

Good [afternoon, everyone and welcome to our webinar. Thank you for your interest in the U.S. Department of Energy's efforts on renewable energy and energy efficiency. You are joining us for the Informational Webinar for Applicants and other Interested parties for the [Building America 2017 Industry Partnerships for High Performance Housing Innovation](#)

Funding Opportunity Announcement, or FOA, which was issued on November 3rd, 2016. My name is Eric Werling and I am a Program Manager in the Building Technologies Office within the DOE's Office of Energy Efficiency and Renewable Energy. We hope to cover the basic aspects of the Funding Opportunity Announcement during this webinar.

Before we begin, I'd like to draw your attention to the email address on the left hand side of this cover page. This is the official mailbox to direct all of your questions during the entire FOA process. Please do not contact EERE individuals directly with questions, including myself. All questions received at this mailbox are posted publicly at the Q&A section of the FOA page on EERE Exchange in an anonymous way. The official answers to your questions will typically also be posted within 3 business days. Please be careful not to submit any language that might be business sensitive, proprietary or confidential.

We will have a live Q&A period at the end of the webinar, so please type in your questions as they come up. Again, please be careful not to submit any language that might be business sensitive, proprietary or confidential. We will be posting all Q&As to EERE Exchange after the webinar. There may be questions that require further discussion with

EERE staff and will not be addressed today. If you don't hear your question during the Webinar, please check EERE Exchange in the next few days as the answer will be posted there.

Also, just to be clear, there are no particular advantages or disadvantages to the application evaluation process with respect to participating on the webinar today. Your participation is completely voluntary.

Let's get started!

Anticipated Schedule:

FOA Issue Date:	11/03/2016
FOA Informational Webinar:	11/07/2016
Submission Deadline for Concept Papers:	12/07/2016
Submission Deadline for Full Applications:	02/01/2017
Submission Deadline for Replies to Reviewer Comments:	03/13/2017
Expected Date for EERE Selection Notifications:	June 2017
Expected Timeframe for Award Negotiations:	August 2017

This slide shows the anticipated schedule for the FOA. The FOA has already been posted, and we are conducting the FOA Informational Webinar now. Please note that there are a few requirements that we will go over in the presentation that are different than in past FOAs, such as Replies to Reviewer Comments – we will cover all requirements for this FOA later in the presentation.

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement (“FOA”) **DE-FOA-0001630** and adhere to the stated submission requirements.
- This presentation summarizes 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 Building_America_FOA@ee.doe.gov

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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

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The agenda for this presentation is as follows: READ SLIDE

We encourage you to have a copy of the FOA in front of you for reference as we go through the presentation.

FOA Description

The Office of Energy Efficiency and Renewable Energy (EERE), within the U.S. Department of Energy (DOE), invests in high-risk, high-value research, development and deployment (RD&D) in energy efficiency and renewable energy technologies.

With this FOA, the Residential Buildings Integration (RBI) Program will select additional Building America project teams in 2017 to accelerate improvements in existing and new residential buildings using an integrated building systems approach.

This FOA builds on work begun in the 2015 and 2016 Building America FOAs, and is focused primarily on addressing remaining gaps and objectives in the [Building America Research to Market Plan](#).

Building America seeks to fund **projects with a high potential for significant impact**. Successful applicants will present a relevant problem statement, compelling hypothesis and/or solution, and effective research question(s). Successful applications will also include a well-developed plan, demonstrating not only an innovative idea of a technology/practice, but also a clear and rational way of executing the idea and enabling wide-scale adoption by the industry. Teams should have strong partnerships with builders and/or manufacturers in the industry.

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[Insert FOA Description language directly from Section 1.A of the FOA. In order to maintain the integrity of the FOA Process, the language from the FOA cannot be revised for this presentation. Additionally, new information (written or verbal) cannot be added to the presentation.

Note: include all technical information related to the FOA Description in this section of the webinar. It is understood that there will be more than one slide for this section.

