

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U.S. Department of Energy
Energy Efficiency and Renewable Energy
Golden Service Center**

Building Technologies Innovations Program

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Letter of Intent Due Date:	03/18/2013, 5:00 PM Eastern Time
Concept Paper Due Date:	04/1/2013, 5:00 PM Eastern Time
Application Due Date:	05/28/2013, 5:00 PM Eastern Time

REGISTRATION REQUIREMENTS

There are several one-time actions before submitting an Application in response to this Funding Opportunity Announcement (FOA), as follows:

- Register and create an account on EERE Exchange at <https://eere-exchange.energy.gov/>.

This account will then 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.

The applicant will receive an automated response when the Application is received. This will serve as a confirmation of receipt. Please do not reply to the automated response. The applicant will have the opportunity to re-submit a revised Application for any reason as long as the relevant submission is submitted by the specified deadline. The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements is found at <https://eere-exchange.energy.gov/Manuals.aspx>.

The EERE Exchange registration does not have a delay; however, the remaining **registration requirements below could take several weeks to process and are necessary in order for a potential applicant to receive an award under this announcement**. Therefore, although not required in order to submit an Application through the EERE Exchange site, **all potential applicants lacking a DUNS number, or not yet registered with SAM or FedConnect should complete those registrations as soon as possible**.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: 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/PublicPages/FedConnect_Ready_Set_Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to this FOA are posted. However, please note that letters of intent, applications, and concept papers will not be accepted through Grants.gov. <http://www.grants.gov/>

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SECTION I – FUNDING OPPORTUNITY DESCRIPTION

A. Program Overview

As part of the Department’s goal to “catalyze the timely, material, and efficient transformation of the nation’s energy system and secure U.S. leadership in clean energy technologies,” [2011 DOE Strategic Plan]¹ the Department of Energy’s (DOE) Building Technologies Office (BTO) seeks to develop technologies, techniques, and tools for making buildings more energy efficient, productive, and affordable. BTO focuses on improving commercial and residential building components, systems integration, energy modeling tools, building energy codes, and appliance and equipment standards. BTO's strategic goal is to significantly improve the energy efficiency of new and existing buildings to reduce national energy demand and allow the nation to work toward greater energy independence and a cleaner environment.

Buildings accounted for 41% (40 quads) of the primary energy consumption in the USA in 2010, greater than that attributable to either transportation (28%) or industry (31%). This represented a cost of approximately \$400 billion in 2010 dollars. Buildings consumed 74% of the electricity generated in the USA, and 34% of the natural gas production. This led to buildings being responsible for 40% of the carbon dioxide emissions in the USA, or 7.4% of the total global carbon dioxide emissions [2011 Buildings Energy Data Book].² 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.

The long-term, overarching goal of BTO is to support the development and deployment of technologies and systems with a goal of saving cumulatively \$2.2 trillion in energy-related costs by reducing building energy use 50 percent, relative to the 2030 “business as usual” baseline energy use predicted by the *Annual Energy Outlook 2010*³. To deliver on this goal, BTO employs a three-pronged strategy: 1) Research and develop high-impact energy efficiency products and solutions through the Emerging Technologies (ET) program, 2) Qualify and drive these technology products and solutions to market through promotion and partnerships with manufacturers and users via the Commercial Building Integration (CBI) and Residential Building Integration (RBI) deployment efforts, and 3) Lock in the savings through regulatory efforts that provide clear public benefit through the Codes and Standards program.

The ET program accelerates the research, development and commercialization of emerging, high-impact building technologies that are five years or less to market-readiness. 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. The CBI and RBI programs (as well as the DOE Office of Weatherization and Intergovernmental Program (OWIP) and the Federal Energy Management Program (FEMP) are customers for BTO’s ET program and serve as enablers for subsequent regulatory measures developed in BTO’s Codes & Standards program.

