

Request for Information (RFI) DE-FOA-00002413: Understanding Workforce-Development Assets and Gaps for Technical and Non-Technical Bioenergy Workforce Preparation

DATE: September 2, 2020
SUBJECT: Request for Information (RFI)

Description

The U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Bioenergy Technologies Office (BETO) requests information from industry, academia, K–12 and postsecondary educators, career counselors, National Laboratories, Government agencies, and other stakeholders to aid in identifying existing bioenergy workforce-development learning/skill development assets (i.e., education/degree/or certification programs or open source curricula) and gaps that impede skill development and learning opportunities.

BETO's RFI aligns with *Charting a Course for Success: America's Strategy for STEM Education*,¹ a 5-year strategy guide released by the U.S. Committee on STEM (science, technology, engineering, and math) Education of the National Science and Technology Council (NSTC)² to prepare the STEM workforce for the jobs of the future while maintaining "the national innovation base that supports key sectors of the economy, including agriculture, energy, healthcare, information and communications technologies, manufacturing, transportation, and defense, along with emerging areas like artificial intelligence and quantum information science."³

Responses will provide BETO with workforce-development data and help individuals connect to existing and new bioenergy workforce-development tools, in partnership with DOE's National Laboratories, academia, industry, and other stakeholders. The evidence-based workforce-development data will also assist in preparing the nation's current and future bioenergy workforce for the rapidly and continually changing workforce demands to reskill and upskill in

¹ [Charting a Course for Success: America's Strategy for STEM Education](#), December 2018.

² The NSTC is the principal means by which the Executive Branch coordinates science and technology policy across the diverse entities that make up the Federal research and development enterprise with the primary objective of ensuring that science and technology policy decisions and programs are consistent with the President's stated goals.

³ [Charting a Course for Success: America's Strategy for STEM Education](#), December 2018: 6.

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the bioenergy industry. An overview of the RFI findings can be requested after November 2, 2020, by emailing bioenergizeme@ee.doe.gov.

Background

In 42 USC 16232, Congress gave DOE the following instructions:

The Secretary shall conduct a program of research, development, demonstration, and commercial application for bioenergy, including—

- (1) biopower energy systems;
- (2) biofuels;
- (3) bioproducts;
- (4) integrated biorefineries that may produce biopower, biofuels, and bioproducts;
- (5) cross-cutting research and development in feedstocks; and
- (6) economic analysis.⁴

In the same code the goals were listed: (c) Biofuels and bioproducts: The goals of the biofuels and bioproducts programs shall be to develop, in partnership with industry and institutions of higher education:

- (1) Advanced biochemical and thermochemical conversion technologies capable of making fuels from lignocellulosic feedstocks that are price-competitive with gasoline or diesel in either internal combustion engines or fuel cell-powered vehicles;
- (2) Advanced biotechnology processes capable of making biofuels and bioproducts with emphasis on development of biorefinery technologies using enzyme-based processing systems;
- (3) Advanced biotechnology processes capable of increasing energy production from lignocellulosic feedstocks, with emphasis on reducing the dependence of industry on fossil fuels in manufacturing facilities; and
- (4) Other advanced processes that will enable the development of cost-effective bioproducts, including biofuels.⁴

There is a lack of awareness regarding the complex and highly technical nature of the bioenergy R&D portfolio and of the industry's continuing evolution. Through this RFI, BETO intends to

4 .U.S. Code Title 42: *The Public Health and Welfare*. <https://www.govinfo.gov/content/pkg/USCODE-2018-title42/pdf/USCODE-2018-title42-chap149-subchapIX-partC-sec16232.pdf>

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identify skill gaps throughout the bioenergy workforce and to help improve bioenergy education and technical training.

BETO established [BioenergizeME](#) as the overarching education and workforce-development base camp for students, educators, and anyone seeking to understand the capabilities and challenges in developing a resilient bioenergy industry. BETO intends to analyze RFI responses and create a network of potential partners that include, but are not limited to:

- Industry
- Academia
- Educators
- Career counselors
- National Laboratories
- Government agencies.

BioenergizeME supports activities that provide bioenergy education to increase awareness, provide specific workforce training information, and augment existing products and tools to assist the workforce needs of the bioenergy industry.

One publicly available information sharing tool is BETO's [Bioenergy Career Map](#), which provides web-accessible information that can guide users toward bioenergy career training in technical and non-technical disciplines.

Purpose

The purpose of this RFI is to solicit feedback from industry, academia, K–12 and postsecondary educators, career counselors, National Laboratories, Government agencies, and other stakeholders to aid in identifying existing learning/skill development assets (i.e., education/degree/certification programs or open source curricula) and gaps that impede skill development and learning opportunities in bioenergy workforce-development. This is solely a request for information and not a Funding Opportunity Announcement (FOA). EERE is not accepting FOA applications.