Topic Areas/Technical Areas of Interest

Topic 1: Building America Technology to Market Roadmaps: Selected Objectives

Topic 1 focuses on selected objectives of the Technology to Market Roadmaps, which address three integrated technology gaps focused on achieving high performance residential buildings and overcoming market barriers to adoption at scale.

- A) High Performance Building Envelope Assemblies and Systems;
- B) Optimized Comfort Systems for Low-Load Homes; and
- C) High Performance Ventilation Systems & IAQ Strategies.

This topic applies to new construction and/or existing home solutions. Building America is seeking compelling projects that complement – and do not duplicate – ongoing Roadmap research. See Building America’s current research projects: <http://energy.gov/eere/buildings/building-america-research-teams>



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Insert FOA Description language directly from Section 1.B of the FOA. In order to maintain the integrity of the FOA Process, the language from the FOA cannot be revised for this presentation. Additionally, new information (written or verbal) cannot be added to the presentation.

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Topic 1: Roadmap A. High Performance Moisture-Managed Building Envelope Solutions

Selected Roadmap Objectives:

• **Moisture risk management**, evaluating the likelihood of moisture issues in priority envelope assemblies, and developing guidance for minimizing this risk. This topic primarily focuses on solutions for U.S. climate zones with the greatest need – i.e., Hot-Humid, Mixed-Humid, and Cold climates.

- Conduct moisture risk assessment field testing of priority high-R assemblies & materials.
- Develop empirically validated moisture loads for occupied homes to be applied when performing moisture durability risk analysis. Moisture loads that need quantification and validation include water leakage through cladding, internal moisture generation, construction moisture, and air leakage. Data is sought that identifies the range of the probable moisture load and its frequency. Ideally, a probabilistic distribution of these loads would be developed from the field data that is compiled. When applicable, impact of the climate zone should be considered.
- Develop and validate low-cost and easy-to-install materials and/or systems that are more tolerant of moisture intrusion into the envelope assembly.

Problem: High-R building envelope assemblies (i.e., foundation, walls, roof) are the biggest potential home energy saving measures - heating and cooling loads are over 40% of home energy use on average and can be much higher. However, high-R building envelope assemblies without assured performance can increase moisture risk. Current solutions are expensive and/or unfamiliar to many builders, contractors and code officials, and some solutions are limited by IRC code barriers (i.e., fire, structural).

Topic 1: Roadmap A. High Performance Moisture-Managed Building Envelope Solutions

Selected Roadmap Objectives (continued...):

• **High-performance envelope systems**, developing best practice guidance and specifications for envelope systems with high thermal performance and minimal risk (e.g., moisture risk, structural risk, and fire risk) based on validated performance. For these objectives, “high thermal performance” is defined as exceeding the thermal performance requirements of IECC 2015:

- Validate/demonstrate high performance envelope specifications in real world new construction test homes. Successful projects will verify the long term durability of the building envelope component in appropriate U.S. climate zones.
- Develop low-cost, high-performance envelope retrofit systems and conduct field tests on real-world existing homes to validate performance in each climate zone. Field demonstration should be undertaken in a manner that verify the long term durability of the building envelope improvement.
- Develop factory produced high-R envelope systems that increase envelope energy performance, reduce durability risk, improve constructability, and reduce overall project costs, compared to traditional in-field construction.

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Topic 1: Roadmap B. Optimal Comfort Systems

Selected Comfort Roadmap Objectives:

- **Innovative Equipment and Systems** capable of efficiently and consistently conditioning homes, including dehumidification, distribution, and smart systems (sensors & controls):
 - Validate innovative comfort systems in low-load new homes that improve efficiency, effectively manage comfort, and are easy to install properly; Develop and validate equipment replacement strategies that are compatible with existing distribution systems and achieve proper distribution and comfort in reduced-load existing homes;
 - Develop and validate innovative distribution systems that are easily installed in existing homes and minimize or eliminate distribution system losses;
 - Develop and validate innovative dehumidification equipment and approaches (add-on or integrated) for whole-house humidity control in new and/or existing homes; and
 - Develop and validate 'smart' components and/or systems that enable optimized comfort control and energy efficiency, including sensors, controls, learning capabilities, and/or automated fault detection and diagnostics (FDD).

