

BIOENERGY TECHNOLOGIES OFFICE (BETO)
TECHNOLOGY-TO-MARKET: LABORATORY CALL FOR PROPOSALS
Enabling Lab-Small Business Partnerships: “BETO Industrial Seedlings”

Fiscal Year 2016

Key Dates	
Laboratory Call Issue Date	March 31, 2016
Laboratory POC Registration (See Section V)	April 15, 2016
Submission Deadline for Proposals	July 31, 2016
Expected Date for EERE Selection Notifications	August 31, 2016

Summary Information	
Means of Submission	Proposals must be submitted by registered points of contact (see Section V for more information) via email to betofy16seedlings@ee.doe.gov . Proposals submitted through other means will not be reviewed or considered.
Total Amount to be Provided	Up to \$500,000
Amount of Funding per Selected Laboratory Project	Up to \$40,000 per project
Period of Performance	Up to 12 Months
Eligible Entity	U.S. Department of Energy National Laboratories.
	The proposal must identify the specific small business partner that would participate (see Section 1.C for more information).
Cost Share Requirement	Non-federal cost share exceeding 10% is required.
Submission of Multiple Proposals	Laboratories may submit multiple proposals.
Proposal Documents	Lists of proposal documents required are described within Section IV of this document.
Questions	Questions about the Laboratory Call for Proposal rules and process may be directed to betofy16seedlings@ee.doe.gov
	Note: please do not provide any proprietary or business sensitive information within the questions. All questions and DOE responses to the questions will be distributed to all laboratory registered POC's by email within 3 business days.

SECTION I: DESCRIPTION AND TOPIC AREAS

A. SUMMARY

The U.S. Department of Energy’s (DOE’s) enterprise of National Laboratories is an innovation powerhouse full of unique and advanced instruments, and world class scientists, engineers and managers. This reserve of intellectual and technical assets has been tapped to solve critical national challenges and given birth to a number of inventions that have significantly improved human lives. The National Laboratories are also proven partners on collaborative research and development projects that provide the foundational science and technology for private sector development of new products and processes for a variety of industries.

In support of DOE’s efforts to increase the industry engagement and impact of the DOE National Laboratories, the Bioenergy Technologies Office (BETO) within the Office of Energy Efficiency and Renewable Energy (EERE) is launching this Laboratory Call for Proposals for the purpose of fostering stronger partnerships between DOE National Laboratories and high impact bioenergy small businesses (hereinafter “bioenergy small businesses”). This Laboratory Call for Proposals is similar to the BETO T2M FY2015 Lab Call, Topic 1, with the following differences:

	FY15 Lab Call (previous Lab Call)	FY16 Lab Call (current Lab Call)
Maximum funding per award	\$20,000	\$40,000
Geographic constraint	Partnerships limited to for-profit organizations co-located in same state as the DOE National Lab or an adjacent state.	No geographic limitation on the partnership

Proposals Specifically Not of Interest: *BETO will not fund proposals that seek to use food or feed carbohydrates, lipids or proteins (e.g. maize or wheat dextrose, beet sucrose, sugar cane or grain sorghum syrup, soybean oil or meal), and/or direct derivatives (e.g. amino acids from maize dextrose, glycerol from the transesterification of soybean oil).*

B. OBJECTIVES

Topic Area	Key Objective	Metric
Enabling Lab-Small Business Partnerships (EL-SBP) or “BETO Industrial Seedlings”	Increase engagement between small businesses that have high growth potential in the BETO mission space with DOE national laboratories by providing access to laboratory assets to the companies	Stimulate 10 or more new partnerships among bioenergy small businesses and the DOE National Laboratories

C. TOPIC AREAS AND SCOPE OF ACTIVITIES

There is only one (1) Topic Area for this Lab Call: BETO Industrial Seedlings

Background

DOE National Laboratory intellectual and physical assets can enable capital-constrained small businesses to overcome key technological hurdles including, but not limited to, prototyping, material characterization, high performance computations, modeling and simulations, intermediate scaling to generate samples for potential customers, validation of technology performance, and designing new assays to satisfy regulatory compliance. Numerous challenges in effective partnerships between DOE's National Laboratories and small businesses have been identified, but two central challenges are lack of awareness of laboratory capabilities and the ease and affordability of working with National Laboratories. According to a report by the Science and Technology Policy Institute, "New companies, especially small businesses, may not have the resources required to perform intensive searches to know what technologies and capabilities the laboratories have."¹ In addition, even if these businesses are aware of these opportunities, they generally lack the necessary capital or expertise to leverage the existing programs or resources that National Laboratories have to offer.²

The BETO mission, as described in the most recent Multi-year Program Plan³ (MYPP) is to:

Develop and transform transformative and revolutionary bioenergy technologies for a sustainable nation.

