

U.S. Department of Energy

# Bioenergy Technologies Office

## Newsletter

November 28, 2023

### IN THIS EDITION

#### Announcements

- [Notice of Intent](#)
- [Request for Information](#)

#### Upcoming Events

- [DOE Clean Fuels & Products Shot™ Webinar](#)
- [BRIDGES Program Office Hours](#)

#### [Past Funding Opportunity Announcements](#)

#### Top Stories

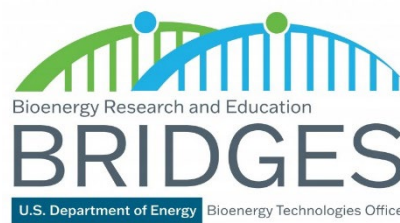
- [BRIDGES Program Informational Webinars](#)
- [AlgaePrize 2023-2025 Competition](#)
- [Wood Heater Design Challenge Winners](#)

#### [Technical Reports & Publications](#)

#### [Consortia News](#)

#### [Bioprosse R&D Success Stories](#)

#### [Past Events & Other News](#)



## MESSAGE FROM THE DIRECTOR



*BETO recognizes the importance of Science, Technology, Engineering, and Mathematics (STEM) programs to students looking to pursue careers in clean energy, which is why we are focused on developing programs to help educators prepare the next generation of the bioenergy workforce.*

*Bioenergy technology opportunities like the [Bioenergy Research & Education Bridge \(BRIDGES\)](#) and the [AlgaePrize Competition](#) will bridge today's problem solvers to tomorrow's clean energy future.*

[Dr. Valerie Sarisky-Reed](#) is the director of the Bioenergy Technologies Office (BETO) in the Office of Energy Efficiency and Renewable Energy (EERE).



## ABOUT BETO

BETO supports the research, development, and demonstration (RD&D) of technologies aimed at mobilizing domestic renewable carbon resources for the reduction of greenhouse gas (GHG) emissions across the U.S. economy. BETO's newsletter provides an overview of how DOE national laboratories, universities and other research institutions, and private companies are leveraging BETO funding to develop and demonstrate technologies to accelerate reduction of greenhouse gas (GHG) emissions through the cost-effective, sustainable use of biomass and waste feedstocks across the U.S. economy.

In celebration of STEMtember, BETO highlighted educational and career resources for students interested in learning more about bioenergy. BRIDGES is a case study-based curriculum series that allow educators to guide students through real-world scenarios with bioenergy topics from plastic upcycling to sustainable aviation fuel. The AlgaePrize is a national competition for students to pursue innovative projects in development, design, and invention of commercial algae technologies. The [Algae Technology Educational Consortium](#) (ATEC), is a partnership between BETO, the [Algae Foundation](#) and the [National Renewable Energy Laboratory](#) that provides educational resources for K-12 students, the Introduction to Algae Massive Open Online Course (MOOC), and more.

Read about how BETO is impacting the bioeconomy through significant and rapid advances in technology development and innovation across the entire biomass-to-bioenergy supply chain. Learn more about the Bioenergy Technologies Office at [energy.gov/bioenergy](http://energy.gov/bioenergy).



## Notice of Intent

### DOE Issues Notice of Intent to Fund Research for Waste-to-Energy Community Solutions and Advance the U.S. Bioeconomy

BETO and the [Vehicle Technologies Office](#) (VTO) announced their intent to issue a funding opportunity announcement (FOA) to support the development of community planning and strategies for converting organic waste into feedstock for various clean transportation fuel products.

The WASTE: Waste Analysis and Strategies for Transportation End-uses funding opportunity would help local communities develop cost-effective approaches to sustainably manage their waste stream infrastructures. It would also help municipalities and local transportation authorities meet local demand for energy that can be derived from these waste streams. [Learn more](#)



## Open Request for Information

### DOE Releases Request for Information to Achieve Rail Sector Decarbonization

DOE released a Request for Information (RFI) to understand applicable decarbonization strategies. The purpose of this RFI is to solicit feedback from industry, academia, research laboratories, government agencies, other stakeholders, and the public on issues related to alternative propulsion technology advancement within the rail sector and achieving net-zero GHG emissions.

