EERE 205: FOA Applicant Webinar Presentation

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

Buildings Energy Efficiency Frontiers & Innovation Technologies (BENEFIT) - 2016

BENEFIT2016@ee.doe.gov

FOA Webinar

DE-FOA-0001383

March 14, 2016

Anticipated Schedule:

FOA Issue Date:	**12/15/2015**
First Informational Webinar:	**12/21/2015, 2:00pm ET**
Submission Deadline for Concept Papers:	**1/29/2016, 5:00pm ET**
Second Information Webinar:	**3/14/2016, 2:00pm ET**
Submission Deadline for Full Applications:	**4/18/2016, 5:00pm ET**
Submission Deadline for Replies to Reviewer Comments:	**5/27/2016, 5:00pm ET**
Expected Date for EERE Selection Notifications:	**Summer 2016**
Expected Timeframe for Award Negotiations:	**Late Summer 2016**

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Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement **DE-FOA-0001383 ("FOA")** and adhere to the stated submission requirements.
- This presentation summarizes the contents of the 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 *BENEFIT2016@ee.doe.gov* .

Agenda

1) FOA Description
2) Topic Areas/Technical Areas of Interest
3) Award Information
4) Statement of Substantial Involvement
5) Cost Sharing
6) Concept Papers
7) Full Applications
8) Merit Review and Selection Process
9) Registration Requirements

FOA Description (1 of 3)

Buildings accounted for 40% (38.5 Quadrillion Units of BTUs, or Quads) of the primary energy consumption in the United States (US) in 2014, greater than that attributable to either industry (33%) or transportation (27%). Building energy consumption represents a cost of approximately $416 billion in 2012 dollars. This leads to buildings being responsible for 38% of the energy-related carbon dioxide emissions in the USA [2014 Annual Energy Outlook, http://www.eia.gov/forecasts/aeo/]. It is clear that energy efficiency measures in the buildings sector provide a tremendous opportunity to reduce energy consumption and costs, and to reduce greenhouse gas (GHG) emissions.

FOA Description (2 of 3)

The Emerging Technologies (ET) Program of the Building Technologies Office (BTO) supports applied research and development (R&D) for technologies and systems that contribute to reductions in building energy consumption. The goal of the ET Program is to enable the development of cost-effective technologies that can reduce building energy use intensity by 30 percent by 2020, and 45 percent by 2030, relative to the consumption of 2010 energy-efficient technologies. The ET Program strives to meet this goal by researching and developing cost-effective, energy-efficient technologies for residential and/or commercial buildings that are to be introduced into the marketplace. A portion of the ET budget provides support for the Department of Energy (DOE) national laboratories in five areas; solid-state lighting, heating, ventilation, and air conditioning (HVAC) (includes water heating and appliances), sensors & controls, windows & envelope, and modeling & tools. The majority of the remaining budget is distributed through competitive solicitations, including Funding Opportunity Announcements (FOAs) like this one, to allow all interested parties (corporations, universities, non-profits, as well as the national labs) to help advance technologies that lead to reduced primary energy consumption in buildings.

FOA Description (3 of 3)

- This FOA combines early-stage topics (Innovations) with later-stage, roadmap-driven topics (Frontiers) that complement the core funding provided by the program. Because of their different focuses (Innovations: early-stage; Frontier: later-stage, roadmap-driven), this FOA is divided into two sections; an Innovations and a Frontiers section with an additional optional Buildings University Innovators and Leaders Development (BUILD) supplement.
- Applications for a BUILD Supplement cannot be submitted as standalone applications.

Topic Areas/Technical Areas of Interest

INNOVATIONS Section:

- ***Topic 1: Open Topic for Energy Efficiency Solutions for Residential and Commercial Buildings***

  Within this topic, the following subtopics are of particular interest. BTO will consider other proposals within Topic 1, besides these subtopics.