The goal of BETO is to develop commercially viable bioenergy and bioproduct technologies to enable:

- *Enable sustainable, nationwide production of biofuels that are compatible with today's transportation infrastructure, can reduce greenhouse gas emissions relative to petroleum-derived fuels, and can displace a share of petroleum-derived fuels to reduce U.S. dependence on foreign oil*
- *Encourage the creation of a new domestic bioenergy and bioproduct industry*

Proposal Guidelines

BETO is providing up to \$40,000 per selected DOE National Laboratory proposal that focuses on one or more critical bioenergy small business challenge(s) by leveraging unique laboratory assets. Although no DOE funding is being provided to the small business directly, the DOE National Laboratory work scope that is funded must benefit the small business entity and help to advance the BETO mission. For the purposes of this Laboratory Call for Proposals, a qualifying bioenergy small business is defined as an U.S. owned and operated for-profit organization with less than 500 employees engaged in commercializing bioenergy technologies. Each proposal submitted by a DOE National Laboratory (or laboratories) will be evaluated separately by DOE.

The proposal must identify the specific bioenergy small business partner that the DOE National Laboratory intends to work with. It is important that this initiative help maximize the potential

¹ Hughes et al. Technology Transfer and Commercialization Landscape of the Federal Laboratories. 2011. Science and Technology Policy Institute (IDA).

² Andes et al. Going Local: Connecting the National Labs to their Regions for Innovation and Growth. 2014. Metropolitan Policy Program (Brookings).

³ http://www.energy.gov/sites/prod/files/2016/03/f30/mypp_beto_march2016_2.pdf

utilization of DOE technology and facilities by bioenergy small businesses. As part of the process of identifying a specific partner, DOE National Laboratories should take all reasonable measures to ensure widespread notice of this opportunity to partner with the laboratory for collaborative research and development.

Each DOE National Laboratory may submit up to 12 proposals. This means a proposing laboratory may be selected to receive all, most, or none of the available project funding for the BETO Industrial Seedlings.

As relevant to the proposed small business partner, the proposal shall identify in 2 pages or less:

- 1) Company overview
 - How do the business objectives of the small company align with the BETO mission?
 - Which specific bioenergy product(s) or process(es) are targeted for commercialization?
- 2) Description of the problem this proposal seeks to address
 - What is the nature of the technical challenge the small business wishes to address with this opportunity?
 - What are the direct benefits that can result from overcoming this particular technology challenge?
- 3) Describe the role of the DOE National Laboratory for the problem described in the proposal
 - Why is assistance from the DOE National Laboratories specifically sought?
 - What is the history of engagement the small business has with DOE National Laboratories, if any?
- 4) Describe the qualifications of the small business team member(s) and the proposed contributions of this (these) person (people) to the project.

As relevant for the proposing DOE National Laboratory, the proposal shall identify in 2 pages or less:

- (1) The relevant technical assets (e.g. staff, equipment, other support) that are to be used to address the small business challenge and whether these assets have been leveraged before successfully by small businesses;
- (2) The proposed project objectives and work scope, including any relevant preliminary data or literature references that indicate the feasibility of the proposed approach, and the appropriateness of the laboratory capabilities to solve the technical challenge posed by the small business partner. *Any anticipated technical milestones/deliverables that can serve as indicators of progress and/or successful completion of the project must be listed.*

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the proposer should be included in a proposal only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted. See Section V.C for more information.

Partnership Agreement

The proposal must indicate that the National Laboratory and small business intend to enter into a Cooperative Research and Development Agreement (CRADA) to carry out the work. Alternatively, the DOE National Laboratory and small business may enter a more suitable agreement structure so long as it includes reporting requirements in the terms and conditions.

Reporting Requirement

Investments in bioenergy applied research and development (R&D) often do not immediately translate into impactful commercial products and processes. BETO is interested in evaluating both the short-term progress and the long-term impact of its investments.