This RFI, jointly released by BETO, the [Vehicle Technologies Office](#), and the [Hydrogen and Fuel Cell Technologies Office](#), aims to collect knowledge from stakeholders to guide actions regarding future propulsion technologies, research and infrastructure investments, and coordination among key stakeholders to ensure the rail sector is meeting or exceeding U.S. decarbonization milestones. The deadline for responses is January 12, 2024. [Learn more](#)



## Become a BETO Project Reviewer

BETO is always in need of subject matter experts to review research funding applications. If you would like to become a BETO reviewer, [download this fact sheet](#) for more information on how to apply.

### BECOME A PROJECT REVIEWER!



# UPCOMING EVENTS

## DOE Clean Fuels & Products Shot™ – Path Forward for Decarbonizing the Nation’s Fuels and Products Webinar

Join the U.S. Department of Energy (DOE) on November 28, 2023, at 4:00 pm ET, for the [Clean Fuels & Products Shot™: Alternate Sources for Carbon-based Products](#) informational webinar to learn about the recently launched [Energy Earthshot](#), including an update on the initiative’s goals, recent activities, and next steps. [Registration](#) is still open and questions can be [emailed here](#) prior to the event.

The seventh initiative in the [DOE's Energy Earthshots™ portfolio](#), the Clean Fuels & Products Shot™ focuses on decarbonizing the fuel and chemical industry through alternative sources of carbon to advance cost-effective technologies with a minimum of 85% lower greenhouse gas emissions by 2035.

**Webinar**

U.S. Department of Energy  
**Clean Fuels & Products Shot™**  
Path Forward for Decarbonizing the Nation's Fuels and Products

NOVEMBER 28, 2023  
4:00 PM ET

**DEVINN LAMBERT**  
Office of the Under Secretary for Science and Innovation

**JAY FITZGERALD**  
Bioenergy Technologies Office

**FELICIA LUCCI**  
Industrial Efficiency & Decarbonization Office

**EMILY CONNOR**  
Office of Fossil Energy and Carbon Management

**TODD ANDERSON**  
Office of Science

Visit the Bioenergy Technologies Office website to register: [energy.gov/eere/bioenergy/beto-webinars](https://energy.gov/eere/bioenergy/beto-webinars)

**BRIDGES**

**VIRTUAL**

**BRIDGES Program: Informational Office Hours**

NOVEMBER 30, 2023  
4:00 PM ET

DECEMBER 14, 2023  
4:00 PM ET

**ENERGY** Office of Energy Efficiency & Renewable Energy  
BIOENERGY TECHNOLOGIES OFFICE

**Argonne** NATIONAL LABORATORY

**INL** Idaho National Laboratory

[energy.gov/eere/bioenergy/bridges-events](https://energy.gov/eere/bioenergy/bridges-events)

## BRIDGES Program Informational Office Hours

November 30 & December 14, 2023

To provide individualized help and answer questions about the recently released Bioenergy Research and Education Bridges (BRIDGES) Program, BETO, along with Argonne National Laboratory and Idaho National Laboratory, will host a [series of open office hours](#) from 4:00 – 5:00 ET on the following dates: November 30, and December 14.

# PAST FUNDING OPPORTUNITIES, REQUEST FOR INFORMATION & NOTICE OF INTENT ANNOUNCEMENTS

## DOE Releases Request for Information on Building Supply Chains to Meet Sustainable Aviation Fuel Grand Challenge Goals

DOE released a Request for Information (RFI) to better understand the challenges facing critical elements within sustainable aviation fuel (SAF) supply chains. Specifically, this RFI sought input from industry, academia, research laboratories, government agencies, and other stakeholders to identify opportunities to enable the rapid development of effective supply chains capable of meeting future SAF demand. [Learn more](#)





