

Biomass Program



Monthly News Blast

July 2012

Agriculture and Energy Departments Announce New Investments to Drive Innovations in Biofuels and Biobased Products

As part of the Obama Administration's all-of-the-above strategy to enhance U.S. energy security, reduce America's reliance on imported oil, and leverage our domestic energy supply, while also supporting rural economies, the U.S. Departments of Agriculture (USDA) and Energy (DOE) announced a \$31 million investment in five projects that will drive more efficient biofuels production and feedstock improvements. Through the joint Biomass Research and Development Initiative, USDA and DOE are working to develop economically and environmentally sustainable sources of renewable biomass and increase the availability of renewable fuels and biobased products. The five projects announced today will help to diversify the nation's energy portfolio and replace the need for gasoline and diesel in vehicles. For more information, [view the press release](#).

Biomass Program Webinar: Assessing Impacts of Bioenergy Production on Regional Water Resource Use and Availability

The Energy Department will present a live webcast titled "Assessing Impacts of Bioenergy Production on Regional Water Resource Use and Availability" on August 15, 2012, from 3:00 p.m. to 4:00 p.m. Eastern Daylight Time. This webinar is intended for local, county, and state water managers; working farmers and biofuel leaders; students and professionals in the fuel and energy sectors; and policymakers. The session will provide an overview of requirements for water resources, as well as a discussion of the environmental impacts attributable to wastewater from biofuels production. Case studies will be presented to highlight the unique aspects of the water footprint of biofuels—thereby demonstrating the complex nature of the energy-water relationship. Space is limited, so reserve your spot and [register for the webinar today](#).

Didn't Make it to Biomass 2012? Here's What You Missed!

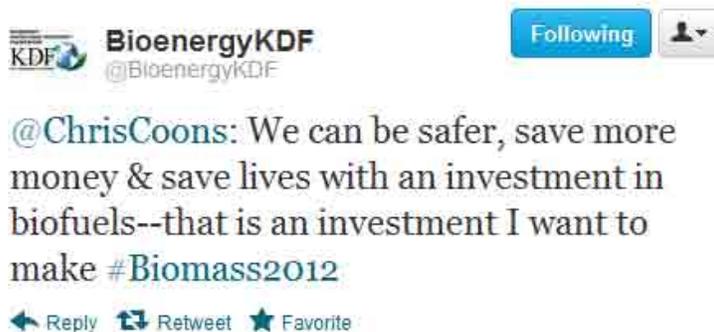
The Biomass Program wants to thank everyone who participated in its fifth annual conference, *Biomass 2012: Confronting Challenges, Creating Opportunities – Sustaining a Commitment to Bioenergy*. Held from July 10–11 at the Washington, D.C. Convention Center, this year's conference was attended by a record 750 stakeholders from across the biomass community, and featured more than 85 distinguished speakers from government and industry. Plenary

sessions focused on the future of the Renewable Fuel Standard and the status of several high-profile advanced biofuel projects that have broken ground this year. Participants engaged in discussions about the dynamic playing field of bioenergy in 2012 as exciting new technologies move forward within a shifting policy, tax, and economic landscape.

The Biomass Program was pleased to welcome several distinguished keynote speakers to the conference, including the following:

- Secretary of Energy, Steven Chu
- Deputy Assistant to the President for Energy and Climate Change, Heather Zichal
- U.S. Department of Agriculture Under Secretary of Rural Development, Dallas Tonsager
- Assistant Secretary for Energy Efficiency and Renewable Energy, David Danielson
- Assistant Secretary of Defense for Operational Energy Plans and Programs, Sharon E. Burke
- Senator Al Franken (D-MN)
- Senator Chris Coons (D-DE)
- Representative Brian Bilbray (R-CA).

For the first time, this year's conference featured a poster session, with 46 posters presenting cutting-edge research from the National Labs, universities, and private institutions. More information about the poster session is now available on the [Bioenergy Knowledge Discovery Framework's \(KDF\) Facebook page](#). Also for the first time, conference proceedings were posted via the [Bioenergy KDF's Twitter feed](#) and the KDF's Facebook page. We received many outstanding tweets, including the following from Senator Chris Coons:



Biomass 2012 [Day 1](#) and [Day 2](#) presentations are also now available on the Program's website, and select video footage will be accessible in the coming weeks. The Biomass Program would also like to extend a special thank you to our conference co-host, Advanced Biofuels USA.