All DOE National Laboratory proposals must include a letter of commitment from the qualifying bioenergy regional small business, agreeing to furnish brief commercialization status updates to the partnering laboratory and to DOE BETO for a period of 5 years after the close of the partnership project, no more frequently than annually and consisting of no more than 500 words. This information could include but is not limited to whether the company has sales from new bioenergy products or technologies, whether new jobs were created in the prior year, whether new manufacturing facilities have been financed or established, and/or whether it has been acquired by another company.

By applying to this Laboratory Call for Proposals, each laboratory with one or more proposals selected for award agrees to provide the baseline FY2016 information on existing partnerships with bioenergy small businesses (e.g., subcontract on AOP projects, CRADA partners, FOA team members, users of user facilities/center of excellence, licensees of BETO supported intellectual property (IP), and existing technology assistance agreements) to BETO no later than July 31, 2016.

In addition, laboratories with selected proposals agree to measure quantitative changes to this baseline for a period of 5 years, as an output of this Laboratory Call for Proposals. Subsequent year reporting must document any follow-on partnerships that have resulted from this BETO Laboratory Call for Proposals, as well as a summary of the small business commercialization status. Quantitative information regarding the timeliness of the agreement execution and other “speed of business” metrics should also be tracked and documented.

SECTION II: FUNDING INFORMATION AND ELIGIBILITY

A. TYPE OF FUNDING INSTRUMENT

EERE anticipates funding the laboratory work through FY 2016 Annual Operating Plans with the National Laboratories.

B. ESTIMATED FUNDING

BETO anticipates that approximately \$500,000 will be available for this program in FY 2016.

Enabling Lab-Small Business Partnerships (EL-SBP) “BETO Industrial Seedlings”

Number of Selections: 12 maximum

Funding Amount per Selection: Up to \$40,000

EERE is under no obligation to pay for any costs associated with preparation or submission of proposals. EERE reserves the right to fund, in whole or in part, any, all, or none of the proposals submitted in response to this Laboratory Call for Proposals.

C. PERIOD OF PERFORMANCE

The period of performance will be up to 12 months

D. ELIGIBILITY

All DOE National Laboratories are eligible to apply to this Laboratory Call for Proposals. Federally funded Research and Development Centers (FFRDCs) from other Federal agencies are not eligible to submit in response to this Laboratory Call for Proposals.

E. COST SHARING

Non-federal cost share exceeding 10% is required under this Laboratory Call for Proposals. As an example, a BETO Industrial Seedlings project with \$40,000 funding from DOE requires a minimum of \$4,000 in non-federal cost share. A demonstration of institutional commitment to the proposed activity is encouraged for all proposals; this could include but is not limited to leveraging existing programs when appropriate.

F. SELECTION NOTICES

Selectee Notification: EERE will notify proposers selected under this Laboratory Call for Proposals. Notice of selection is not an authorization to begin work. Selected projects will proceed to the statement of work (SOW) and Annual Operating Plan (AOP) project development stage. EERE reserves the right to request additional or clarifying information before proceeding to the SOW and AOP development stage. Furthermore EERE reserves the right to negotiate the work scope including tasks, milestones and deliverables to maximize benefits and as a part of Active Project Management. Consensus review comments will be provided.

Non-selectee Notification: Organizations whose proposals are not selected will be advised as promptly as possible. Consensus review comments will be provided.

SECTION III: PROPOSAL REVIEW INFORMATION

A. CRITERIA

1. Initial Eligibility Review

Proposals submitted after the full proposal deadline of **July 31, 2016 at 5:00 pm Eastern** will be declined without review. Prior to a full merit evaluation, BETO will perform an initial eligibility screen to determine that:

- (1) The Proposer is an eligible entity under this Laboratory Call;
- (2) All required documents have been submitted;
- (3) All mandatory requirements are satisfied;
- (4) The proposed project is responsive to the objectives of the Laboratory Call;
- (5) The proposal identifies a specific regional bioenergy small business.

Proposals that fail to pass the initial eligibility review will not be forwarded for merit review and will be eliminated from further consideration.

2. Merit Review Criteria

Proposals that pass the initial eligibility screen will be forwarded for merit review and selections will be made based on the evaluation criteria below.