# PAST FUNDING OPPORTUNITIES, REQUEST FOR INFORMATION & NOTICE OF INTENT ANNOUNCEMENTS

## DOE Announces \$16.7 Million in Project Selections to Advance Production of Affordable Biofuels and Biochemicals

BETO announced funding for five projects that will advance the production of affordable biofuels and biochemicals and significantly reduce greenhouse gas emissions. [See the selected projects](#)

## DOE Announces \$18.6 Million to Support Production of Low-Carbon Biofuels and Bioproducts

BETO selected eight university and industry projects to receive up to \$18.6 million to develop biomass feedstocks for affordable biofuels and bioproducts that reduce greenhouse gas emissions. [See the selected projects](#)

## DOE Awards \$2.5 Million to Accelerate Commercialization of Bioenergy Technologies

BETO announced \$2.5 million for four projects selected from the Base Annual Appropriations Technology Commercialization Fund, which is administered by the Office of Technology Transitions. The selected projects will also receive an industry match of \$2.5 million. With this funding, DOE national laboratories and industry partners will advance lab-developed bioenergy technologies towards commercialization to reduce carbon footprints in transportation, industrial, and agriculture sectors. [See the selected projects](#)

## Interagency Collaboration Releases Request for Information on the Establishment of Green Shipping Corridors between the U.S. and the UK

To address decarbonization goals of the global shipping industry, DOE, with support by the [U.S. Department of State](#), the [U.S. Department of Transportation](#), and the [United Kingdom \(UK\) government's Department for Transport](#), released simultaneous but separate RFIs to better understand the issues related to the establishment of at least one green shipping corridor between the two countries. DOE's [Development of Green Shipping Corridors between the United States and the United Kingdom Request for Information](#) closed September 29. [Learn more](#)

## DOE Selects Three Projects to Help Industry Leverage FCIC Capabilities to Overcome Bioenergy and Bioproduct Challenges

BETO selected three projects to receive up to 2.18 million in funding as part of the 2023 Cooperative Research and Development Agreement (CRADA) call by the [Feedstock-Conversion Interface Consortium](#) (FCIC). [See the selected projects](#)

## DOE National Laboratories Accelerate Wood Heater Innovation with Cooperative Research and Development Agreement

Brookhaven National Laboratory and Lawrence Berkeley National Laboratory announced a Cooperative Research and Development Agreement (CRADA) to accelerate wood heater innovation. Up to six projects will share \$4 million in BETO funding. The deadline to submit concept papers was August 11, and the deadline for final proposals was November 3, 2023. [Learn more.](#)

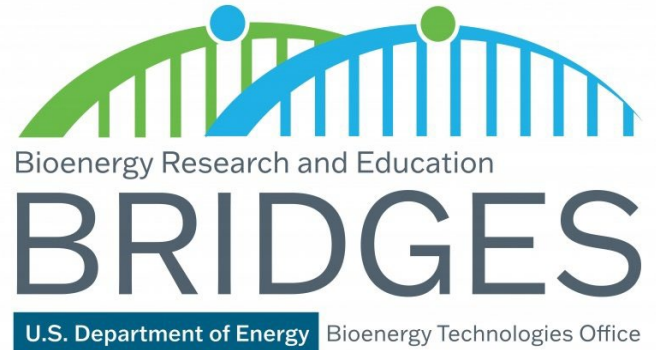
## DOE Releases Request for Information on the Progression of Clean Fuels in the Shipping Industry

To advance the decarbonization of worldwide shipping, BETO released a Request for Information (RFI) seeking to understand the maritime industry's current alternative fuels trajectory, the driving forces behind it, and key barriers to achieving the transition to zero-emission fuels. This RFI closed August 18. [Learn more.](#)