  - HVAC&R Materials Joining Technologies
  - Technologies to Reduce the Balance-of-System Cost for Energy Efficient Windows & Envelope Retrofits
- ***Topic 2: Human-in-the-Loop Sensor & Control Systems***
- ***Topic 3: Infiltration Diagnostic Technologies***

FRONTIERS section:

- ***Topic 4: Plug and Play Sensor Systems***
- ***Topic 5: Advanced Air-Sealing Technologies for Existing Buildings***

Topic Areas: Innovations Section (Topic 1)

Topic 1: Open Topic for Energy Efficiency Solutions for Residential and Commercial Buildings

- The Building Technologies Office (BTO) seeks to develop technologies, techniques, and tools for making buildings more energy efficient. Currently supported technologies include heating, ventilating, and air conditioning (HVAC), water heating, lighting, building envelope (including windows), and sensors and controls, as well as building energy modeling.
- BTO specifically encourages submissions that augment our existing portfolio. Any innovative energy-efficiency technologies, approaches, or design tools which show a clear application to residential and/or commercial buildings with significant primary energy savings potential that are neither (a) already supported by BTO (see http://energy.gov/eere/buildings/emerging-technologies), nor (b) described explicitly in a BTO R&D roadmap (see http://energy.gov/eere/buildings/listings/technology-roadmaps), are eligible to apply under Topic 1, including technologies that enable more effective integration between buildings and the electricity grid.

FOA Description: Innovations Section (Topic 1 cont.)

Topic 1: Open Topic for Energy Efficiency Solutions for Residential and Commercial Buildings

The following subtopics are of particular interest to BTO:

- HVAC&R (Heating, Ventilation, Air Conditioning, and Refrigeration) Materials Joining Technologies
- Technologies to Reduce the Balance-of-System Cost for Energy Efficient Windows & Envelope Retrofits

Note that BTO will consider other submissions within Topic 1, besides these subtopics.

Topic Areas: Innovations Section (Topic 2)

Topic 2: Human-in-the-Loop Sensor & Control Systems

BTO seeks to develop novel hardware and software solutions for real-time occupant-centered control of the HVAC, lighting, and/or plug load end uses, which represent 13.5, 4.4, and 2.4 quads of primary building energy use, respectively. The primary goal of this subtopic is to move building control schemes beyond the typically over-simplified representation of occupant comfort and actions (e.g., static group-level occupancy schedules and comfort proxies) to enable real-time feedback on individual-level occupant presence and/or comfort via a local sensing infrastructure. Such occupant-centered control schemes can save energy by reducing unneeded space conditioning and lighting during unoccupied periods and by avoiding overly conservative operational settings when occupants are present in the space.

FOA Description: Innovations Section (Topic 3)

Topic 3: Infiltration Diagnostic Technologies

BTO seeks applications to develop novel infiltration diagnostic technologies that can be used to identify the location and quantify the extent of infiltration/exfiltration through the building envelope, which represented 4% of total U.S. primary energy use in 2010. Of particular interest are technologies that reduce variability in test results, reduce the complexity and effort required to test medium and large commercial buildings, do not disrupt building occupants during testing, and/or enable evaluation of façades under construction for air sealing quality assurance. Novel infiltration diagnostic technologies are a key enabler of advanced air-sealing products that address the energy savings opportunity associated with infiltration. Approaches using either or both direct measurement of air infiltration and indirect measurement (i.e., virtual sensing) using building sensor systems are of interest.

Topic Areas: Frontiers Section (Topic 4)

Topic 4: Plug and Play Sensor Systems

The objective of this topic is to improve the power performance, self-calibration and automatic recognition of sensor nodes in building applications with the goal of enabling true plug-and-play solutions at ≤$10/node that optimally interface with building management systems (BMS) and control schemes. Through innovations in both sensing hardware and open-source software, these solutions will accelerate sensor deployment and improve data collection capabilities for building operation, including HVAC, lighting, windows/window attachments, plug loads, and occupancy, that can be utilized in both existing and new controls systems. As an enabling technology within buildings, advancements in sensor and controls strategies can improve the efficiency of other buildings technologies, i.e. heating, ventilating, and air conditioning (HVAC), water heating, lighting, and windows/window attachments. Energy savings of up to 30% are estimated in buildings through improvements in climate, air quality, and occupancy sensors.

