Monthly News Blast | November 2013

Request for Information: Demonstration and Deployment Strategies

The Bioenergy Technologies Office (BETO) issued a request for information (RFI) seeking stakeholder feedback regarding bioenergy technology validation to accelerate the deployment of advanced biofuel, bioproducts, and biopower technologies. BETO is specifically interested in technologies that are ready for technology validation at a technology readiness level (TRL) of 6 or higher. TRLs 6–8 generally correspond to pilot-, demonstration-, and commercial-scale biorefinery operations.

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To view the full RFI and details on submitting a response, please visit the Energy Efficiency and Renewable Energy (EERE) Exchange website. To read more about BETO's work in this area, visit the Integrated Biorefineries Web page. **Please Note: All responses to this RFI must be provided as an attachment in an email message addressed with the subject line "Response to Demonstration and Deployment Strategies RFI" no later than 11:59 p.m. Eastern Time on December 6, 2013.**

Highlighting Success: BETO Releases New Accomplishments Publication

BETO recently published a new two-page overview document that highlights significant Office achievements from 2013. One noteworthy success was the demonstration of two cellulosic ethanol production processes at a cost of $2.15 or less per gallon. This accomplishment, combined with other milestone achievements, represents cost-saving technological advancements across all levels of the supply chain—from harvesting to conversion. Learn more about these groundbreaking efforts in the new publication, "Reshaping American Energy—A Look Back at BETO's Accomplishments in 2013."

Argonne National Laboratory Announces Release of New GREET Fuel Cycle Model: GREET1.2013

At Argonne National Laboratory (ANL), the Greenhouse Gases, Regulated Emissions and Energy Use in Transportation (GREET™) model is used to conduct life-cycle

analyses of advanced fuel and vehicle technologies. Recently, several notable updates were incorporated into the model. The new release contains biofuel pathway updates and expansions for the production of cellulosic biomass, enhanced analysis of land-use change greenhouse gas emissions associated with biofuel production, three new sorghum ethanol pathways, and a new marine module for conventional and biobased marine fuels. Other related pathway updates include power plant emission factors, petroleum refining efficiencies, and light-duty vehicle tailpipe emission factors.

Development of the GREET model has been supported by BETO, as well as the Vehicle Technologies and Fuel Cell Technologies Offices. At present, there are more than 20,000 registered GREET users worldwide. To view the complete list of updates and download GREET1.2013, visit the ANL website.

Carbon Fiber Workshop Summary Report Released

In coordination with the Department of Energy's (DOE's) Advanced Manufacturing and Vehicle Technologies Offices, BETO hosted the "Renewable Low-Cost Carbon Fiber for Lightweight Vehicles Workshop" in June 2013. The workshop combined insight and expertise from different EERE Offices to support end-to-end technology development for an enhanced domestic supply chain for low-cost carbon fiber that has the potential to increase energy productivity and the competitiveness of U.S. manufacturing.

Findings from the workshop have been compiled into a summary report. To learn more about the workshop, please visit BETO's Carbon Fiber Web page.

Featured Publication: Joint Paper on the Scale-Up of Ionic Liquid Pretreatment

In October, researchers from the DOE Office of Science-funded Joint BioEnergy Institute (JBEI), in conjunction with staff from DOE's EERE-funded Advanced Biofuels Process Demonstration Unit at Lawrence Berkeley National Laboratory, published the paper, "Scale-Up and Evaluation of High Solid Ionic Liquid Pretreatment and Enzymatic Hydrolysis of Switchgrass," in the journal *Biotechnology for Biofuels*. This paper, which is the first peer-reviewed literature on this topic, found that the ionic liquid pretreatment process developed at JBEI scales effectively (600-fold, from 0.01 to 6L) with no loss in performance, indicating that there is a path forward to volumes relevant to biorefineries (100-1000L). To learn more, please read the full text article.

BioBlogs

BETO Blog: From the Lab to the Field—Demonstration & Deployment Request for Information Looks to Identify Hurdles

If you've ever wondered how new innovations move beyond the drawing board to receive funding and eventually reach commercialization, check out BETO's latest

blog post to learn about a new Demonstration & Deployment (D&D) operational diagram that illustrates the three scales used to quantify a project's technical success. Recent DOE accomplishments in the biorefinery field have helped establish the foundation of the cellulosic ethanol and biobased chemical intermediates supply in the United States and will assist in reducing our transportation sector's emissions. BETO's D&D RFI, mentioned at the top of this news blast, looks to gather information on algae and terrestrial feedstock logistics, conversion technologies, sustainability considerations, and enabling technology from a commercialization standpoint.

For more information on the D&D RFI, visit the EERE Exchange website.

EERE Blog: Five Reasons Why Algae Is More than Just "Pond Scum"

In November, EERE posted a bioenergy blog titled the "Top Five Things You Should Know about Algae." Read the blog to find out how algae can be used to create cost-competitive and high-performance biofuels. Discover how it grows, how it is used in biofuel production, and much more.

For additional information about algae and the products and fuels they can produce, visit BETO's Algal Biofuels Web page, read the Algae fact sheet, or check out the Algae 101 video.

Past and Upcoming Events with Bioenergy Office Representation

- IEA Bioenergy ExCo, November 11–13, 2013; Paul Grabowski; Jeju, Korea
- Wood Stove Decathlon; November 15–19, 2013; Elliott Levine; Washington, D.C.
- Algal Biofuels Strategy Workshop; November 19–20, 2013; Neil Rossmeissl, Christy Sterner, Roxanne Dempsey, Daniel Fishman; Mesa, Arizona
- BIO Pacific Rim Summit; December 8–11, 2013; Jim Spaeth; San Diego, California

Upcoming Industry Events

- 2013 AIChE Annual Meeting; November 3–8, 2013; San Francisco, California
- Canadian Renewable Fuels Summit 2013; December 2–4, 2013; Montreal, Canada
- 7th International Algae Congress; December 3–4, 2013; Hamburg, Germany
- 11th International Conference on Biofuels: Fuels of the Future 2014; January 20–21, 2014; Berlin, Germany
- 2014 National Biodiesel Conference & Expo; January 20–23, 2014; San Diego, California
- tcs2014 Symposium on Thermal and Catalytic Sciences for Biofuels and Biobased Products; September 2–5, 2014; Denver, Colorado

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