

Notice of Intent No. DE-FOA-0002244

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002245

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue a Funding Opportunity Announcement (FOA) entitled “BOTTLE: Bio-Optimized Technologies to Keep Thermoplastics out of Landfills and the Environment.” This FOA, jointly funded by the Bioenergy Technologies Office (BETO) and Advanced Manufacturing Office (AMO), supports the Department’s [Plastics Innovation Challenge](#), a comprehensive DOE program to accelerate innovations in energy-efficient plastics recycling technologies, which was announced on November 21, 2019.

Current recycling strategies often do not allow for cost-effective recycling of commonly used plastics. Typical recycling techniques can result in diminished material properties, which limit opportunities to produce products from recycled material with equal or greater value. However, there is an opportunity to advance new technologies that use recycled materials to reduce manufacturing energy consumption for some of the most prevalent plastics by up to 50 percent, including those used in grocery bags and beverage bottles.

BETO and AMO have identified significant potential to improve the carbon efficiency and energy efficiency of plastics recycling technologies. To achieve this, research is needed to:

- Develop novel polymers that are designed for infinite recyclability;
- Create innovative deconstruction pathways for existing polymers that generate high-value products; and
- Establish a consistent framework for evaluating carbon and energy efficiency across potential material flows and transformations.

Earlier this year, AMO and BETO jointly funded The Bio-Optimized Technologies to Keep Thermoplastics out of Landfills and the Environment (BOTTLE) Consortium, a National Lab-led seed Consortium established to address these needs. This FOA seeks to extend that effort beyond the Consortium and to utilize the resources BOTTLE has developed through partnerships with industry, universities, and others to advance DOE’s Plastics Innovation Challenge.

EERE anticipates the FOA may include the following Topic Areas:

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1) Highly Recyclable or Biodegradable Bio-Based Plastics

The objective of this potential Topic Area is to develop bio-based plastics that have improved performance attributes over a comparable existing plastic and can be cost-effectively recycled or biodegrade completely in the environment or in compost facilities.

2) Novel Methods for Deconstructing and Upcycling Existing Plastic Waste

The objective of this potential Topic Area is to develop energy efficient chemical recycling technologies that are capable of breaking down plastic streams into intermediates which can be upgraded into higher value products.

3) BOTTLE Consortium Collaborations to Tackle Challenges in Plastic Waste

The objective of this potential Topic Area is to develop collaborations with the BOTTLE Laboratory Consortium to further the long-term goals of the Consortium and the Plastics Innovation Challenge.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award would be approximately 3 years.

EERE is issuing this notice so that interested parties are aware of the intent to issue a FOA in the near term. All of the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA in January 2020 via the EERE Exchange website <https://eere-exchange.energy.gov/>. Applicants who wish to receive official notifications and information from EERE regarding this FOA should register in EERE Exchange. After FOA release, EERE will accept applications only through EERE Exchange.

In anticipation of FOA release, EERE advises Applicants to complete the following steps, which are **required** for application submission:

- Register and create an account in EERE Exchange at <https://eere-exchange.energy.gov/>. This account will allow the user to register for any open EERE FOAs that are currently in EERE Exchange. EERE recommends that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.

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Applicants should submit questions related to the registration process and use of the EERE Exchange website to: EERE-ExchangeSupport@hq.doe.gov

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>
- Register with the System for Award Management (SAM) at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at <https://www.fedconnect.net/>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>. All applications must be submitted through EERE Exchange.

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