Topic Areas: Frontiers Section (Topic 4)

Topic 4: Plug and Play Sensor Systems

Table 4.1. Technical Targets

ID	Category	Value
4.1.1	Operational lifetime of power source	
	(a) Mean time to replacement (for batteries)	≥ 10 years
	(b) Mean time between charging (for energy harvesters)	≥ 72 hours
4.1.2	Calibration (lifetime duration of accurate sensor operation)	≥ 5 years
4.1.3	Positional Accuracy (distance from true node location)	≤ 2 feet
4.1.4	Nodes Correctly Located	≥ 90 %
4.1.5	# of Sensed Variables/Node	≥ 1

FOA Description: Frontiers Section (Topic 5)

Topic 5: Advanced Air-Sealing Technologies for Existing Buildings

BTO seeks applications for the development of advanced, cost-effective air-sealing technologies designed specifically for use in existing buildings, which comprise more than 98% of the current building stock. When integrated into the envelope, air-sealing technologies act as a barrier to infiltration or exfiltration of air and other flows. A next-generation air-sealing methodology will require new thought processes on how heat, air, and moisture flow are interrelated and how to best regulate them in order to improve overall building-level system performance, as opposed to a more traditional strategy that focuses on component improvements. Most importantly, to be suitable and cost-effective for existing buildings, these technologies should minimize envelope disassembly and installation complexity, and thus occupant disruption. Current air-sealing systems capable of controlling heat, air and moisture, for both residential and commercial buildings, are complicated and costly because three separate technologies, and often separate trades, are needed. One integrated technology system, allowing vertical integration of trades and installation steps would reduce the costs associated with high performance air sealing technologies. Existing systems also have inadequate quality control and verification of completeness during application, which reduces the efficacy of the sealing technology and leads to lower realized energy savings.

FOA Description: Frontiers Section (Topic 5)

Topic 5: Advanced Air-Sealing Technologies for Existing Buildings

Table 5.1. Cost and Performance Targets for Advanced Air-Sealing Technologies for Existing Buildings

ID	Category	Value
5.1.1	Performance Target	
	(a) Residential	$\leq$ 1 ACH50 (air changes per hour at 50 Pa of pressure)
	(b) Commercial	< 0.25 CFM75/ft^2 (cubic feet of air per minute per square foot sealed surface area at 75 Pa of pressure)
5.1.2	Cost Target	< \$0.5/ft^2 finished floor

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Topic Areas: BUILD Supplements Section

BUILD = Buildings University Innovators and Leaders Development

The BUILD effort makes available optional supplements to applications submitted in response to any of the topics described in this FOA. The BUILD Supplements are for a maximum of $100K/year for each year of a project, not to exceed $300K for a 3-year project for example. Prime recipients that are for-profit companies may apply for a BUILD Supplement to partner with a university. Equivalently, university prime recipients may apply for a BUILD Supplement to partner with a for-profit company. The BUILD Supplement cannot be submitted as a stand-alone application, and must describe technical work that supplements the work described in the primary application. The BUILD Supplement will be evaluated separately such that the primary application may be selected for an award with or without the BUILD Supplement.

Topic Areas: BUILD Supplements Section

BUILD = Buildings University Innovators and Leaders Development

The BUILD Supplements have the following objectives:

- Improving the competitiveness of American universities to conduct building energy-efficiency R&D
- Enabling American universities to develop stronger partnerships with industry and drive more innovation solutions from academia to the market
- Improving manufacturing education in American universities

Topic Areas: Innovations Section (All Topics)

All applicants proposing a technology innovation should provide the *Primary Energy Savings Technical Potential* (TBtu), and the *Simple Payback* (years).