Note that reviewers are selected with regard to both their expertise and the absence of conflict-of-interest issues. Both Federal and non-Federal reviewers may be used, and submission of a proposal constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

Evaluation Criteria

Criterion 1.1: Project Plan (40%)

- Degree to which the proposal clearly describes the specific problem of the small business;
- Degree to which the proposal clearly describes what DOE national lab capabilities are suited to address the problem of the small business;
- Degree to which task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed work plan will succeed;
- Degree to which the project plan demonstrates understanding of potential risk areas involved in the proposed work, and the quality of the mitigation strategies to address them;
- Degree to which the budget and spend plan are appropriate for the proposed project and objectives.

Criterion 1.2: Impact (40%)

- Degree to which the proposed work is likely to:
 - Increase in the number of follow-on small business partnerships (e.g. WFO, MTA, CRADA) with DOE National Laboratories;
 - Increase in the number of bioenergy small businesses who report experiencing successful outcomes (e.g. products launched, increase in revenues, technical hurdle overcome) or being satisfied with laboratory partnerships at the conclusion of technology assistance or collaborative R&D.

Criterion 1.3: Team and Resources (20%)

- Degree to which the capability of the proposed team with respect to the qualifications and time commitment of the individuals on the team is necessary and well suited to accomplish the project plan;
- Degree to which the existing facilities, including but not limited specialized equipment, are relevant to the stated needs of small businesses.

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Proposals that pass the initial eligibility review will be subjected to a formal merit review and will be evaluated based on the criteria above. Reviewers will be instructed to disregard any information included beyond the specific word limit per proposal section.

2. Selection

The Selection Official will consider the following items:

- Scientific and technical merit of the proposed activity as determined by merit review
- Availability of funds
- Relevance of the proposed activity to BETO priorities

- Ensuring an appropriate balance of activities within the BETO portfolio

3. Discussions and Award

The Government may enter into discussions with any proposer for any reason deemed necessary. Failure to resolve satisfactorily the issues identified by the Government may preclude funding the proposal.

C. ANTICIPATED NOTICE OF SELECTION AND PROJECT COMMENCEMENT DATES

It is anticipated that the proposers will be contacted regarding selections or non-selection by August 2016. BETO anticipates that projects supported under this Laboratory Call for Proposals will begin work no later than September 2016.

SECTION IV: PROPOSAL SUBMISSION AND TEMPLATE

A. DUE DATE AND MEANS OF SUBMISSION

Proposals must be submitted by email to betofy16seedlings@ee.doe.gov by **5:00 p.m. (ET) on July 31, 2016**. The registered POCs and PIs should receive an email acknowledging receipt of the proposal within 1 business day. Please contact betofy16seedlings@ee.doe.gov if a receipt is not received. The proposal should utilize the templates below as appropriate for each Topic Area, and be submitted in the specified document format.

B. REQUIRED DOCUMENTS AND SPECIFIC INSTRUCTIONS

A summary of the required documents and formats for the proposal documents is provided in the table below. Specific submission instructions can be found after the table.

All pages must be formatted to fit on a 8.5 x 11 inch paper with margins not less than one inch on every side. Use Times New Roman typeface, a black font color, and a font size of 12 point or larger (except figures or tables, which may be 10 point font). A symbol font may be used to insert Greek letters or special characters, but the font size still applies. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and end notes are counted to the maximum page requirement.

Topic Areas	Required Documents	Format(s)
Enabling Lab-Small Business Partnerships (EL-SBP): BETO Industrial Seedlings	1. Proposal (Sections 1.1 through 1.4)	Adobe Portable Document Format (PDF)
	2. Signed Letters of Commitment to the Required Reporting (from both the small business and the DOE National Laboratory)	Adobe Portable Document Format (PDF)

SPECIFIC SUBMISSION INSTRUCTIONS

Section 1.1: Proposal Summary Section

Project Title (30 words or less)		
Proposing Laboratory		
Proposed Small Business Partner		
Principal Investigator at Laboratory	Name:	E-mail: Phone:
Principal Investigator at Small Business	Name:	E-mail: Phone:
Laboratory Proposed Budget (\$K)	FY16:	
Small Business Proposed Budget (\$K)	FY16:	
Period of Performance	Start: mm/dd/yyyy	End: mm/dd/yyyy

Section 1.2: Small Business Section

Please discuss in 2 pages or less:

(1) Company overview

- How do the business objectives of the small company align with the BETO mission?
- Which specific bioenergy product(s) or process(es) are targeted for commercialization?

(CRITERION 1.1);

(2) Description of the problem this proposal seeks to address

- What is the nature of the technical challenge the small business wishes to address with this opportunity?
- What are the direct benefits that can result from overcoming this particular technology challenge?