B. Funding Opportunity Objectives

BTO is seeking innovative approaches for improving the energy performance of buildings. BTO

¹ http://energy.gov/sites/prod/files/2011_DOE_Strategic_Plan_.pdf

² http://buildingsdatabook.eren.doe.gov/docs/DataBooks/2011_BEDB.pdf

³ [http://www.eia.gov/oiaf/aeo/pdf/0383\(2010\).pdf](http://www.eia.gov/oiaf/aeo/pdf/0383(2010).pdf)

plans to stimulate new innovations in the ET portfolio by supporting relatively small projects that evaluate new ideas aligned with our program goals. The funding for each project will be between \$250K- \$750K, with the average award ~ \$500K. These projects will be of relatively short duration (≤ 2 years), with clear milestones for measuring success. All building energy topics are eligible for submission, with the exception of solid-state lighting. Note that this FOA is only for the ET program that supports research and development; proposed deployment efforts will not be considered. Technology Innovations supported under this FOA may have the opportunity to seek additional, larger amounts of funding through future BTO FOAs.

All proposed technologies or approaches must have the potential to reduce building energy consumption, energy costs, or GHG emissions, or a combination of these benefits. Both technology performance improvements and technology cost reductions are of interest. BTO expects a concise overview, justification for why a proposed technology or approach will lead to significant improvement over the current state-of-the-art, a detailed description of the technical approach, a strong team and resources, and a description of a commercialization path within five years. Any benefits must be clearly described and justified. In addition, the commercialization potential of the proposed technology or approach will be considered as part of the evaluation process. Given the FOA objective of researching and developing technologies that are within 5 years of commercialization, applicants must describe how the proposed technology or approach can be realistically commercialized within 5 years. For example, if an award from this FOA provides the first 2 years of support, assuming additional follow-on support is obtained what would be the path to commercialization within the remaining 3 years?

Applicants that are non-profit entities are encouraged to team with a for-profit entity in order to expedite the commercialization process. The potential to enhance US-based manufacturing capability will also be considered as part of the evaluation process.

Either one-year or two-year projects may be proposed. Two-year projects will be considered to consist of two phases, Phase I (Year 1) and Phase II (Year 2). There will be a go/no-go decision point at the end of Phase I that must be successfully completed in order to proceed to Phase II funding.

C. **Topic Areas of Interest**

Applicants are to specify which of the following topic areas best describes their proposed technology or approach. Applicants may choose only a single topic area per application, but can explain within the body of their Concept Paper or Application how their technology or approach may impact other topic areas. Applicants are encouraged NOT to select “Other building energy topics,” unless their proposed technology or approach clearly does not fit under any of the other topics.

1. Heating, ventilation, and air conditioning, including dehumidification
2. Water heating
3. Appliances (refrigerators/freezers, clothes washers/dryers, stoves/ovens, dishwashers, etc.)
4. Building envelope
5. Fenestration
6. Sensors
7. Controls
8. Systems Integration
9. Modeling and simulation
10. Building energy analytics
11. Integrated building design
12. Measurement and verification
13. Building-integrated solar technologies
14. Combined heat and power for buildings
15. Building energy storage
16. Non solid-state lighting
17. Miscellaneous electric loads (MELs)
18. Behavior and building energy efficiency
19. Other building energy topics

D. **Applications Specifically Not of Interest**

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

1. Applications that fall outside the “Topic Areas of Interest” specified in Section I.C of this FOA.
2. Applications concerned with solid-state lighting.
3. Applications for basic research aimed at discovery and fundamental knowledge generation.
4. Applications that describe a deployment activity that does not include research and development of an innovative technology or approach.

5. Applications describing technologies or approaches with limited or no commercialization potential within 5 years.

Any Full Applications that focus on “Applications Specifically Not of Interest” will be considered nonresponsive and will not be considered for review or award.

E. Project Performance Targets

The primary objective of the Building Technologies Innovations FOA is to accelerate the development and commercialization of innovative energy-saving technologies for buildings. The successful project will have significantly lower technology/product development risks, making it more attractive for private investment and more competitive for additional DOE funding. It is therefore very important for project teams to demonstrate their understanding of, and capabilities in, product commercialization, and to describe within their applications a well-articulated path to commercialization within 5 years of project launch.