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Problem: The performance of HVAC systems, especially distribution system effectiveness and humidity control, is typically suboptimal in American homes, and it is often significantly compromised because of design and/or installation issues. Compromised HVAC system performance can result in energy waste, building durability problems, and occupant discomfort.

These can be critical risks in low-load homes, which often have lower HVAC system airflows and/or less operation time. Current solutions are labor-intensive and/or expensive.

Low load homes can be either high performance new homes or existing homes with reduced loads (compared to the original design) due to improvements in the envelope, distribution system, or other energy upgrades. Furthermore, when home improvements are accomplished incrementally, energy efficient HVAC upgrade strategies are needed that effectively accommodate future improvements to the building envelope (i.e., “low-load ready”).

Topic 1: Roadmap B. Optimal Comfort Systems

Selected Comfort Roadmap Objectives (continued...):

- **Design and Installation** methods and tools to ensure systems achieve high levels of performance and consistently provide occupant comfort:
 - Validate system design procedures for low load homes through measured energy and comfort performance in various house types and climates;
 - Evaluate the potential energy savings, comfort improvement, and increased equipment lifespan associated with a) commissioning new HVAC systems in new or existing homes and b) retro-commissioning existing HVAC systems;
 - Develop best practice guidance on system design, installation, and commissioning for low load homes;
 - Develop best practice guidance on retro-commissioning and maintenance for optimal performance;
 - Develop and validate innovative field measurement approaches and tools to reduce HVAC system faults for a) commissioning new HVAC systems in new construction and system replacement in existing homes; and b) retro-commissioning to address faults in existing HVAC systems.

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Topic 1: Roadmap C. Optimal Ventilation and IAQ Solutions

Selected IAQ Roadmap Objectives:

- **Targeted pollutant solutions** that effectively control pollutants of concern as close to the pollutant source as possible:
 - o Validate/demonstrate targeted IAQ solutions for new and/or existing homes, such as practical and effective combustion safety solutions for home retrofit applications, advanced filtration and air cleaning equipment; and
 - o Develop low-cost solutions to efficiently and effectively provide adequate makeup air for combustion appliances and vented appliances (e.g., dryers and high-capacity range hoods) in tight new homes and/or retrofitted existing homes.

- **Smart ventilation technology solutions** that deliver adequate outside air for general pollutant dilution and odor control, while optimizing the delivery to minimize energy associated costs:
 - o Develop IAQ and humidity control strategies that optimize whole house energy use based on occupancy, indoor and outdoor pollutant levels, and/or indoor and outdoor temperature and RH in new and/or existing homes; and
 - o Validate/demonstrate improved IAQ and energy performance of low-cost smart ventilation strategies in new and existing homes.

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Problem: Basic home ventilation has become standard in some areas, but current solutions are limited (climate, controls, sources, costs) and standards do not help optimize either IAQ or energy performance; significant IAQ risks remain, especially in low-load homes and highly energy efficient building envelope retrofits.

Topic Areas/Technical Areas of Interest (continued...)

Topic 2: Baseline Indoor Air Quality (IAQ) Field Study in Occupied New US Homes

Goal: Collect pollutant, airflow, building and HVAC system characteristics and conduct analyses in a broad range of occupied new homes (post-2012) and climates. This work will inform standards and technology development to protect IAQ as new homes are built to more stringent energy efficiency standards in the future.

This topic involves a national baseline study of occupied homes built to current energy codes (e.g., IECC 2012/2015), to better characterize the indoor air quality (IAQ) of new U.S. homes. This information will lead to improved guidance, valuable input to future standards and code changes, and will help prioritize future IAQ research.

Topic 2 (continued...)

Specific Objectives:

- Measure time-integrated concentrations and temporal profiles of humidity and established contaminants of concern; monitor the use of ventilation equipment; and track activities that impact air pollutant emissions and removal processes in typical homes in various climate zones.
- Characterize the prevalence, type, and installed performance of mechanical ventilation equipment in new homes; explore regional variations in system designs and performance.
- Investigate associations of indoor humidity and contaminant levels with the presence of control measures including ASHRAE-62.2 compliant mechanical ventilation, envelope air tightness, mechanical system commissioning, and potentially low-emitting materials.

