



DOE Updates

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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 deadline for the August meeting: **September 15th**

Future Meeting Dates

- Tentative meeting date for 2012 is tentatively scheduled as follows:
 - Q4: November 5-9, 2012
- The meeting dates and locations for 2013 Q1-Q4 will be discussed during the 2012 Q4 meeting and based on the consensus availability of the Committee members.

Wednesday, August 22nd

Introduction and Welcome to New Committee Members

- 1:30-1:45: Ronnie Musgrove and Steve Briggs (TAC Co-Chairs)

DOE/USDA Updates

- 1:45-2:05: DOE Updates – Elliott Levine (DOE)
- 2:05-2:25: USDA Updates – Todd Campbell (USDA)

Presentations

- 2:25-2:55: Forestry Research Advisory Council Update
- 3:10-4:00: CRS Congressional Update and Overview of Biomass Federal R&D
- 4:00-4:45: BRDI Solicitation Awards
- 4:45-5:15: Discussion of BRDI Solicitation

Thursday, August 23rd

2012 Committee Work Plan and Subcommittee Objectives

- 8:30-9:00: Ronnie Musgrove and Steve Briggs (TAC Co-Chairs)

Subcommittee Sessions

- 9:00-12:00: Conversion, Feedstocks, Infrastructure/Logistics Breakout Session 1
- 1:00-3:00: Conversion, Feedstocks, Infrastructure/Logistics Breakout Session 2
- 3:15-4:30: Subcommittee Report Outs and Presentations
- 4:45-5:15: Closing Comments

TAC Binder Contents

1. Agenda
2. Biomass R&D Act
3. Committee Charter
4. Committee Members
5. Board Members
6. Speaker Bios
7. DOE and USDA Biomass Updates
8. BRDI Report and Data
9. 2011 Approved TAC Recommendations
10. Draft 2012 TAC Recommendations
11. Proposed Meeting Date for 2012

Official functions of the BRDI TAC include:

- Advise the Secretary of Energy, the Secretary of Agriculture, and their points of contact concerning:
 - The technical focus and direction of requests for proposals issued under the Initiative.
 - Procedures for reviewing and evaluating the proposals.

- Facilitate consultations and partnerships among federal and state agencies, agricultural producers, industry, consumers, the research community, and other interested groups to carry out program activities relating to the Initiative.

- Evaluate and perform strategic planning on program activities relating to the Initiative.

The TAC is explicitly charged with recommendations to ensure:

- 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.
 - Objectives and evaluation criteria of the solicitations are clearly stated and minimally prescriptive, with no areas of special interest.
 - Funding proposals are selected on the basis of merit, as determined by an independent panel of scientific and technical peers predominantly from outside the Departments of Agriculture and Energy.
- Although the Charter calls for the TAC to make recommendations related specifically to the BRD Initiative, DOE and USDA General Counsel have advised that a broader biomass R&D scope is permissible.

Major Meeting Goal

- Q3: Develop and define annual TAC recommendations:
 - Prioritize 2011 TAC recommendations
 - Review recent BRDI awards and determine the need for BRDI-specific recommendations
 - Develop new recommendations related to bioenergy R&D
 - Provide common structure for recommendation across subcommittees

TAC Resources

- New TAC library updates:
 - CRS report on federal incentives and program
 - Information on related advisory committees (other USDA and EERE committees)
 - Association resources (recent presentations from BIO on federal programs)
- BRDI Awards Spreadsheet:
 - BRDI 2011 awards updates
 - Additional details on past awards
 - Reviewed by USDA-NIFA



BIOMASS 2012: CONFRONTING CHALLENGES, CREATING OPPORTUNITIES- SUSTAINING A COMMITMENT TO BIOENERGY

The Department of Energy hosted its fifth annual biomass conference from July 10-11th at the Washington, D.C. Convention Center.



- Record number of attendees – 750 participants from 46 states and 17 countries
- Keynote Speakers included:
 - Steven Chu, Secretary of Energy
 - David Danielson, Assistant Secretary of Energy
 - Sharon Burke, Assistant Secretary of Defense
 - Senator Al Franken (D-MN)
 - Senator Chris Coons (D-DE)
 - Heather Zichal, Deputy Assistant to the President
 - Dallas Tonsager, Under Secretary of Agriculture
 - Brian Bilbray, U.S. Congressman, (R-CA)
 - Margo Oge, EPA Director
 - Vice Admiral Dennis McGinn, President ACORE
- Biomass 2012 focused on key policy issues, such as the future of the RFS and federal spending on bioenergy, as well as the status of several high-profile advanced bioenergy projects that broke ground in 2012.
- Presentations are available on the DOE Biomass Program website; video highlights will be available soon.

