



U.S. DEPARTMENT OF  
**ENERGY** | Energy Efficiency &  
Renewable Energy

Informational Webinar for Applicants  
for: **DE-FOA-0001320**

Bioenergy Technologies Incubator 2

[BETOIncubator2@ee.doe.gov](mailto:BETOIncubator2@ee.doe.gov)

Bioenergy  
Technologies  
Office  
(BETO)

# Notice

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- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE- FOA-0001320 (**“Bioenergy Technologies Incubator 2 FOA”**) and adhere to the stated submission requirements.
- This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document and applicants should rely on the FOA language and seek clarification from EERE.
- If you believe there is an inconsistency, please contact [BETOIncubator2@ee.doe.gov](mailto:BETOIncubator2@ee.doe.gov)

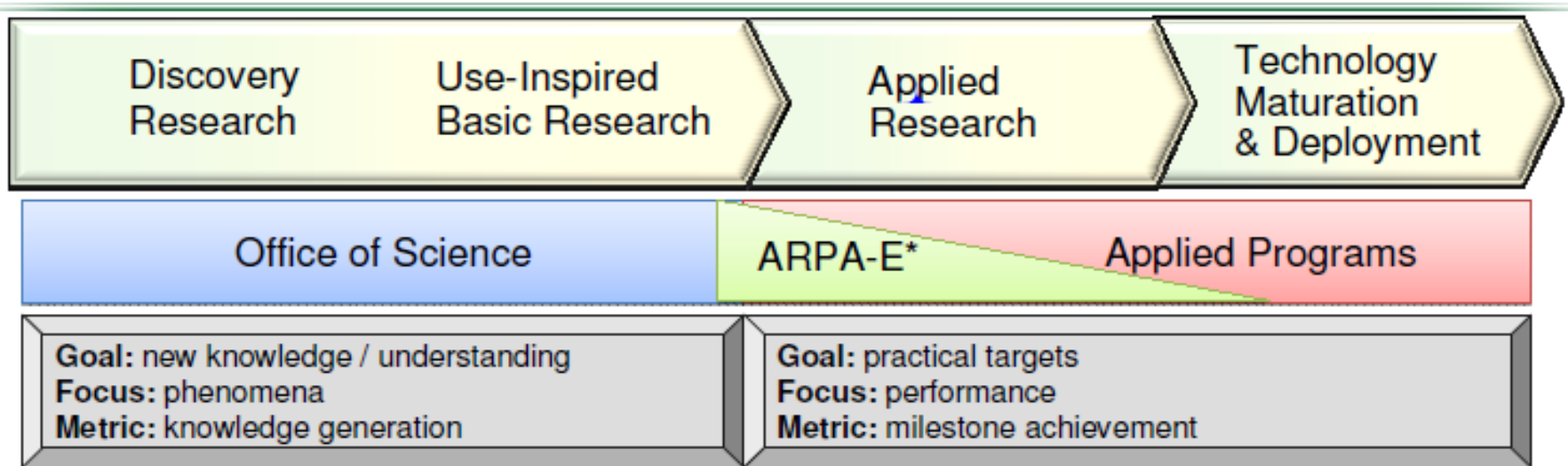
# Agenda

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- 1) EERE/BETO Incubator Background
- 2) FOA Description
- 3) Award Information
- 4) Concept Papers
- 5) Full Applications
- 6) Merit Review and Selection Process
- 7) Replies to Reviewer Comments
- 8) Registration Requirements
- 9) Statement of Substantial Involvement
- 10) Cost Sharing