Topic 2 (continued...)

The study will be centrally designed, and all funded projects will use the same, to-be-determined, EERE-approved methodology and protocols for data collection and reporting. The methodology will be similar to the Healthy Efficient New Gas Homes (HENGH) Field Study Protocol (<http://eetd.lbl.gov/publications/healthy-efficient-new-gas-homes-hen-0>). This study is intended to cover several representative climate zones and geographic regions. The scope of this study will include single-family and multi-family homes, except those with shared ventilation systems among units.

Topic 2 (continued...)

Team Responsibilities will include:

- Recognize that DOE considers this study to be research involving human subjects; as such, study protocols must be reviewed and approved by an institutional review board and research staff must receive appropriate training and follow approved protocols.
- Develop and conduct local/regional recruiting strategy (to be pre-approved) and communications with study participants.
- Complete training for field measurements and sensor package installation.
- Execute centrally designed study protocols in each home, including:
 - Characterization of home and mechanical equipment features that are relevant to IAQ risks and protections.
 - Measure and assess equipment and component performance.
 - Preparation, installation and removal of devices and samplers to measure pollutant concentrations, environmental parameters, and equipment usage.
 - Proper tracking, handling and shipping of air samples to a laboratory for analysis.
- Conduct primary QA/QC review of collected time-resolved data and upload all data to web-based data repository.
- Participate in reporting of local and national results to local stakeholders.

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 for federal funding of construction or renovation costs.
- Topic 2 applications with field testing of homes in California.

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Award Information

Total Amount to be Awarded	\$5,500,000*
Average Award Amount	EERE anticipates making awards that range from \$300,000 to \$1,000,000
Types of Funding Agreements	Cooperative Agreements, Grants, Technology Investment Agreements, Work Authorizations, and Interagency Agreements
Period of Performance	24 to 36 months
Cost Share Requirement	20% of Total Project Costs

*Subject to the availability of appropriated funds



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EERE expects to make approximately \$5.5 million of Federal funding available for new awards under this FOA subject to the availability of appropriated funds. The average award amount is anticipated to range from \$300K to \$1 million.

EERE intends to fund mostly cooperative agreements under this FOA, but may also fund Grants, TIAs, Work Authorizations, and Interagency Agreements. Cooperative Agreements include Substantial Involvement, which we will discuss next.

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 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 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.
- EERE participates in major project decision-making processes.

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- Under cooperative agreements, there will be what is known as “substantial involvement” between EERE and the Recipient during the performance of the project.
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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

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Applicants who believe their project qualifies for the reduced recipient cost share must be able to provide verification that the above requirements are satisfied

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

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The total budget presented in the application must include both Federal (DOE), and Non-Federal (cost share) portions, thereby reflecting TOTAL PROJECT COSTS proposed. All costs must be verifiable from the Recipient's records and be necessary and reasonable for the accomplishment of the project.

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

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Cost Share must be allowable and must be verifiable upon submission of the Full Application. Please refer to this chart for your entity's applicable cost principles. It is imperative that you follow the applicable cost principles when creating your budget for the full application.

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

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Cost share can be provided in cash and/or in-kind. It can be provided by the Prime Recipient, subs, or a third party.

The basic definition of in-kind cost share is the donation of personnel time, equipment, facilities, or other items that an organization will contribute to the project. It can take many forms, each of which must be assigned a dollar value to be included in the budget. Some examples of in-kind cost share are the donation

of work hours, facility use, equipment use.

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

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Be aware that there are items that are considered unallowable cost share. If a cost is considered unallowable, it cannot be counted as cost share. This slide provides some examples of cost share that is unallowable.