The existing state-of-the-art must be clearly described. Any annual primary energy savings (in Quads) or annual energy cost reductions must be stated relative to a clearly defined baseline, such as the energy efficiency requirements described in the *2012 International Energy Conservation Code* or the *ANSI/ASHRAE/IES Standard 90.1 – 2010*.⁴ For baseline cost data, applicants are encouraged to use the Building Component Community Cost (BC3) database,⁵ as appropriate.

⁴ 2012 International Energy Conservation Code and ANSI/ASHRAE ... The publication of the 2012 International Energy Conservation Code® and ANSI/ASHRAE/IES Standard 90.1-2010 Energy Standard for Buildings Except Low-Rise ... <http://media.iccsafe.org/geo/docs/2012IECC-ASHRAE901-2007-Combo.pdf>

⁵ Building Component Community Cost (BC3) database, http://bc3.pnnl.gov/wiki/index.php/Main_Page

SECTION II – AWARD INFORMATION

A. Type of Award Instrument

Cooperative Agreements

- DOE anticipates awarding cooperative agreements under this program announcement (See Part VI.B.4 Statement of Substantial Involvement).

B. Estimated Funding

Amount of New Awards

- Approximately \$6.4 million is expected to be available for new awards under this FOA, subject to the availability of appropriated funds.

C. Maximum and Minimum Award Amount

- Ceiling (i.e., the maximum DOE amount for an individual award made under this announcement): \$750K in total, i.e., \$375K/year for two-year projects, or \$750K for one-year projects.
- Floor (i.e., the minimum amount for an individual award made under this announcement): \$250K.

D. Expected Number of Awards

Number of Awards Depending on Amount

- DOE anticipates making 6 to 18 awards under this announcement depending on the amount of each award. DOE may issue one, multiple, or no awards.

E. Anticipated Award Amount

Maximum Award Amount

- The maximum DOE award amount (i.e., the ceiling) is \$750K for one-year projects and \$375K per year for two-year projects.

F. Period of Performance/Award Amount Per Year

- The period of performance for cooperative agreements may range between 12 and 24 months. DOE will support projects at award levels up to \$375K per year for up to 2 years. Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority

G. Type of Application

New Applications Only

- DOE will accept only new applications under this announcement (i.e., applications for renewals of existing DOE-funded projects will not be considered).

H. Environmental Review in Accordance with National Environmental Policy Action (NEPA)

The federal funds distributed under this FOA are subject to the National Environmental Policy Act, 42 U.S.C. §§ 4321 et seq. (NEPA). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website, at <http://nepa.energy.gov/>.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all projects selected for an award will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their proposed project.

I. Performance of Work in the United States

EERE strongly encourages interdisciplinary and cross-sectoral collaboration spanning organizational and national boundaries. Such collaboration enables the achievement of scientific and technological outcomes that were previously viewed as extremely difficult, if not impossible.

EERE requires all work under EERE funding agreements to be performed in the United States – i.e., prime recipients must expend 100% of the total project cost in the United States.

Applicants and prime recipients may request a waiver of this requirement. Applicants must include a written waiver request in the Full Application. Prime recipients must submit any waiver requests in writing to the assigned DOE Contracting Officer. The DOE Contracting Officer has discretion to waive this requirement if he/she determines that it will further the purposes of this FOA and is otherwise in the interests of EERE. See Section IV.C.12 of the FOA for waiver request information.

SECTION III - ELIGIBILITY INFORMATION

A. Eligible Applicants

1. Individuals

U.S. citizens and lawful permanent residents are eligible to apply for funding as a prime recipient or subrecipient.

2. Domestic Entities

For-profit entities, educational institutions, and nonprofits⁶ that are incorporated (or otherwise formed) under the laws of a particular State or territory of the United States are eligible to apply for funding as a prime recipient or subrecipient. State, local, and tribal government entities are eligible to apply for funding as a prime recipient or subrecipient.