# BETO Incubator Background (1/3)

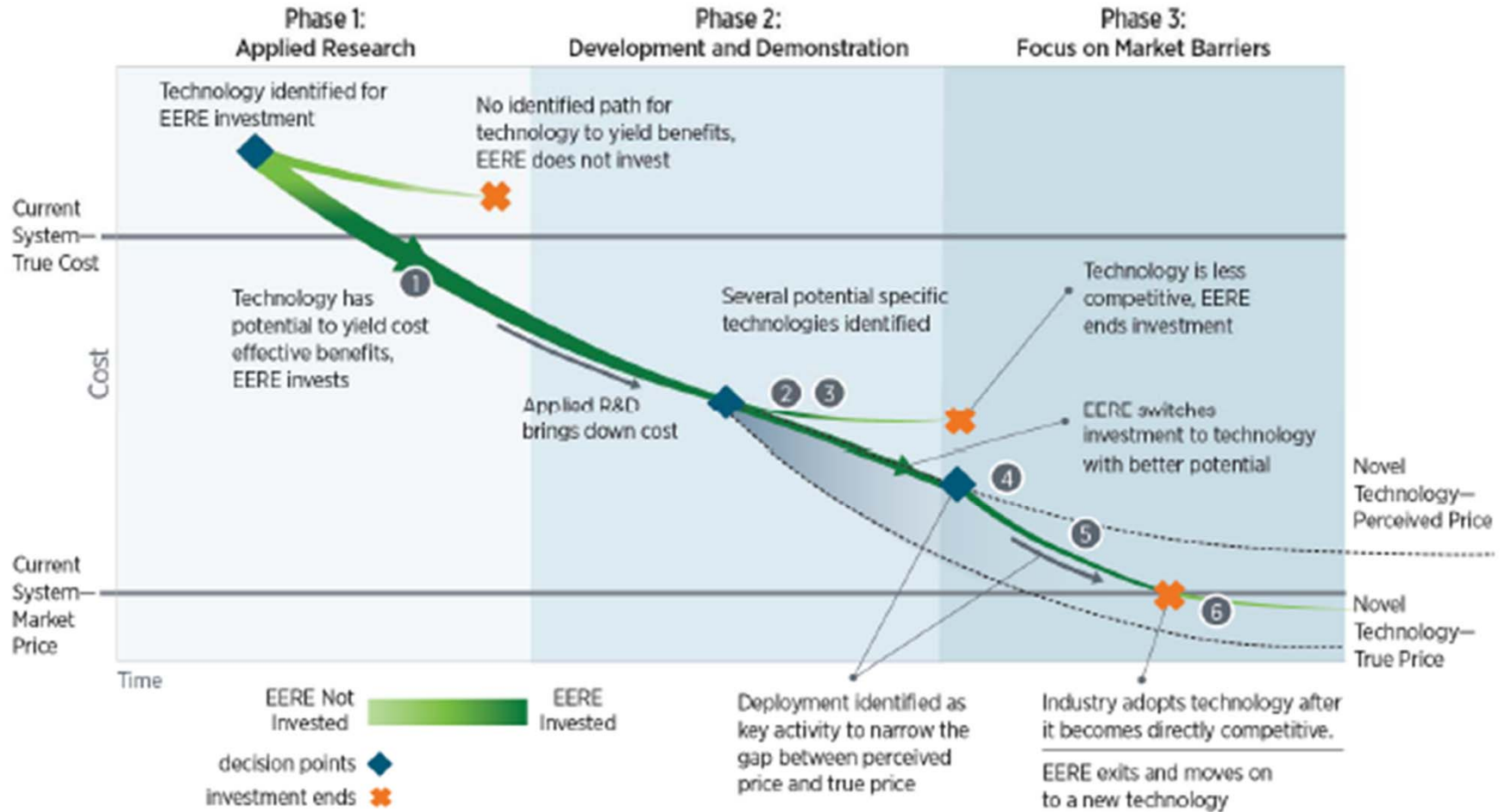
## Continuum of Research, Development, and Deployment



- Basic research to address fundamental limitations of current theories and descriptions of matter in the energy range important to everyday life – typically energies up to those required to break chemical bonds.
- Basic research for fundamental new understanding on materials or systems that may revolutionize or transform today's energy technologies
- Basic research for fundamental new understanding, usually with the goal of addressing scientific showstoppers on real-world applications in the energy technologies
- Proof of new, higher-risk concepts
- Prototyping of new technology concepts
- Explore feasibility of scale-up of demonstrated technology concepts in a "quick-hit" fashion.
- Research with the goal of meeting *technical milestones*, with emphasis on the development, performance, cost reduction, and durability of materials and components or on efficient processes
- Scale-up research
- Small-scale and at-scale demonstration
- Cost reduction
- Manufacturing R&D
- Deployment support, leading to market adoption
- High cost-sharing with industry partners

# BETO Incubator Background (2/3)

EERE identifies high-impact opportunity areas, creates aggressive long-term cost-reduction goals, develops and implements targeted multi-year program plans/roadmaps, and updates them on a regular basis.