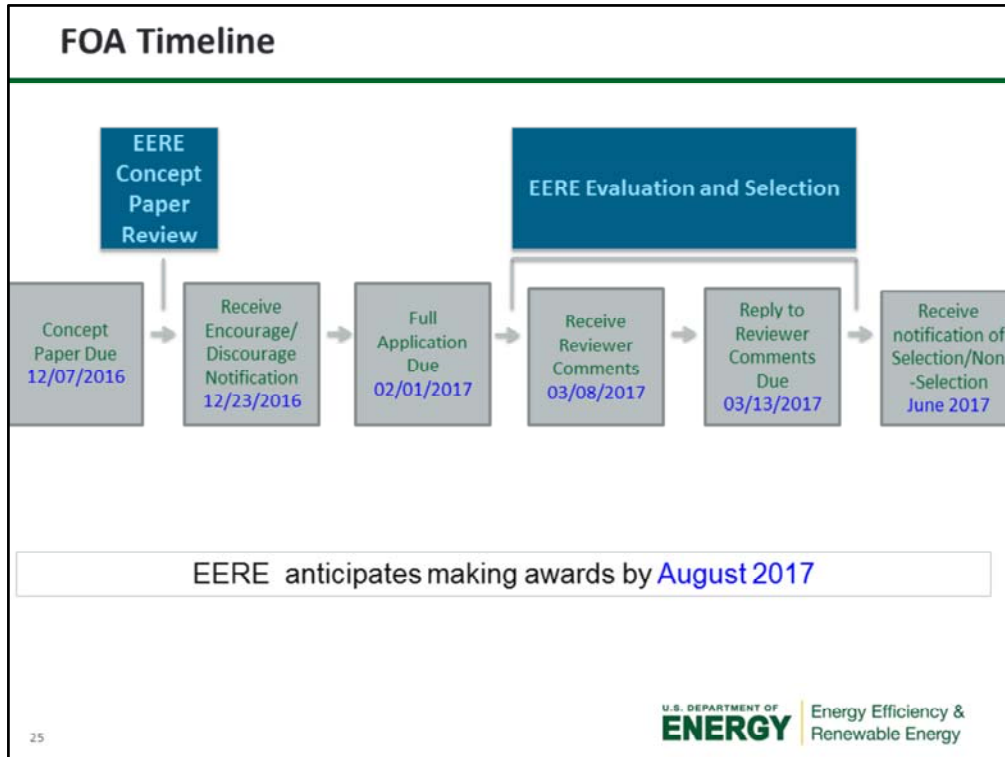
Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on each invoice 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.

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Cost Share must be provided on an invoice basis, unless a waiver is requested and approved by the DOE Contracting Officer.



EERE’s Evaluation and Selection Process is shown in blue here. EERE will review Concept Papers, Replies to Reviewer Comments (which we will cover later in the presentation), and Full Applications. The gray boxes represent the actions that apply to applicants throughout the FOA process.

Concept Papers

- Applicants must submit a Concept Paper
 - Each Concept Paper must be limited to a single concept or technology
- The Concept Paper must include a technology description (See [Section IV.C](#) of the FOA)
 - The technology description is limited to 3 pages
 - The Concept Paper can also include graphs, charts, or other data (limited to 3 additional pages)
- Concept Papers must be submitted by [12/07/2016, 5:00 PM Eastern Time](#), through EERE Exchange, and must comply with the content and form requirements in [Section IV.C](#) of the FOA
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments

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Concept Papers are required for this FOA. Concept Papers are brief descriptions of the proposed project. It allows applicants to submit their ideas with minimal time and expense. EERE will provide feedback on the proposed project so the Applicant can make an informed decision whether to expend additional resources to prepare a full application.

If an applicant fails to submit an eligible Concept Paper, the applicant is not eligible to submit a Full Application.

Concept Papers must be submitted by [12/07/2016, 5:00 PM](#), through EERE Exchange.

EERE will provide applicants with either an encouraged or discouraged notification. A “discouraged” notification conveys EERE’s lack of programmatic interest in the proposed project. An applicant who receives a “discouraged” notification may still submit a Full Application.