# TOP STORIES

## BETO Holds Series of Webinars to Promote Educational BRIDGES Program

Following the launch of the Bioenergy Research and Education Bridge Program (BRIDGES) in May, BETO began hosting a series of webinars to promote the program to teachers, professors, and other faculty from academia and answer questions about the BRIDGES newly released case study-based curriculums for students at the high school to university levels. In August, BETO hosted representatives from Historically Black Community Colleges to discuss BRIDGES, in September, BETO held a Bioenergy 101 Webinar for broader academia to learn about the program, and in October, BETO partnered with the National Association of Biology Teachers to introduce their educators to BRIDGES. [View upcoming BRIDGES events](#)



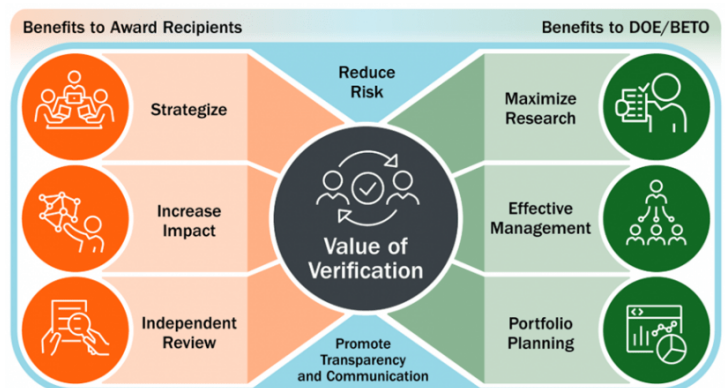
## DOE Launches the 2023 – 2025 AlgaePrize Competition

BETO, in partnership with the Algae Foundation and the National Renewable Energy Laboratory, announced the launch of the AlgaePrize 2023-2025 Competition, which challenges students to become the next generation of bioeconomy professionals by expanding novel solutions supporting gigaton-scale algae commercialization.

[Learn more](#) and follow #AlgaePrize on social media, [@BioenergyKDF on X](#) and [Facebook](#).

## DOE Launches New Bioenergy Webpages for Technology Verification Process

To help funding opportunity applicants and selectees better understand the complex FOA process, BETO has launched a comprehensive set of web resources and guidance to explain the three-phased verification process and team approach used to validate these technologies. [Learn more](#)



## TOP STORIES

### DOE Announces Wood Heater Design Challenge Winners

BETO, in collaboration with [Brookhaven National Laboratory](#), [Lawrence Berkeley National Laboratory](#), and the [Alliance for Green Heat](#), announced the winning teams for the [Wood Heater Design Challenge](#), including [Davidon Industries](#) from Warwick, Rhode Island, which won the first-place prize of \$40,000 for its ingenuity in developing the next generation of efficient and clean energy wood heater technologies. [Learn more](#)



## NEW TECHNICAL REPORTS & PUBLICATIONS

### New Feedstock-Conversion Interface Consortium Case Studies and Technical Reports Released

BETO's Feedstock-Conversion Interface Consortium (FCIC) recently published eight new technical reports and case studies, which examine environmental and economic impacts of a variety of feedstock characteristics and processing techniques. [View the reports](#)



## CONSORTIA NEWS

### Revolutionary Recycling Process Transforms Plastic Waste

Chemical engineers from the University of Wisconsin – Madison developed a new way of transforming plastic waste into high-value chemicals through two chemical processes, pyrolysis and hydroformylation. Researchers estimate these processes will not only revolutionize plastics recycling, but could also reduce greenhouse gas emissions from the conventional production of these industrial chemicals by roughly 60 percent. [Read more](#)





# BIOPROSE: BIOENERGY R&D SUCCESS STORIES

BETO's [Bioprose: Bioenergy R&D Blog](#) is a key resource for scientific information on the U.S. bioeconomy. The blog provides technical information on how BETO and its national lab partners sustainably develop biofuels, biopower, and bioproducts, and communicates how researchers are enhancing U.S. energy security and competitiveness. Below are the staff members and projects featured last quarter.

*Photo to right: Bioeconomy illustration.*



## National Laboratory Pilot Plants Help Industry De-Risk Biofuel Processes

*By Dr. Zia Abdullah, National Renewable Energy Laboratory*



We are witnessing a renaissance of innovation in sustainable fuels. Established corporations and small startups around the world are proposing novel solutions for turning abundant renewable carbon resources into energy-dense, low-carbon fuels that are key to addressing climate change.