# BETO Incubator Background (3/3)



Accelerate the commercialization of advanced biofuels and bioproducts through RD&D of new technologies supported by public-private partnerships

Develop technologies to enable the sustainable, nationwide production of biofuels compatible with today's transportation infrastructure

Validate a least one pathway for \$3/GGE\* hydrocarbon biofuel with  $\geq 50\%$  reduction in GHG emissions relative to petroleum by 2017

\*Mature modeled price at pilot scale.

BETO reduces risks and costs to commercialization through RD&D

# BETO Incubator 2 FOA Description

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- BETO has developed a MYPP that identifies many of the technical barriers that need to be overcome to meet the mission and goals of the Program.
- BETO periodically issues targeted FOAs to address these barriers.
- However, BETO recognizes that there may be very novel and potentially disruptive ideas that do not necessarily satisfy the requirement of specific FOAs yet still meet BETO's goals and mission.
- The Bioenergy Incubator Program is intended to identify these potentially impactful ideas that are *not* meaningfully addressed in BETO's MYPP or project portfolio.
- It is NOT intended to fund projects that are incremental improvements to current products or processes or for established work in [BETO's MYPP plan](#) or [current portfolio](#)

MYPP: [http://www.energy.gov/sites/prod/files/2015/03/f20/mypp\\_beto\\_march2015.pdf](http://www.energy.gov/sites/prod/files/2015/03/f20/mypp_beto_march2015.pdf)

Current portfolio: <http://www.energy.gov/eere/bioenergy/2015-project-peer-review>

# Topic Areas/Technical Areas of Interest

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There are (2) Topic Area for this FOA:

## Topic Area 1: Algae Feedstocks R&D

- Open to all proposals that seem to develop *novel, non-incremental* technologies that facilitate the goals of the Algae Feedstocks R&D platform, but are not represented in a significant way in the current Algae Feedstocks R&D project portfolio.

## Topic Area 2: Terrestrial Feedstocks Supply Logistics and Conversion R&D

- Open to all proposals that seem to develop *novel, non-incremental* technologies that facilitate the goals of the Terrestrial Feedstocks Supply Logistics and Conversion platforms, but are not represented in a significant way in the current Terrestrial Feedstocks Supply Logistics and Conversion R&D project portfolio.



# Applications specifically not of interest (1/3)

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- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
- Applications that propose exploratory, basic science research (earlier than TRL 2)
- Applications that are at the demonstration and deployment phase (later than TRL 5).
- Applications that 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 derivatives (e.g. amino acids from maize dextrose, glycerol from the transesterification of soybean oil).

# Applications specifically not of interest (2/3)

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For Topic 1 (Algae Feedstocks R&D)

- Recovery of nutrients from conversion and recycle back to cultivation
- Operation of national test beds facilities and replicate field trials
- Development of cultivation and harvest/processing technology and integration of developed technologies at field-scales to demonstrate increased biofuel intermediate yield
- Development, characterization, and valorization of finished biofuels and bioproducts from algal biomass
- Technologies for algae crop protection

# Applications specifically not of interest (3/3)

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For Topic 2 (Terrestrial Feedstocks Supply Logistics and Conversion R&D)

- Logistics components that are incremental modifications of existing/conventional agricultural or forestry equipment; or,
- Systematic logistic cost or performance models
- R&D in, or the improvement of, biochemical or thermochemical conversion processes for the production of alcohols;
- Catalyst discovery
- Computational modeling
- Cellulase development
- Organism development for fatty acids
- R&D or improvements to commercially available processes including:
  - Biogas production;
  - Biodiesel produced via transesterification;
  - Hydrotreating or hydrocracking of agronomic, natural plant oils, fats or greases.