Concept Paper Review, Topic 1: Building America Technology to Market Roadmaps: Selected Objectives

EERE evaluates the Concept Papers based on the following technical review criteria:

Quality, innovativeness, soundness, adequacy and completeness of the proposed project and the likelihood that the applicant will effectively and efficiently accomplish the work and meet the objectives.

- **Responsiveness:** The proposed work clearly addresses specific objectives of the FOA and/or Building America Roadmaps;
- **Approach:** The applicant clearly describes the proposed technology or approach, describes how the project is unique and innovative, and how it will advance the current state-of-the-art;
- **Risk:** The applicant has identified risks and challenges, including possible mitigation strategies;
- **Impact:** The applicant has shown the potential impact that the proposed project would have on the residential market;; and a method for measurement of success;
- **Team/Resources:** The applicant has the qualifications, experience, capabilities and other resources necessary to complete the proposed project; and
- **Budget/Cost Share:** The applicant demonstrates the ability to leverage cost share and other resources.

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EERE will provide applicants with (1) either an “encouraged” or “discouraged” notification, and (2) the reviewer comments.

Please note that regardless of the date applicants receive the Encourage/Discourage notifications, the submission deadline for the

Full Application remains the date stated on the
FOA cover page

Concept Paper Review, Topic 2: Baseline Indoor Air Quality (IAQ) Field Study in Occupied New US Homes

EERE evaluates the Concept Papers based on the following technical review criteria: Quality, innovativeness, soundness, adequacy and completeness of the proposed project and the likelihood that the applicant will effectively and efficiently accomplish the work and meet the objectives.

- The proposed work, if successfully accomplished, would clearly meet the objectives as stated in Topic 2 of the FOA;
- The applicant has identified risks and challenges, including possible mitigation strategies;
- The applicant has the qualifications, capabilities and other resources necessary to complete the proposed study, including experience and equipment to conduct required field tests of residential ventilation, space conditioning equipment, and IAQ in occupied homes; and
- The applicant demonstrates the ability to leverage cost share and other resources, and recruit homeowners for in-home testing, representing a diverse and appropriate set of house characteristics and occupants.

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Please note that regardless of the date applicants receive the Encourage/Discourage notifications, the submission deadline for the

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FOA cover page

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

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The Full Application includes:

Technical Volume: The key technical submission. Applicants submit info pertaining 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. Includes cost share amounts and Federal certifications and assurances.

SF-424A Budget & Budget Justification: Budget documents that asks applicants to submit a detailed budget and spend plan for the project.

Summary for Public Release: Applicants must provide a 1 page summary of their technology appropriate for public release.

Summary Slide: Powerpoint slide that provides quick facts about the technology. Slide content requirements are provided in the FOA.

Administrative Documents: E.g., U.S. Manufacturing Plan, FFRDC Authorization (if applicable), Disclosure of Lobbying Activities, etc.

Full Applications: Technical Volume Content, Topic 1

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

Content of Technical Volume	TOPIC 1: Suggested % of Technical Volume	Topic 2: Suggested % of Technical Volume
Cover Page	-	-
Project Overview	10%	10%
Technical Description, Innovation and Impact	30%	-
Workplan and Market Transformation Plan	40%	60%
Technical Qualifications and Resources	20%	30%

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The key technical component of the full application is the Technical Volume, which helps applicants frame the technical information that the application will be evaluated on. The Technical Volume provides information regarding what the project is, how the project tasks will be accomplished, and the project timetable.

The Technical Volume is comprised of a cover page, project overview, technical description, innovation, and impact, workplan, technical qualifications and resources and [FOA Specific Requirements]. Please note that the percentages listed here are suggested and are not mandatory.

- The Cover Page will be a one page document and provides basic information on their project, such as title, topic area, points of contact, etc.
- The Project Overview constitutes approximately 10% of the Technical Volume and provides information on project background, goals, impact of EERE funding
- The Technical Description, Innovation, and Impact section is approximately 30% of the Technical Volume. It provides information on project relevance and outcomes, feasibility, and innovation/impacts. This ultimately provides the justification as to why EERE should fund the project.
- The Workplan is the key element to the Technical Volume, and constitutes approximately 40% of the Technical Volume. It details the proposed milestones and project schedule. If selected for award negotiations, the Workplan serves as the starting point when negotiating the Statement of Project Objectives.
- The Technical Qualifications and Resources section is approximately 20% of the Technical Volume. It provides applicants and opportunity to provide information about the proposed project team and demonstrate how the applicant **will** facilitate the successful completion of the proposed project.