Biomass Program Platform Peer Review

- Peer Reviews are designed to enable outside, independent experts to evaluate the technical merit, feasibility, and relevance of all projects in the R&D portfolio of each EERE program.
- Planning for the 2013 Platform Review is underway and tentatively scheduled for March-April, 2013.
- The Program is considering exploring ways to include the TAC in the Peer Review Process.
- If you have any ideas, or would like to be considered for a reviewer, please contact Elliott or Andrew.

2011 OBP Program Review Portal

2011 Biomass Program Peer Review Meetings

The U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy, Biomass Program will be conducting detailed biennial peer review meetings of its activities throughout the first half of 2011. The process will begin with reviews of the Program's eight technology areas between February 2011 and April 2011. The process will wrap up in June 2011 with a two-day Program Peer Review Conference. The Peer Review is required of the Biomass Program and other Energy Efficiency and Renewable Energy Programs to obtain independent assessments of the Program's current research and development project portfolio.

The 2011 Platform and Program Peer Review meetings provide interested stakeholders an opportunity to learn about these federally funded, state-of-the-art biomass energy technology development activities, and they provide DOE an opportunity to obtain meaningful feedback from stakeholders. The information will be useful as the Biomass Program considers future funding and portfolio balance decisions.

Integrated Biorefineries Platform	➔
Infrastructure Activities	➔
Analysis Platform and Sustainability Activities	➔
Feedstock Platform	➔
Algae R&D Activities	➔
Thermochemical Platform	➔
Biochemical Platform	➔
Program Peer Review Meeting	➔
Steering Committee	
Presenter Information and Login	
Platform Presentations	



On July 26, 2012, DOE and USDA jointly announced 5 BRDI awards for 2011 (\$31 million):

- Quad County Corn Cooperative, Galva, Iowa, \$4.25 M
- Agricultural Research Service's National Center for Agricultural Utilization Research, Peoria, Illinois, \$7 M
- Cooper Tire & Rubber Co., Findlay, Ohio, \$6.85 M
- University of Wisconsin, Madison, Wisconsin, \$7 M
- University of Hawaii, Manoa, Hawaii, \$6 M

❖ DOE award announcements are imminent.

Detailed award information is available in your binders and on the BRDI awards spreadsheet. Carmela Bailey from USDA-NIFA will be delivering a presentation on the BRDI awards this afternoon.

BRDI Awards 2009-2011 (1/2)

Project	Title	Award	Year	Organization Type	Location	Feedstock Type	Conversion Process	End Product	Technology Stage
Quad County Corn Cooperative	Adding cellulosic ethanol - ACE	4,250,000.00	2011	Private	IA	Corn residue (whole stillage)	Biochemical	cellulosic ethanol, animal feed, corn oil	Demonstration
Agricultural Research Service's National Center for Agricultural Utilization Research	Accelerated commercial development of hydrotreated renewable jet fuel (HJR) from redesigned oilseed feedstock supply chains	7,000,000.00	2011	Government	IL	Rapeseed, mustard, camelina oilseed crops	Thermochemical	Diesel and Jet Fuel	R&D
Cooper Tire & Rubber Company	Securing the future of natural rubber - an American tire and bioenergy platform from guayule	6,850,000.00	2011	Private	OH	Guayule	Chemical/mechanical; combustion; biochemical	Tires, biopower, jet fuel precursors	R&D
University of Wisconsin	Accelerated renewable energy	7,000,000.00	2011	University/Private	WI	Dairy manure / oilseed crops	Biochemical - anaerobic digestion, fermentation; chemical	Cellulosic ethanol, fertilizer, biopower, biodiesel	R&D
University of Hawaii	Conversion of high-yield tropical biomass into sustainable biofuels	6,000,000.00	2011	University	HI	Napier grass, energycane, sugarcane, sweet sorghum	Biochemical	Jet fuel and diesel	R&D
Cellana LLC	Developing a new generation of animal feed protein supplements: co-products from marine algae biofuel production	5,521,173.00	2010	Private	HI	Algae	mechanical	animal feed	R&D
Domtar Paper Company	Integrated biorefinery at the domtar plymouth, north carolina pulp mill	7,000,000.00	2010	Private	SC	Woody biomass	Chemical - hydrolysis, ionic liquids, catalysis; biochemical	Sugars and chemical intermediates	Demonstration
Exelus, Inc	Technology to enable local production of biofuels from energy crops	5,185,004.00	2010	Private	NJ	Switchgrass, miscanthus	Thermochemical	Hydrocarbon Fuels	R&D
Metabolix, Inc.		6,000,001.00	2010	Private	MA	Energy Crops	Not Available	Hydrocarbon Fuels/Bioproducts	R&D
University of Florida	Next-generation sweet sorghums: sustainable production of feedstocks for fuels, chemicals, and value added products	5,430,439.00	2010	University	FL	High-sugar sweet sorghums	Biochemical	Biofuels, chemicals	R&D
University of Kansas Center for Research	Green technologies for product diversification in an integrated biorefinery	5,635,858.00	2010	University	KS	Corn stover, lignin, oil seeds	Thermochemical	Chemicals and biofuels	R&D