# Recent BETO FOAs and Workshops

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## Recent Algae FOAs

- [DE-FOA-0000615: ADVANCEMENTS IN SUSTAINABLE ALGAL PRODUCTION](#)
- [DE-FOA-0000811: ALGAE BIOMASS YIELD \(ABY\)](#)
- [DE-FOA-0001162: TARGETED ALGAL BIOFUELS AND BIOPRODUCTS \(TABB\)](#)

## Recent Feedstock Logistics FOAs

- [DE-FOA-0001179: LANDSCAPE DESIGN FOR SUSTAINABLE BIOENERGY SYSTEMS](#)
- [DE-FOA-0000836: ADVANCED BIOMASS FEEDSTOCK LOGISTICS SYSTEMS II](#)

## Recent Conversion FOAs

- [DE-FOA-0000686: BIO-OIL STABILIZATION AND COMMODITIZATION](#)
- [DE-FOA-0000812: CARBON, HYDROGEN, AND SEPARATION EFFICIENCIES IN BIO-OIL CONVERSION PATHWAYS \(CHASE BIO-OIL PATHWAYS\)](#)
- [DE-FOA-0000719: INNOVATIVE BIOSYNTHETIC PATHWAYS TO ADVANCED BIOFUELS](#)
- [DE-FOA-0001085: BIOLOGICAL AND CHEMICAL UPGRADING FOR ADVANCED BIOFUELS AND PRODUCTS](#)
- [DE-FOA-0000996: RENEWABLE CARBON FIBERS](#)

Recent Workshops and Events <http://energy.gov/eere/bioenergy/past-meetings>

# Award Information

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<b>Total Amount to be Awarded</b>	Up to \$10 million* (Subject to the availability of appropriated funds)
<b>Average Award Amount</b>	EERE anticipates making awards that range from \$1,000,000 to \$2,000,000
<b>Types of Funding Agreements</b>	Cooperative Agreements
<b>Period of Performance</b>	12-24 months
<b>Expected TRL</b>	2-4
<b>Cost Share Requirement</b>	10% of total project costs for universities, non-profits and FFRDCs ; 20% of Total project costs otherwise

# Who's Eligible to Apply?

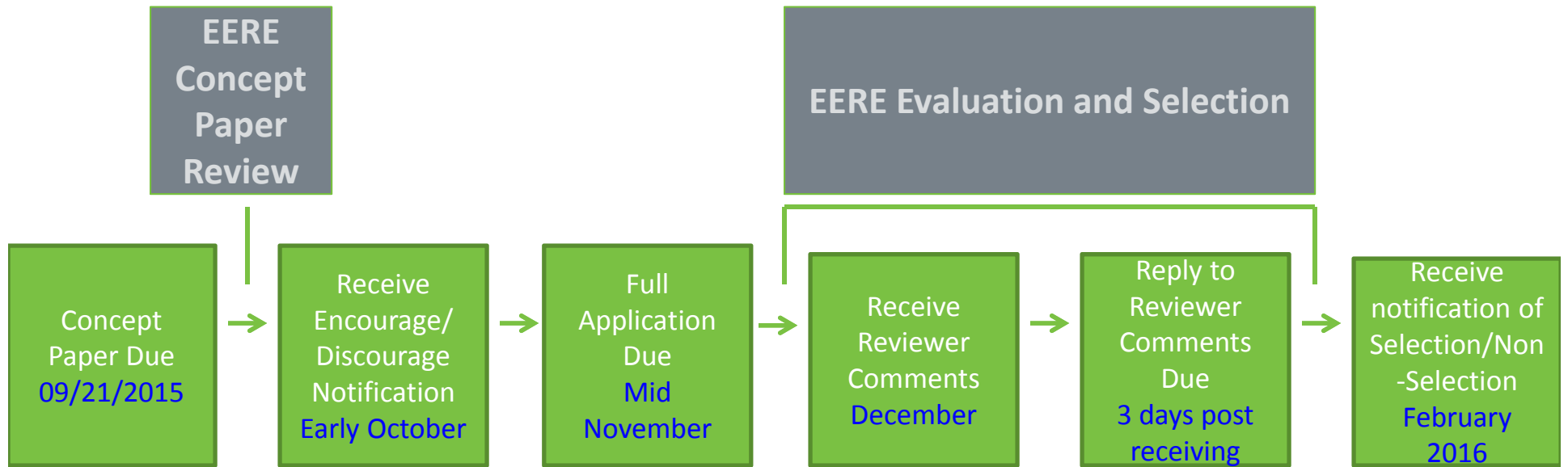
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Eligible applicants for this FOA include:

