for developing advanced field phenotyping systems that benefit bioenergy crop development.
- The event will be held in Chicago, Illinois.

Seventh Annual Biomass Conference

Biomass 2014: Growing the Future Bioeconomy

July 29-30, 2014 at Washington Convention Center, Washington, DC

- *Biomass 2014: Growing the Future Bioeconomy* will be held July 29–July 30, 2014, at the Washington Convention Center.
- This conference offers unprecedented access to DOE and other federal agency representatives, key policy makers, and industry leaders.
- The event will offer the latest insights into the progress and opportunities in the bioeconomy and deliver impactful information and dialogue to inform bioenergy stakeholders.

Please visit the [Biomass 2014 Web page](#) for full details and to [register](#)!



Other Upcoming Events (Not BETO-Sponsored)

4th International Conference on Algal Biomass, Biofuels & Bioproducts

June 15-18, 2014, Santa Fe, New Mexico

22nd European Biomass Conference and Exhibition

June 23-27, Hamburg, Germany

11th Renewable Energy Finance Forum Wall Street

June 25-26, New York, New York

2014 American Society of Agricultural and Biological Engineers Conference

July 13-16, Montreal, Canada

TCS2014 Symposium on Thermal and Catalytic Sciences for Biofuels and Bio-based Products

September 2-5, 2014, Denver, Colorado

Collaborative Stove Design Workshop

November 4-7, Upton, New York

Useful Links

References:

1. Inspector General Report <http://energy.gov/sites/prod/files/2013/09/f2/IG-0893.pdf>
2. BETO's Meetings Web page <http://www1.eere.energy.gov/bioenergy/meetings.html>
3. Peer Review Report http://www1.eere.energy.gov/bioenergy/peer_review2013.html
4. Bioenergy KDF <https://www.bioenergykdf.net/>
5. Bioenergy KDF Facebook <https://www.facebook.com/BioenergyKDF>
6. Bioenergy KDF Twitter <https://twitter.com/BioenergyKDF>
7. Bioenergy KDF LinkedIn <http://www.linkedin.com/groups/BioenergyKDF-3901719>
8. Bioenergy KDF YouTube <http://www.youtube.com/user/BioenergyKDFChannel>
9. Office of Science Solicitation (1 of 2) http://science.energy.gov/~media/grants/pdf/foas/2014/SC_FOA_0001034
10. Office of Science Solicitation (2 of 2) http://science.energy.gov/~media/grants/pdf/foas/2014/SC_FOA_0001060.pdf
11. Board Resources Library http://www.biomassboard.gov/committee/tac_library.html
12. Committee Resources Library <http://www.biomassboard.gov/committee/committee.html>

Useful Links:

1. BETO News and Announcements <http://www1.eere.energy.gov/bioenergy/news.html>
2. Upcoming Solicitations http://www1.eere.energy.gov/biomass/biomass_solicitations.html
3. 2013 Peer Review http://www1.eere.energy.gov/biomass/peer_review2013.html
4. Biomass R&D Board <http://www.biomassboard.gov/>
5. Federal Register Notice: <https://www.federalregister.gov/articles/2014/05/19/2014-11497/biomass-research-and-development-technical-advisory-committee>
6. PRINCE Workshop: <http://ww2.eventrebels.com/er/Registration/RegistrationForm.jsp?ActivityID=10741&ItemID=41805>
7. Biomass 2014 Registration: <http://www.energy.gov/eere/bioenergy/biomass-2014-growing-future-bioeconomy>