All applicants proposing a technology, except for enabling technologies and design tools, will be required to use the BTO Market Calculator (http://trynthink.github.io/scout/calculator.html) to compute the total market size (in TBtu – Trillion British Thermal Units) in 2030.

$$\begin{bmatrix} \text{Primary Energy Savings} \\ \text{Technical Potential} \\ (\text{TBtu}) \end{bmatrix} = \begin{bmatrix} \text{\% Energy Savings} \\ \text{Over Typical New} \\ \text{Technology} \end{bmatrix} \times \begin{bmatrix} \text{2030 Energy Market} \\ \text{Size} \\ (\text{TBtu}) \end{bmatrix}$$

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BTO Market Calculator (http://trynthink.github.io/scout/calculator.html)

Market Calculator

Determine the energy use associated with building components, equipment, and other end uses in residential and commercial buildings.

The Market Calculator yields the estimated energy use and CO_2 emissions associated with losses through the building envelope and appliances and devices within residential and commercial buildings in the United States. The energy use and CO_2 emissions can be divided by building type, climate zone, technology type, and other factors indicated below. CO_2 emissions reported here do not include direct emissions associated with losses of working fluids from heating, cooling, water heating, and refrigeration systems.

To obtain an estimate for a market or markets of interest, the appropriate definitions must be selected below. In each category shown, at least one selection must be made to yield a complete market definition. In some categories, multiple selections are permitted. Categories where multiple selections are allowed are indicated as such. Selections for the relevant groups are made by simply clicking the appropriate terms. Selected terms are highlighted, and clicking them again will remove them from the chosen market segment. Follow the numbered steps below, making the desired selections at each step. Once selections have been made in each category, click the 'Update' button in the Market Size box on the right side of the screen to get the energy use in the selected market and the associated CO_2 emissions.

The underlying data for this calculator are from the 2015 Annual Energy Outlook (AEO) released by the U.S. Energy Information Administration (EIA) .

Market Size Update

0

TBTU (primary energy)

0

MMT CO_2

1. Choose a projection year — 2030

2. Select all relevant AIA climate zone(s) — 1 2 3 4 5

3. Choose residential or commercial buildings — Residential Commercial

4. Select all applicable building types
Hold down ctrl (Windows) or command (Mac) while clicking to select multiple types

5. Make selections from each of the dropdowns and button groups that appear below

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Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

- Applications that fall outside the technical parameters specified in Section I.B of the FOA.
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).
- Applications focused on the deployment of commercialized technologies.

Teaming Partner List

- To facilitate the formation of new project teams for this FOA, a Teaming Partner List is available on EERE Exchange at **DE-FOA-0001383**
- Any organization that would like to be included on this list should submit the following information to BENEFITFOATeamingRFI@ee.doe.gov:
  - Organization Name, Contact Name, Contact Address, Contact Email, Contact Phone, Organization Type, Area of Technical Expertise, and Brief Description of Capabilities
- By submitting this information, you consent to the publication of the above-referenced information
- By facilitating this Teaming Partner List, EERE does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List

Award Information

Total Amount to be Awarded	**$20M**
Average Award Amount	EERE anticipates making awards that range from $200K to $2M. Optional BUILD supplements are for a maximum of $100K/yr.
Types of Funding Agreements	Cooperative Agreements, Grants, Technology Investment Agreements, Work Authorizations, and Interagency Agreements
Period of Performance	12 to 36 months
Cost Share Requirement	20% of Total Project Costs, reduced to 10% for domestic institutions of higher education; domestic nonprofit entities; FFRDCs; or U.S. State, local, or tribal government entities

*Subject to the availability of appropriated funds

Statement of Substantial Involvement

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:

- EERE shares responsibility with the recipient for the management, control, direction, and performance of the Project.
- EERE reviews and approves in a timely manner project plans, including project management, testing and technology transfer plans, and recommending alternate approaches, if the plans do not address the critical programmatic issues.
- EERE participates in project management planning activities, including risk analysis, to ensure EERE Technology Office requirements or limitations are considered in performance of the work elements.
- 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.
- EERE promotes and facilitates technology transfer activities, including disseminating Technology Office results through presentations and publications.
- 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(s).
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

- Applicants must contribute a minimum of 20% of the total project costs for R&D projects, *unless the project qualifies for the Cost Share Reduction.*