One of the most impressive innovations is the development of sustainable aviation fuel made from biomass, waste, carbon dioxide, and other feedstocks that can dramatically lower the greenhouse gas footprint of the largest airliners and the fastest jets. [Read more](#)

## A Model System for Microalgae Production Forecasting

*By Dr. Karthikeyan K. Ramasamy, Pacific Northwest National Laboratory*



In the world of biofuels over the past decade, the eyes of industry have increasingly focused on the potential for domestic microalgae to provide alternative energy with reduced carbon emissions. However, to use these tiny aquatic organisms commercially for biofuels production, they must be grown and cultivated in large outdoor ponds, in diverse geographic regions, and during different seasons.

These commercial production factors create various uncertainties in forecasting data that, if resolved, could lead to improved planning and decision-making for steady microalgae growth and supply. [Read more](#)



## IN CASE YOU MISSED IT

### 3rd Annual 2023 Global Biobased Economy Conference

Hosted by the Alternative Fuels & Chemicals Coalition (AFCC), and co-sponsored by the U.S. Department of Energy (DOE) Bioenergy Technologies Office (BETO), the 3rd Annual 2023 Global Biobased Economy Conference took place November 12-14, 2023, in Washington, D.C. Attendees discussed innovative biobased decarbonization technologies and the components needed for successful commercialization of sustainable aviation fuels (SAF), alternative fuels, renewable chemicals (including bioplastics), biomaterials, and other sustainable products. [Learn more](#)

### Historically Black Community College Bioenergy Research and Education Bridge (BRIDGES) Webinar

August 31, 2023

[Watch recording](#)

### Virtual Workshop: Bioenergy Cybersecurity

September 11, 2023

[Learn more](#)

### BRIDGES Bioenergy 101 Webinar: Introducing Educators to Bioenergy National Laboratory Research

September 14, 2023

[Watch recording](#)

### Two-Day Webinar Series: Biocarbon Incorporation into Transportation Fuels via Co-processing in Refineries

September 20 & 27, 2023

[Watch recording](#)

### BRIDGES Bioenergy 101 Webinar: Incorporating Bioenergy National Laboratory Research into the Classroom

October 5, 2023

[Recording coming soon](#)

### 3rd Annual 2023 AFCC Global Biobased Economy Conference & Exhibit

NOVEMBER 12-14, 2023

FEATURING THE U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY



JEFF MAROOTIAN  
Principal Deputy Assistant Secretary



DR. VALERIE  
SARISKY-REED  
Director  
Bioenergy Technologies Office



DR. DIANA BAUER  
Deputy Director  
Advanced Materials and  
Manufacturing Technologies Office



ZIA HAO  
Senior Lead Analyst  
Data, Modeling and Analysis  
Bioenergy Technologies Office



DR. MARK ELLESS  
Technology Manager  
Renewable Carbon Resources  
Bioenergy Technologies Office

Visit the AFCC conference website to register: [altfuelchem.org/2023-afcc-biobased-economy-co](http://altfuelchem.org/2023-afcc-biobased-economy-co)

### National Historically Black College and Universities Week Conference

September 24 - 28, 2023

BETO Communications Lead Sheila Dillard participated on a panel at this year's conference to discuss the importance of incorporating bioenergy into educational curriculums.

[Read more](#)

### 2023 Global Biobased Economy Conference

November 12-14, 2023

[Read more](#)

### Waste to Advanced Resources Matter (WARM) Workshop

November 15 - 16, 2023

[Read more](#)

### BRIDGES Bioenergy 101 Webinar

November 16, 2023

[Read more](#)

*BETO supports technology research, development, and demonstration to accelerate greenhouse gas emissions reductions through the cost-effective and sustainable use of biomass and waste feedstocks across the U.S. economy. BETO is part of DOE's Office of Energy Efficiency & Renewable Energy.*