1. Individuals
2. Domestic Entities
3. Foreign Entities
4. Incorporated Consortia
5. Unincorporated Consortia

For more detail about each eligible applicant, please see Section III.A of the FOA for eligibility requirements

# FOA Timeline



EERE anticipates making awards by **April 2016**

# Concept Papers

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- Applicants must submit a Concept Paper (may submit multiple concept papers - provided that each concept paper describes a unique, scientifically distinct project.)
- The Concept Paper must include a technology description (See Section IV.C of the FOA)
  - The technology description is limited to 3 pages, with 1 page addendum.
- Concept Papers must be submitted by **9/21/2015** 5pm Eastern through EERE Exchange, and must meet the content and form requirements (See Section IV.C of the FOA).
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments
- A "discouraged" notification conveys EERE's lack of programmatic interest in the proposed project, and is intended to save an applicant time and money from submitting a full application; however, an applicant who receives a "discouraged" notification may still submit a full application.



# Concept Paper Criteria (Section V.A.1)

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- **Criterion 1: Extent to Which the Proposed Approach/Solution is New to the BETO Portfolio (50%)**
  - Clear description of the specific/problem barrier that the proposed technology will address
  - Concise description of the key idea of the proposed technology
  - Extent to which the proposed idea/solution is new/not represented in a significant way within the BETO portfolio.
- **Criterion 2: Overall Technical Merit (25%)**
  - The proposed technology is unique and innovative; and
  - The proposed approach is without major technical flaws.
- **Criterion 3: Impact of the Proposed Technology Relative to the State of the Art (25%)**
  - Method used to identify current state of the art technology
  - If technical success is achieved, the proposed idea would significantly improve technical and economic performance relative to the state of the art.
  - Extent to which the proposed idea/solution can contribute to the BETO goal of developing technologies that can produce cost-competitive and sustainable (>50% GHG reduction compared to petroleum equivalent) advanced biofuels and bioproducts.

# Full Applications

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- The Full Application includes:
  - **Technical Volume:** The key technical submission - info relating to the technical content, project team members, etc.
  - **SF-424 Application for Federal Assistance:** The formal application signed by the authorized representative of the applicant.
  - **SF-424A Budget & Budget Justification (EERE 159):** a detailed budget and spend plan for the project.
  - **Summary/Abstract for Public Release**
  - **Summary Slide**
  - **Administrative Documents:** E.g., U.S. Manufacturing Plan, FFRDC Authorization (if applicable), Disclosure of Lobbying Activities, etc

## Full Applications: Technical Volume Content (Section IV.D.2)

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- **Technical Volume: the key technical component of the Full Application (30 pages)**

Content of Technical Volume
Cover Page
Project Overview
Technical Description, Innovation and Impact
Workplan
Technical Qualifications and Resources

# Full Application Eligibility Requirements

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- Applicants must submit a Full Application by **11/13/2015**
- Full Applications are eligible for review if:
  - The Applicant is an eligible entity (Section III.A of FOA);
  - The Applicant submitted an eligible Concept Paper;
  - The Cost Share requirement is satisfied (Section III.B of FOA);
  - The Full Application is compliant (Section III.C of FOA of FOA); and
  - The proposed project is responsive to the FOA (Section III.D of FOA)
  - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

# Merit Review and Selection Process (Full Applications)

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- The Merit Review process consists of multiple phases that each include an initial eligibility review and a thorough technical review
- Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA
- Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions

# Evaluation criteria Weighting for Full Applications

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- Section V.A.2

	Criterion	Weighting
1	Technical Merit, Innovation, Impact	50%
2	Project Research and Commercialization Plan	40%
3	Team and Resources	10%

# Full Application Merit Review Criterion 1

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## Criterion 1: Technical Merit, Innovation, and Impact (50%)

### Technical Merit and Innovation

- Extent to which the proposed technology or process is clearly described
- Extent to which the proposed technology or process is novel and innovative
- Sufficiency of the innovative technology description and technical detail to assess whether the proposed project is technically sound and viable and includes relevant data, assumptions, calculations, technical assumptions, design rationale, alternatives, discussion of prior work, and literature.