- ***Cost Share Reduction***: EERE has reduced the Recipient Cost Share Requirement to **10%** for R&D activities where:
  - The Prime Recipient is a domestic institution of higher education; domestic nonprofit entity; FFRDC; or U.S. State, local, or tribal government entity; and
  - The Prime Recipient performs more than 50% of the project work, as measured by the Total Project Cost

Cost Share Contributions

- 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

Allowable Cost Share

- 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
For-profit entities	FAR Part 31
All other non-federal entities	2 CFR Part 200 Subpart E - Cost Principles

Allowable Cost Share

- 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

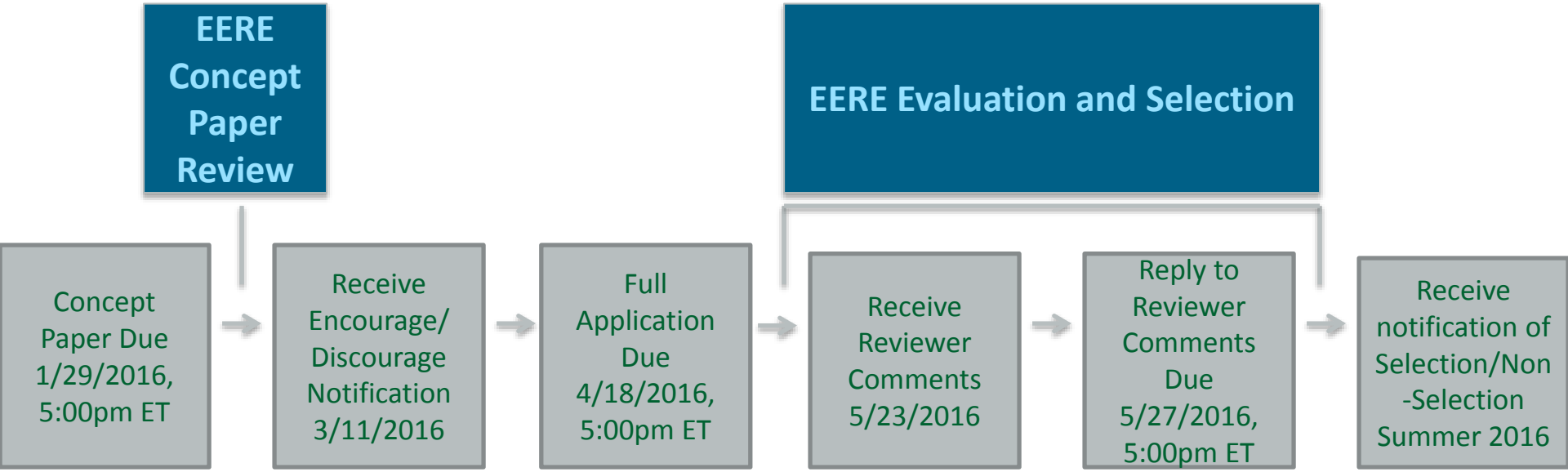
Unallowable Cost Share

- 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

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on <u>each invoice</u> must reflect, at a minimum, 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.7 of the FOA.

FOA Timeline



EERE anticipates making awards by Late Summer 2016

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Full Applications

- 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:** a detailed budget and spend plan for the project.
  - **Summary 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

- **Technical Volume: the key technical component of the Full Application**

Content of Technical Volume	Suggested % of Technical Volume
Cover Page	
Project Overview	10%
Technical Description, Innovation and Impact	30%
Workplan and Market Transformation Plan	40%
Technical Qualifications and Resources	20%
Optional BUILD Supplements	Additional 5 pages

Full Application Eligibility Requirements

- Applicants must submit a Full Application by 4/18/2016, 5:00pm ET
- Full Applications are eligible for review if:
  - The Applicant is an eligible entity per Section III.A of the FOA;
  - The Applicant submitted an eligible Concept Paper;
  - The Cost Share requirement is satisfied per Section III.B of the FOA;
  - The Full Application is compliant per Section III.C of the FOA; and
  - The proposed project is responsive to the FOA per Section III.D
  - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Who's Eligible to Apply?