BioBlogs

In the month of July, the Biomass Program used its [new blog](#) to highlight Biomass 2012 and recap the event. Check out the [first post from the conference](#), as well as the recap posts—with images—from [Day 1](#) and [Day 2](#).

New and Updated Biomass Program Materials Available

This month, the Biomass Program updated several fact sheets and finalized a new Program overview document, *Replacing the Whole Barrel To Reduce U.S. Dependence on Oil*, to keep stakeholders informed on changing technologies and directions in the Program. The Energy Department also released a new video, Biofuels 101, highlighting how technological advances are increasing biofuel efficiency and reducing production costs. Click on the following links to see the new materials:

- [Biofuels 101 Video](#)
- [Replacing the Whole Barrel To Reduce U.S. Dependence on Oil](#)
- [American Recovery and Reinvestment Act: Biomass Program Investments](#)
- [Feedstock Supply and Logistics: Biomass as a Commodity](#)
- [Thermochemical Conversion: Using Heat and Chemistry to Make Fuels and Bioproducts](#)
- [Biochemical Conversion: Using Hydrolysis, Fermentation, and Catalysis to Make Fuels and Chemicals](#)
- [Integrated Biorefineries: Biofuels, Biopower, and Bioproducts](#)

Thermostabilized Mutants of Human Carbonic Anhydrase II Show Potential for Biofuels Production

Scientists at Los Alamos National Laboratory (LANL) and the University of Florida have published an article on their findings for a new source for biofuel production. Dr. Zoë Fisher (Protein Crystallography Station, LANL) and a team from the University of Florida, led by Dr. Rob McKenna, have identified an enzyme that has the ability to capture carbon with much greater efficiency than previous reports. In the latest issue of *Protein Engineering: Design & Selection* (“Kinetic and structural characterization of thermostabilized mutants of human carbonic anhydrase II” published online June 12, 2012, DOI: 10.1093/protein/gzs027), the article describes intimate details of the thermally stabilized human carbonic anhydrase II. Carbonic anhydrases (CAs) are ubiquitous enzymes that regulate the interconversion of carbon dioxide (CO₂) and bicarbonate. Within the human body, CA regulates the acid-base balance in the blood and enables transport of CO₂ out of tissue. Dr. Fisher’s team, however, have realized that CA is an excellent source for carbon sequestration for use in biofuel applications. Algae are able to use high concentrations of CO₂ for both growth and biofuel production. For more information, view the [full PDF of the article](#).

Past and Upcoming Events with Biomass Program Representation

- Advanced Biofuels and the Midwest Market, June 7, 2012, Zia Haq and Howard Marks; Chicago, Illinois
- 2nd International Conference Algal Biomass, Biofuels, Bioproducts; June 10–13, 2012; John Ferrell and Joyce Yang; San Diego, California
- Biogas and Fuel Cells Workshop; June 11–13, 2012; Brian Duff; Golden, Colorado
- Biomass 2012: Confronting Challenges, Creating Opportunities – *Sustaining a Commitment to Bioenergy*; July 10–11, 2012; Biomass Program staff; Washington, D.C.
- Society for Industrial Microbiology and Biotechnology Annual Meeting; August 12–16, 2012; Joyce Yang; Washington, D.C.

- EPA Biofuels Panel; September 10–12, 2012; Kristen Johnson; Baltimore, Maryland
- Advanced Biofuels Markets Conference; October 29–31, 2012; Valerie Reed; San Francisco, California

Funding Opportunity and Request for Information

- *Innovative Pilot and Demonstration Scale Production of Advanced Biofuels*: Funding opportunity to identify and evaluate integrated biorefineries that produce military-grade hydrocarbon fuels. The funding opportunity was released June 15, 2012, and applications will be accepted through **August 13, 2012**. For more information, visit the [EERE Funding Opportunity Exchange](#) and search under **Reference Number: DE-FOA-0000739**.
- *Enhanced Algal Biofuel Intermediate Yields (EABIY)*: Responses to the EABIY Request for Information (RFI) should be submitted in Microsoft Word or PDF format to eabiy@go.doe.gov by **8:00 p.m. Eastern Time on August 1, 2012**. For more information on this RFI and submission requirements, visit the [EERE Funding Opportunity Exchange](#) under **Reference Number DE-FOA-0000745**.