### Impact of Technology Advancement

- The potential impact of the project on advancing the state of the art
- Extent to which the proposed idea/solution can contribute to the BETO goal of developing technologies that can produce cost-competitive and sustainable (>50% GHG reduction compared to petroleum equivalent) advanced biofuels and bioproducts.

# Full Application Merit Review Criteria 2

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## Criterion 2: Project Research and Commercialization Plan (40%)

### Research Approach and Workplan

- Degree to which the approach and critical path have been clearly described and thoughtfully considered; and
- Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan will succeed in meeting the project goals.

### Identification of Technical Risks

- Discussion and demonstrated understanding of the key technical risk areas involved in the proposed work, and the quality of the mitigation strategies to address them.



# Full Application Merit Review Criteria 2 (con't)

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## Criterion 2: Project Research and Commercialization Plan (40%)

### Baseline, Metrics, and Deliverables

- The level of clarity in the definition of the baseline, metrics, and milestones; and
- Relative to a clearly defined experimental baseline, the strength of the quantifiable metrics, milestones, and a mid-point deliverables defined in the application, such that meaningful interim progress will be made.

### Market Transformation Plan

- Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including mitigation plan; and
- Comprehensiveness of commercialization plan including but not limited to product development and/or service plan, commercialization timeline, financing, product marketing, legal/regulatory considerations including intellectual property, infrastructure requirements, data dissemination, U.S. manufacturing plan etc., and product distribution.

# Full Application Merit Review Criteria 3

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## Criterion 3: Team and Resources (10%)

- The capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work with a good chance of success. Qualifications, relevant expertise, and time commitment of the individuals on the team;
- The sufficiency of the facilities to support the work;
- Degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further development and commercial deployment of the proposed technologies;
- Level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and
- Reasonableness of budget and spend plan for proposed project and objectives.

# Replies to Reviewer Comments

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- EERE provides applicants with reviewer comments
- Applicants have from approximately 12/14/2015 to 12/17/2015 5p.m. Eastern to prepare a Reply to Reviewer Comments (“Reply”) to respond to comments
  - Page Limit: 2 Pages
- Applicants are not required to submit a Reply. It is optional.
- To be considered by EERE, a Reply must be submitted by the deadline and submitted through EERE Exchange.
- Please see Sections IV.F. and V.A.3 for additional information regarding Replies to Reviewer Comments

# Selection Factors

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The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA

## Program Policy Factors (Section V.C.1)

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- The Selection Official may consider program policy factors in making his/her selection decisions such as:
  - The degree to which the proposed project, including proposed cost shares, optimizes the use of available EERE funding to achieve programmatic objectives;
  - The level of industry involvement and demonstrated ability to commercialize energy or related technologies;
  - Whether the proposed project is likely to lead to increased employment and manufacturing in the United States;
  - The degree to which the proposed project represents diverse technology concepts, applications, and/or technical approaches;
  - Likelihood that the successful completion of the proposed project would result in a technology or solution that could be incorporated into the Bioenergy Technology Office multi-year program plan
- There are a number of additional program policy factors, as described in the FOA

# Registration Requirements

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- To apply to this FOA, Applicants must register with and submit application materials through EERE Exchange: <https://eere-Exchange.energy.gov>
- Obtain a “control number” at least 24 hours before the first submission deadline [eere-exchange.energy.gov](https://eere-exchange.energy.gov)
- Although not required to submit an Application, the following registrations must be complete to received an award under this FOA:

Registration Requirement	Website
DUNS Number	<a href="http://fedgov.dnb.com/webform">http://fedgov.dnb.com/webform</a>
SAM	<a href="https://www.sam.gov">https://www.sam.gov</a>
FedConnect	<a href="https://www.fedconnect.net">https://www.fedconnect.net</a>
Grants.gov	<a href="http://www.grants.gov">http://www.grants.gov</a>

# Means of Submission

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- Concept Papers, Full Applications, and Replies to Reviewer Comments must be submitted through EERE Exchange at <https://eere-Exchange.energy.gov>
  - EERE will not review or consider applications submitted through other means
- The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements can be found at <https://eere-Exchange.energy.gov/Manuals.aspx>

# Key Submission Points

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- Check entries in EERE Exchange
  - Submissions could be deemed ineligible due to an incorrect entry
- EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE Exchange
- Make sure you hit the submit button
  - Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again
- For your records, print out the EERE Exchange Confirmation page at each step, which contains the application's Control Number



# Applicant Points-of-Contact

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- Applicants must designate primary and backup points-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations
- It is imperative that the Applicant/Selectee be responsive during award negotiations and meet negotiation deadlines, expected to take place between after February 2016.
- Failure to do so may result in cancellation of further award negotiations and rescission of the Selection

# Statement of Substantial Involvement

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EERE has substantial involvement in work performed under Awards made following this FOA. EERE does not limit its involvement to the administrative requirements of the Award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

1. EERE shares responsibility with the Recipient for the management, control, direction, and performance of the Project.
2. EERE may intervene in the conduct or performance of work under this Award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
3. EERE may redirect or discontinue funding the Project based on the outcome of EERE's evaluation of the Project at that the Go/No Go decision point.
4. EERE participates in major project decision-making processes.

# Cost Share Contributions

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- Applicants must contribute a minimum of 20%\* of the total project costs for R&D projects.
- Contributions must be:
  - Specified in the project budget
  - Verifiable from the Prime Recipient's records
  - Necessary and reasonable for proper and efficient accomplishment of the project
- Every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred

\*Cost share waiver for universities, non-profits, and FFRDCs  
10% of total project costs.

# Allowable Cost Share

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- Cost Share must be allowable and must be verifiable upon submission of the Full Application
- Refer to the following applicable Federal cost principles:

Entity	Cost Principles
Educational Institutions	2 CFR Part 200 Subpart E
State, Local, and Indian Tribal Governments	2 CFR Part 200 Subpart E
Non-profit Organizations	2 CFR Part 200 Subpart E
For-profit Organizations	FAR Part 31

# Allowable Cost Share

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- Cash Contributions
  - May be provided by the Prime Recipient, Subrecipients, or a Third Party
- In-Kind Contributions
  - Can include, but are not limited to: personnel costs, indirect costs, facilities and administrative costs, rental value of buildings or equipment, and the value of a service, other resource, or third party in-kind contribution

# Unallowable Cost Share

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- The Prime Recipient may not use the following sources to meet its cost share obligations including, but not limited to:
  - Revenues or royalties from the prospective operation of an activity beyond the project period
  - Proceeds from the prospective sale of an asset of an activity
  - Federal funding or property
  - Expenditures reimbursed under a separate Federal Technology Office
  - Independent research and development (IR&D) funds
  - The same cash or in-kind contributions for more than one project or program

# Cost Share Payment

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- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on each billing period must reflect the cost sharing percentage negotiated
- In limited circumstances, and where it is in the government's interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.6 of the FOA.

# Questions

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- Questions about this FOA? Email [BETOIncubator2@ee.doe.gov](mailto:BETOIncubator2@ee.doe.gov)
  - All Q&As related to this FOA will be posted on EERE Exchange
    - You must select this specific FOA Number in order to view the Q&As
  - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website
- Problems logging into EERE Exchange or uploading and submitting application documents with EERE Exchange? Email: [EERE-ExchangeSupport@hq.doe.gov](mailto:EERE-ExchangeSupport@hq.doe.gov).
  - Include FOA name and number in subject line
- A digital copy of the slides will be posted on EERE Exchange following today's webinar