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.

Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are <u>not eligible</u> to apply for funding.

For the optional BUILD Supplements eligibility is limited as follows:

- If the Prime Recipient is a university, the BUILD Supplement must describe a collaboration with an industrial partner (a for-profit company or companies).
- If the Prime Recipient is a for-profit company, the BUILD Supplement must describe a collaboration with a university (or multiple universities) partner
- BUILD supplements are not allowed between universities and any other type of partner besides for-profit companies.

Multiple Applications

Applicants may submit more than one application to this FOA, provided that each application describes a unique, scientifically distinct project

Merit Review and Selection Process (Full Applications)

- 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

Technical Merit Review Criteria

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

Technical Merit and Innovation

- Extent to which the proposed technology or process is innovative and has the potential to advance the state of the art;
- Degree to which the current state of the technology and the proposed advancement are clearly described;
- Extent to which the application specifically and convincingly demonstrates how the applicant will move the state of the art to the proposed advancement; and
- Sufficiency of technical detail in the application to assess whether the proposed work is scientifically meritorious and revolutionary, including relevant data, calculations and discussion of prior work in the literature with analyses that support the viability of the proposed work.

Impact of Technology Advancement

- How the project supports the topic area objectives and target specifications and metrics; and
- The potential impact of the project on advancing the state of the art.

Technical Merit Review Criteria - Continued

Criterion 2: Project Research and Commercialization Plan (30%)

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.

Technical Merit Review Criteria - Continued

Criterion 2, Continued

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 Management Plan and Open Source Software Distribution Plan , U.S. manufacturing plan etc., and product distribution.

Technical Merit Review Criteria - Continued

Criterion 3: Team and Resources (20%)

- 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.

Technical Merit Review Criteria - Continued

BUILD Supplements (Optional)

Criterion 1: BUILD Supplements (only applies to the optional BUILD Supplements)
Weight: 100%

- Quality of the proposed BUILD Supplement in addressing one or more of the BUILD objectives:
  (i) Improving the competitiveness of American universities to conduct building energy-efficiency R&D
  (ii) Enabling American universities to develop stronger partnerships with industry
  (iii) Improving manufacturing education in American universities
- Relationship between the BUILD Supplement and the proposed work described in the primary application, including the technical value of the work done via the supplement
- Strength of student involvement, including the number of students involved (undergraduate and graduate) and annual go/no-go milestones that describe substantial engagement between the university and for-profit company partner(s).

Replies to Reviewer Comments

- EERE provides applicants with reviewer comments
- Applicants are not required to submit a Reply - it is optional
- To be considered by EERE, a Reply must be submitted by 5/27/2016, 5:00pm ET and submitted through EERE Exchange
- Content and form requirements:

Section	Page Limit	Description
Text	2 pages max	Applicants may respond to one or more reviewer comments or supplement their Full Application.
Optional	1 page max	Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable.

Selection Factors

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

The Selection Official may consider the following program policy factors in making his/her selection decisions:

- The degree to which the proposed project, including proposed cost share, 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;
- Technical, market, organizational, and environmental risks associated with the project;
- Whether the proposed project is likely to lead to increased employment and manufacturing in the United States;
- Whether the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty; and
- Whether the proposed project will advance the goals of the Climate Action Champion initiative, as committed to by the designated Champion pursuant to its designation agreement. The Climate Action Champion initiative goals include improving climate resilience and reducing greenhouse gas emissions.

Registration Requirements

- 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
- 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	http://fedgov.dnb.com/webform
SAM	https://www.sam.gov
FedConnect	https://www.fedconnect.net
Grants.gov	http://www.grants.gov

Means of Submission

- 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

- 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

- 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
  - Failure to do so may result in cancellation of further award negotiations and rescission of the Selection

Questions

- Questions about this FOA? Email *BENEFIT2016@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.
  - Include FOA name and number in subject line