Disclaimer and Important Notes

This RFI is not a Funding Opportunity Announcement (FOA); therefore, EERE is not accepting applications at this time. EERE may issue a FOA in the future based on or related to the content and responses to this RFI; however, EERE may also elect not to issue a FOA. There is no guarantee that a FOA will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if EERE chooses to issue a FOA regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of EERE funded awards, will be subject to Congressional appropriations and direction.

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Any information obtained as a result of this RFI is intended to be used by the government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. EERE will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. EERE will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that EERE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind EERE to any further actions related to this topic.

Proprietary Information

Because information received in response to this RFI may be used to structure future programs and FOAs and/or otherwise be made available to the public, **respondents are strongly advised to NOT include any information in their responses that might be considered business sensitive, proprietary, or otherwise confidential.** If, however, a respondent chooses to submit business sensitive, proprietary, or otherwise confidential information, it must be clearly and conspicuously marked as such in the response.

Responses containing confidential, proprietary, or privileged information must be conspicuously marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Federal Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

If your response contains confidential, proprietary, or privileged information, you must include a cover sheet marked as follows identifying the specific pages containing confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data:

Pages [List Applicable Pages] of this response may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for the purposes described in this RFI DE-FOA-0002413. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

In addition, (1) the header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure” and (2) every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

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Evaluation and Administration by Federal and Non-Federal Personnel

Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to EERE providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

Request for Information Response Guidelines

Responses to this RFI must be submitted electronically to bioenergizeme@ee.doe.gov no later than 5:00 p.m. (EDT) on November 2, 2020. Responses must be provided as attachments to an email. It is recommended that attachments with file sizes exceeding 25 MB be compressed to ensure message delivery. Responses must be provided as a Microsoft Word (.docx) attachment to the email, and no more than 5 pages in length, using 12-point Arial-, Calibri-, Times New Roman-type font and 1-inch margins. Only electronic responses will be accepted.

Please identify your answers by responding to a specific question or topic if applicable. Respondents may answer as many or as few questions as they wish.

EERE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

- Individual, company, and/or institution contact
- Contact's address, phone number, and email address.

Request for Information Categories and Questions

Category 1: If you are responding on behalf of industry or any non-education or non-workforce development sector, please:

- a. Describe the primary product or type of products that your industry/sector produces.
- b. Describe your role (e.g., as an employee, line manager, operations leadership, division director, president/CEO, human resources, corporate trainer, learning and development manager, non-profit technical trainer, etc.).

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- c. Identify three challenges you experience in trying to develop a bioenergy workforce (please specify whether each challenge is related to your existing workforce or a future, desired workforce).
- d. Describe what kinds of educational materials or courses would help your organization address its workforce challenges (include specific job type, if applicable).
- e. Describe the kinds of delivery methods you would recommend for education/training for your workforce needs (e.g., online, traditional classroom, classroom and online hybrid, on-the-job training).

Category 2: If you are responding on behalf of an education-related field, please:

- a. Describe your role or current position, including your field of research or teaching.
- b. If you currently have a program or a specific course that covers biomass or bioenergy topics, please:
 - Provide details on what specific topics the program/course covers (you may include links, add attachments, or paste text from other sources, such as a course syllabus). Note: We are also interested in gathering any of the following information, if it is available and non-proprietary:
 - How many people have participated in and how many have graduated from your program, a description of how the program was developed, and links to or a description of any analysis/results that have been published on the program.
 - Provide details on the kinds of information delivery methods your program uses (e.g., online, traditional classroom, classroom and online hybrid, on-the-job training).
 - Describe what resources or educational materials would be desirable to enhance your current bioenergy/biomass offerings.
 - Provide a link to your program or name and/or contact information, if you would like BETO to provide you with access to its bioenergy training offerings. (e.g., the Bioenergy Career Exploration Wheel and Map).
- c. If you do not currently have a program or a specific course that covers biomass or bioenergy topics:
 - What challenges do you face (or anticipate facing) when trying to incorporate bioenergy into your program or courses?
 - What information delivery methods does your institution prefer (e.g., online, traditional classroom, classroom and online hybrid, on-the-job training)?

Category 3: If you are responding on behalf of a workforce-development-related field or Government affiliation:

- a. If your organization has a workforce-development program, please:

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- Describe the workforce-development program(s) available that include bioenergy (e.g., the goal/mission of your workforce-development program; who it targets; if your program is locally, regionally, state, or federally supported; what metrics are used to assess the impacts of your program; and if participation is voluntary or mandatory. It will also be helpful to know if your career development program has corporate/industry/non-governmental organization partners/sponsors).
- b. If your organization does not have a workforce-development program, please briefly describe the program your organization plans on developing, if it includes any reference to bioenergy, or what prevents your organization from developing a career development program.

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