Full Application Eligibility Requirements

- Applicants must submit a Full Application by [02/01/2017 5:00PMET](#)
- 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](#); 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.

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As we previously pointed out, applicants must submit full applications by 02/01/2017. EERE will conduct an eligibility review, and full application will be deemed eligible if: READ SLIDE

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 not eligible to apply for funding.

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Please note that nonprofit organizations described in Section 501(c)(3) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

Also, note that all Prime Recipients receiving funding under this FOA must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. If a foreign entity applies for funding as a Prime Recipient, it must designate in the Full Application a subsidiary or affiliate incorporated (or otherwise formed) under the laws of a State or territory of the United States to be the Prime Recipient. The Full Application must state the nature of the corporate relationship between the foreign entity and domestic subsidiary or affiliate.

Who's Eligible to Apply? (Cont...)

DOE/NNSA Federally Funded Research and Development Centers (FFRDCs) and DOE Government-Owned, Government-Operated laboratories (GOGOs) are eligible to apply for funding as a Prime Recipient or Subrecipient, with the following exceptions:

- National Renewable Energy Laboratory (NREL) is not eligible as a Prime Recipient or Subrecipient for either Topic 1 or 2,
- Lawrence Berkeley National Lab (LBNL) is not eligible as a Prime Recipient or Subrecipient for Topic 2 and for Topic 1 projects that address objectives of the Optimal Ventilation & IAQ Solutions Roadmap,
- Oak Ridge National Lab (ORNL) is not eligible as a Prime recipient or Subrecipient for Topic 1 projects that address objectives of the High Performance Moisture Managed Envelope Solutions Roadmap.

Multiple Applications

Applicants may submit more than one application to this FOA, provided that each application describes a unique, scientifically distinct project but each individual application must be submitted to either Topic 1 or Topic 2, not both.

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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

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Technical Merit Review Criteria- Topic 1

Topic 1: Building America Technology to Market Roadmaps: Selected Objectives

Criterion 1: Technical Merit, Innovation, and Impact (40%)

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 and/or market transformation;
- 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 innovation; 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 effectively the proposal addresses specific objectives of the Building America Technology to Market Roadmaps; and
- The potential quantifiable impact of the project on advancing results in the market if successful.

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Applications will be evaluated against the following merit review criteria:

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Technical Merit Review Criteria – Topic 1 Continued

Criterion 2: Project Approach and Market Transformation Plan (40%)

Project Approach, Workplan and SOPO

- 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 and SOPO 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 and response strategies to address the identified risks.

Baseline, Metrics, and Deliverables

- The level of clarity in the definition of the baseline, metrics, and milestones;
- The strength of the quantifiable metrics, milestones, and a mid-point deliverables defined in the application, such that meaningful interim progress will be made; and
- The degree to which defined metrics and milestones reflect the goals of the Building America Roadmaps

Market Transformation Plan

- Identification of target market, competitors, and distribution channels for proposed innovation;
- Understanding of known or perceived barriers to market penetration, including mitigation plan;
- The quality of strategies for overcoming market barriers; and
- Comprehensiveness of market transformation 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 plan, U.S. manufacturing plan etc., and product distribution.

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Technical Merit Review Criteria – Topic 1 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 high probability of success.
- The qualifications, relevant expertise, and time commitment of the individuals on the team;
- The capability of the proposed team to recruit and work with industry stakeholders to facilitate and expedite market transformation, leading to broader adoption of Building America research results;
- The capability of the proposed team to develop technology system and process solutions that can be successfully communicated to and implemented by residential market leaders;
- The sufficiency of the facilities to support the work, if applicable;
- The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan;
- Team includes industry stakeholders such as builders and manufacturers whose participation is reflected in the Workplan and cost share; and
- The reasonableness of the budget and spend plan for the proposed project and objectives.