BRDI Awards 2009-2011(2/2)

Project	Title	Award	Year	Organization Type	Location	Feedstock Type	Conversion Process	End Product	Technology Stage
University of Kentucky	On-farm biomass processing: towards an integrated high solids transporting/storing/processing system	6,932,786.00	2010	University	KY	Switchgrass, Miscanthus, corn stover, and wheat straw	Biochemical	chemical slurry/biofuel precursors	R&D
U.S. Forrest Service, Rocky Mountain Research Station	Integration of biofuels and bioproducts production into forest products supply chains using modular biomass gasification and carbon activation	5,309,320.00	2010	Government	MT	Woody Biomass	Thermochemical	Heat, syngas, biochar	R&D
GE Global Research	Development of detailed and simplified kinetic models of biomass gasification	1,597,544.00	2009	Private	CA	Cellulosic Biomass (woody/agricultural residues and energy crops/corn stover)	Thermochemical	Biofuels and Bioproducts	R&D
Gevo, Inc	Cellulosic isobutanol fermentation biocatalyst	1,780,862.00	2009	Private	CO	Cellulosic Biomass	Biochemical	Butanol	R&D
Itaconix	Development of integrated production of polyitaconic acid from northeast hardwood biomass	1,861,488.00	2009	Private	NH	Woody Biomass	Biochemical	Bioproducts - itaconic acid	R&D
Yenkin-Majestic Paint Corporation	Demonstration of the dry fermentation of food and yard waste into biogas and bioproducts for large-scale industrial applications	1,800,000.00	2009	Private	OH	Food Waste and Cellulosic Biomass	Biochemical - dry fermentation	Biogas/Biopower/Bioproducts	Demonstration
Velocys, Inc.,	Improving biorefinery economics through microchannel hydroprocessing	2,651,612.00	2009	Private	OH	Cellulosic Biomass	Thermochemical	Hydrocarbon Fuels/ Bioproducts	R&D
Exelus, Inc		1,200,000.00	2009	Private	NJ	Not Available	Thermochemical	Hydrocarbon Fuels	R&D
Purdue University	Analysis of the global impacts of second generation biofuels in the context of other energy technologies and alternative economic and climate	933,883.00	2009	University	IN	Not Applicable	Not Applicable	Not Applicable	Analysis
University of Minnesota	Assessing the environmental sustainability and capacity of forest-based biofuel feedstocks within the lake states region	2,715,007.00	2009	University	MN	Woody Biomass	Not Applicable	Not Applicable	Analysis
Consortium for Research on Renewable Industrial Materials		1,430,535.00	2009	University	WA, ID, NC, MS, TN	Woody Biomass / Cellulosic Biomass	Mixed	Advanced Fuels	Analysis
Agrivida	Conditionally activated proenzymes and their expression in biomass	1,953,128.00	2009	Private	MA	Sorghum*	Biochemical	cellulosic ethanol	R&D
Oklahoma State University	Sustainable feedstock production supply systems to support cellulosic biorefinery industries	4,212,845.00	2009	University	OK	Switchgrass, mixed-species perennial grasses, and annual biomass cropping	Not Applicable	Cellulosic ethanol	R&D
University of Tennessee		2,345,290.00	2009	University	TN	Energy Crops	Not Available	Not Available	Demonstration

OBP has released 5 FOAs in FY12. Initial application dates have passed and the Program is expecting to make award announcements in fall 2012.