(CRITERION 1.1, 1,2);

(3) Description of the role of the DOE National Laboratory for the problem described in (2)

- Why is assistance from the DOE National Laboratories specifically sought?
- What is the history of engagement the small business has with DOE National Laboratories, if any?

(CRITERION 1.1, 1.2); and

(4) Description of the qualifications of the small business team member(s) and the proposed contributions of this (these) person (people) to the project.

(CRITERION 1.3)

Section 1.3: Laboratory Narrative Section

Please identify in 2 pages or less

(1) The relevant technical assets (e.g. staff, equipment, other support) that are to be used to address the small business challenge and whether these assets have been leveraged before successfully by small businesses (CRITERION 1.1, 1.2, 1.3);

(2) The proposed project objectives and work scope, including any relevant preliminary data or literature references that indicate feasibility and the appropriateness of the laboratory capabilities to solve the technical challenge posed by the small business partner, as well as any anticipated technical milestones/deliverables (CRITERION 1.1, 1.2)

Section 1.4 Joint Work Breakdown and Budget Section (CRITERION 1.1). An example is provided below with italicized blue text. Please remove and replace the blue text entries. Add rows as needed.

Major Tasks (Last Name of Lead)	Start Date (MM/YY)	End Date (MM/YY)	DOE Funding (\$K)	Non-DOE Funding (\$K)
<i>e.g. Assemble data required for TEA (Jones)</i>	<i>06/15</i>	<i>07/15</i>	<i>\$5K</i>	<i>\$2K</i>
<i>e.g. Complete process modeling (Jones)</i>	<i>07/15</i>	<i>08/15</i>	<i>\$11K</i>	<i>\$1K</i>
<i>e.g. Generate TEA report (Jones)</i>	<i>09/15</i>	<i>09/15</i>	<i>\$2K</i>	<i>\$0K</i>
<i>e.g. Complete Final DOE report (Jones, Bobbit)</i>	<i>10/15</i>	<i>10/15</i>	<i>\$2K</i>	<i>\$2K</i>
Total			\$20	\$5K

SECTION V: OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications and other correspondence to this Laboratory Call for Proposals will be sent to all registered points of contact (POCs) at each interested DOE National Laboratory. To register as a laboratory Point of Contact (POC) for this Call for Proposals, please send an email with the subject "BETO Lab Call POC Registration" with your job title, email and phone contact information **no later than April 15, 2016**, to betofy16seedlings@ee.doe.gov.

Laboratory POCs are the primary conduit through which information regarding this Laboratory Call for Proposals can be sent to and received from BETO. It will be the responsibility of this individual to make certain that each proposal and supporting materials responsive to this Laboratory Call for Proposals are submitted to DOE on behalf of that laboratory on time. It is also the responsibility of the POC to communicate programmatic decisions and actions to the individual Principal Investigator(s) named on a given proposal from that laboratory faithfully and accurately as a result of the selection. Current Laboratory Relationship Managers to BETO are suggested as the laboratory POCs for this Call for Proposals, but the Laboratories are at their discretion to name the responsible party.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all proposals received in response to this DOE National Laboratory Call for Proposals and to select any proposal, in whole or in part, as a basis for negotiation and/or award.

C. PROPRIETARY PROPOSAL INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the proposer, should be included in a proposal only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data is subject to the requirements of the Freedom of Information Act (5 U.S.C. § 552, et seq.) and may be protected from public disclosure only under an applicable statutory exemption. If the proposer includes such patentable ideas, trade secrets, proprietary or confidential commercial or financial information in its proposal, it must identify such information by including the following legend on the first page of the project narrative and specifying the pages of the proposal which the proposer believes to be protected from disclosure:

"The data and information contained in pages _____ of this proposal have been submitted in confidence and contain trade secrets, proprietary, or confidential commercial or financial information, and such data or information is intended for use or disclosure only for evaluation purposes."

In addition, each line or paragraph on the pages containing such data or information must be specifically identified and marked with a legend similar to the following:

"The following contains trade secrets, proprietary, or confidential commercial or financial information that (name of proposer) requests not be released to persons outside the Government, except for purposes of review and evaluation."

D. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The proposer, by submitting its proposal, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing a proposal. Non-Federal personnel conducting administrative activities must sign conflict of interest and non-disclosure agreements.