

## Notice of Intent No. DE-FOA-0001690

### Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0001630: Building America Industry Partnerships for High Performance Housing Innovation - 2017

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Building Technologies Office (BTO), a Funding Opportunity Announcement (FOA) entitled “Building America Industry Partnerships for High Performance Housing Innovation - 2017”.

This FOA supports the Building America Program which is the BTO Residential Building Integration (RBI) Program’s premier applied research, development, & demonstration (RD&D) program, responsible for over 40 housing innovations to date that have enabled technology and market advancements in residential energy efficiency. Since 1994, the rigor of the national energy code has increased over 40% by applying high performance building envelope innovations proven with Building America research and demonstration.

With this FOA, RBI will select additional building science project teams in 2017 for the Building America Program to accelerate energy performance improvements in existing and new residential buildings using an integrated building systems approach to achieve peak energy performance. 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.

This work will contribute to achieving RBI’s goal of reducing the energy use intensity of new homes by at least 60% and existing homes by at least 40%, relative to the 2010 average for homes in each of the seven climate zones, with a focus on reducing heating and cooling loads.

It is anticipated that the FOA will include the following Areas of Interest:

#### **Area of Interest: Topic 1: Building America Technology to Market Roadmaps: Selected Objectives**

Topic 1 focuses on selected objectives of the Building Technology to Market Roadmaps, described in the [Building America Research-to-Market Plan](#). These roadmaps address three integrated technology gaps focused on achieving high performance residential buildings and overcoming market barriers to adoption at scale, including:

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

Through the FY15 and FY16 FOAs, as well as the work of the National labs, significant progress has been made to address Building America Roadmap objectives. Current Building America Roadmap projects can be viewed at <http://energy.gov/eere/buildings/building-america-research-teams>. For FOA DE-FOA-00001630, Building America is seeking proposals that address the remaining highest priority objectives of the three roadmaps. Proposals that address selected roadmap objectives outlined in the FOA will be preferred. However, innovative solutions that address Building America Roadmap goals will also be considered. Roadmap goals and objectives are described in detail in the [Building America Research-to-Market Plan](#).

This topic applies to either new construction or existing home improvements or both, as it focuses on remaining technical challenges that slow the adoption of high performance envelopes and HVAC systems, affecting both the new construction and home improvement industries. There is a particular interest in projects that address the selected roadmap objectives for existing homes, or that are applicable to both new and existing homes, since existing homes are responsible for the majority of residential energy consumption and typically have the most potential for improvement. Furthermore, existing homes face additional technical and market barriers to improving energy efficiency and performance. For example, in addition to the solutions needed for new construction, the home improvement industry needs the following:

- Envelope air sealing and insulating solutions that effectively (1) manage moisture risks and (2) reduce the costs of testing and removing old materials.
- Low-cost HVAC upgrade solutions that can effectively manage reduced loads without short-cycling or loss of humidity control.
- Low-cost ventilation systems that are suitable for retrofitting and compatible with existing construction and HVAC distribution systems.

### **Area of Interest: Topic 2: Baseline Indoor Air Quality (IAQ) Field Study in Occupied New US Homes**

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 of new U.S. homes. This information will lead to improved guidance, future standards and code changes, and help prioritize future IAQ research.

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**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.

**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 frequency and 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.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 2 to 3 years.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this FOA in the near term. All of the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA during or around the first week of November, 2016, via the EERE Exchange website <https://eere-exchange.energy.gov/>. If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

In anticipation of the FOA being released, Applicants are advised to complete the following steps, which are **required** for application submission:

- Register and create an account in EERE Exchange at <https://eere-exchange.energy.gov/>. This account will allow the user to register for any open EERE FOAs that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.

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Questions related to the registration process and use of the EERE Exchange website should be submitted to: [EERE-ExchangeSupport@hq.doe.gov](mailto:EERE-ExchangeSupport@hq.doe.gov)

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>
- Register with the System for Award Management (SAM) at <https://www.sam.gov>. 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.
- Register in FedConnect at <https://www.fedconnect.net/>. 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 [https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect\\_Ready\\_Set\\_Go.pdf](https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf)
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>. All applications must be submitted through EERE Exchange.

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