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Technical Merit Review Criteria- Topic 2

Topic 2: Baseline Indoor Air Quality (IAQ) Field Study in Occupied New US Homes

Criterion 1: Technical and Strategic Merit (25%)

- Extent to which the proposal meets the objectives of Topic 2;
- Sufficiency of technical detail in the application to assess whether the proposal is scientifically meritorious;
- Demonstrated understanding of the value of baseline IAQ field study data as a foundation for future activities that will achieve DOE goals;
- Compelling rationale explaining the importance of proposed geographic region for inclusion in study;
- Comprehensiveness and strength of recruitment strategy and likelihood of its success; and
- Quality of representative sample, including diversity of housing designs and characteristics.

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Applications will be evaluated against the following merit review criteria:

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Technical Merit Review Criteria – Topic 2 Continued

Criterion 2: Project Research Plan (25%)

Project Approach, Workplan and SOPO

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

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 and response strategies to address the identified risks.

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 mid-point deliverables defined in the application, such that meaningful interim progress will be made.

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Technical Merit Review Criteria – Topic 2 Continued

Criterion 3: Team and Resources (50%)

- 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 experience and equipment to conduct diagnostic tests of residential ventilation, space conditioning equipment, and IAQ in occupied homes;
- The capability of the proposed team to recruit and partner with industry stakeholders, and to leverage cost share and other resources;
- The capability of the proposed team to develop technology system and process solutions that can be successfully communicated to and implemented by residential market leaders;
- The sufficiency of the facilities to support the work, if applicable;
- The 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.

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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 **03/13/2017 by 5:00 PM 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.

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The Full Application are reviewed by experts in the FOA topic area(s). After those experts review the applications, EERE will provide applicants with reviewer comments. Applicants will have a brief opportunity to review the comments and prepare a short Reply to Reviewer Comments responding to comments however they desire. The Reply to Reviewer Comments is due by the date and time provided on this slide. Applicants should anticipate receiving the independent reviewer comments approximately three business days before this due date. The Reply to Reviewer Comments is an optional submission; applicants are not required to submit a Reply to Reviewer Comments.

This a **customer centric** process that provides applicants with a unique opportunity to correct misunderstandings and misinterpretations and to provide additional data that might influence the selection process in their favor. The Replies are considered by the reviewers and the selection official.

Replies to Reviewer Comments must conform to the content and form requirements listed here, including maximum page lengths. If a Reply to Reviewer Comments is more than three pages in length, EERE will review only the first three pages and disregard any additional pages.

Please see [Sections IV.F. and V.A.3](#) for additional information regarding Replies to Reviewer Comments

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

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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;
- 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;
- Whether the proposed project's objectives address the high priority Climate Regions identified by BTO: Hot-Humid, Mixed-Humid, and Cold;
- Whether the proposed project will enhance vs. duplicate/overlap with other EERE funded work;
- Whether the proposed project contributes to underserved strategic priorities in the Building America technology roadmap or technology to market strategy; and
- Comprehensiveness of commercialization plan if the project will result in intellectual property.

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After the Merit Review process, the Selection Official may consider program policy factors to come to a final selection decision.

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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

There are several one-time actions before submitting an application in response to this FOA, and it is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant’s ability to apply to this FOA, or to meet the negotiation deadlines and receive an award if the application is selected.

DUNS Number

Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number.

System for Award Management

Register with the System for Award Management (SAM). Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.

Fedconnect

Register in FedConnect. To create an organization account, your organization’s SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at the FedConnect site.

Grants.gov

Register in Grants.gov to receive automatic updates when Amendments to this FOA are posted. However, please note that [Delete if Letters of Intent are not applicable] Letters of Intent, Concept Papers, and Full Applications will not be accepted through 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>

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All required submissions must come through EERE Exchange. EERE will not review or consider applications submitted through any other means.

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

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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

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Questions

- Questions about this FOA? Email Building_America_FOA@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
- All questions asked during this presentation will be posted on EERE Exchange

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