- **Bio-Oil Stabilization and Commoditization**
 - Up to \$15 million for technologies that accelerate the development of thermochemical liquefaction technologies to produce a bio-oil feedstock from biomass
 - Award announcement targeted for October 2012
- **Clean Cookstoves FOA**
 - \$2.5 million for applied research to advance clean biomass cookstove technologies
 - Award announcement targeted for October-November 2012
- **Algal Biofuels FOA**
 - \$14 million to support outdoor phototrophic algae research and development
 - Award Announcement targeted for November-December 2012
- **Innovative Pilot FOA**
 - \$20 million to support production of hydrocarbon fuels (jet, diesel) at pilot or demonstration scale facilities that meet military blend specifications
 - Award announcement targeted for November-December 2012
- **Synthetic Biology FOA**
 - \$12 million to support research on new techniques to enable the development of biological systems to produce advanced biofuels and bioproducts.
 - Award announcement targeted for November-December 2012

The Defense Production Act (DPA) Initiative is a Presidential initiative to support collaborative efforts on behalf of DOE, USDA, and the Navy to commercialize “drop-in” biofuel substitute replacements for diesel and jet fuel.

Related Funding :

- Air Force’s Advanced Drop-in Biofuels Production Project: \$30 million to support construction of commercial-scale facilities to produce at least 10 million gallons/year of liquid fuels designed for operational use, such as JP-5 and JP-8.
- Biomass Program’s Innovative Pilot and Synthetic Biology FOAs: \$32 million designed to support research to complement the DPA Initiative.

Future of DPA:

- President Obama’s FY13 budget request includes an additional \$110 million to support the DPA initiative.
- In May, the Senate Armed Services Committee voted to prevent the DOD from purchasing alternative fuels if fuel costs were higher than traditional fuels, but most industry insiders believe DPA funding will move forward.

Awards

Joint DOE-USDA Plant Feedstock Genomics for Bioenergy (DE-FOA - 0000598)

- Translation of genomics information into cultivar improvement for bioenergy crops; phenotyping bioenergy crop germplasm collections and breeding lines

- 60 proposals evaluated (April 25-26, 2012)
- 2 recommended for funding by USDA (sorghum)
- 7 recommended for funding by DOE (poplar, switchgrass, willow)

Genomic Science: Biosystems Design to Enable Next-Generation Biofuels (DE-FOA-0000640)

- Microbial systems design for biofuels; Plant systems design for bioenergy

- 89 proposals evaluated (May 21-23, 2012)
- 4 microbial projects awarded (diatoms, oleaginous yeast, brown algae-associated microbes, *E. coli*)
- 4 plant projects awarded (poplar, switchgrass, *Arabidopsis*, *Setaria*)

Workshops

BER - Joint Genome Institute (JGI) Strategic Planning Workshop

- May 30-31, 2012 in Washington, DC
- 38 participants selected from academia, national labs, research institutes, DOE BRCs, industry

Three main issues addressed by participants:

What new insights could be enabled by next generation sequencing? What vision can be identified for DOE-mission driven biology for the next 5-10 years?

What large scale questions/challenges in DOE mission driven systems biology require a user facility for genome sequencing?

What new and/or high throughput capabilities/technologies are new needed to advance systems biology to help meet DOE mission needs?

Draft report in progress, nearing completion

Useful web links:

1. Biomass 2012 Meeting

www.eere.energy.gov/biomass/biomass_2012.html

2. Innovatiave Pilot and Synthetic Biology FOA

http://www1.eere.energy.gov/biomass/news_detail.html?news_id=184605

3. BRDI Announcements

http://www1.eere.energy.gov/biomass/news_detail.html?news_id=18522

4. DPA Initiative Information

<http://energy.gov/articles/obama-administration-announces-new-investments-advance-biofuels-industry-and-enhance>

5. TAC Library

http://www.biomassboard.gov/committee/tac_library.html

6. Plant Feedstock Genomics for Bioenergy

<http://genomicscience.energy.gov/research/DOEUSDA/2012awards.shtml>