DOE/NNSA Federally Funded Research and Development Centers (FFRDCs) and DOE Government-Operated Government-Owned laboratories (GOGOs) are eligible to apply for funding as a prime recipient or subrecipient.

Non-DOE/NNSA FFRDCs and non-DOE GOGOs are eligible to apply for funding as a subrecipient, but are not eligible to apply as a prime recipient.

Federal agencies and instrumentalities (other than DOE) are eligible to apply for funding as a subrecipient, but are not eligible to apply as a prime recipient.

3. Foreign Entities

Foreign entities, whether for-profit or otherwise, are eligible to apply for funding under this FOA.

Other than as provided in the “Individuals” or “Domestic Entities” sections above, 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. Foreign entities may request a waiver of this requirement in the Full Application. See Section IV.D.10 for waiver request information. The DOE Contracting Officer has discretion to waive this requirement if he/she determines that it will further the purposes of this FOA and is otherwise in the interests of EERE.

A foreign entity may receive funding as a subrecipient.

4. Incorporated Consortia

Incorporated consortia, which may include domestic and/or foreign entities, are eligible to apply for funding as a prime recipient or subrecipient. For consortia incorporated (or otherwise formed) under the laws of a State or territory of the United States, please refer to

⁶Nonprofit 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.

“Domestic Entities” above. For consortia incorporated in foreign countries, please refer to the requirements in “Foreign Entities” above.

Each incorporated consortium must have an internal governance structure and a written set of internal rules. Upon request, the consortium must provide a written description of its internal governance structure and its internal rules to the DOE Contracting Officer.

5. Unincorporated Consortia

Unincorporated consortia, which may include domestic and foreign entities, must designate one member of the consortium to serve as the prime recipient/consortium representative. The prime recipient/consortium representative must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. The eligibility of the consortium will be determined by the eligibility of the prime recipient/consortium representative under Section III.A of the FOA.

Upon request, unincorporated consortia must provide the DOE Contracting Officer with a collaboration agreement, commonly referred to as the articles of collaboration, which sets out the rights and responsibilities of each consortium member. This agreement binds the individual consortium members together and should discuss, among other things, the consortium's:

- Management structure;
- Method of making payments to consortium members;
- Means of ensuring and overseeing members' efforts on the project;
- Provisions for members' cost sharing contributions; and
- Provisions for ownership and rights in intellectual property developed previously or under the agreement.

B. Cost Sharing

Cost Share 20%

- The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR Part 600 for the applicable cost sharing requirements.)
- Cost share for university, non-profit entities, and national labs, whether participating as a prime recipient or sub-recipient, is 0% of total project costs.

- Cost share may be incurred in equal installments over the life of the award. In the alternative, the Prime Recipient may accelerate (front-load) cost share amounts in the initial months of the award. DOE will not accept any proposal to pay the entire cost share amount in the final months (back-loaded cost share) of the award.

C. Other Eligibility Requirements

- **DOE National Laboratory Contractors and Other Federally Funded Research and Development Center (FFRDC) Contractors.**

A DOE National Laboratory Contractor is eligible to apply for funding under this announcement if its cognizant Contracting Officer provides written authorization and this authorization is submitted with the application. If a DOE National Laboratory Contractor is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's Management and Operating (M&O) contract.

The following wording is acceptable for the authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory.

FFRDC contractors may be proposed as team members on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award.

Authorization for DOE FFRDCs. The cognizant Contracting Officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- Because Federally Funded Research and Development Center (FFRDC) and Government Owned and Government Operated (GOGO) entities are funded by the Federal Government, costs incurred by FFRDCs and GOGOs generally may not be used to meet the cost share requirement.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. Questions Regarding Eligibility

DOE will not make eligibility determinations for potential applicants prior to the date on which applications to this FOA must be submitted. The decision whether to submit an application in response to this FOA lies solely with the applicant.

SECTION IV – APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Forms

The Application forms and instructions are available on EERE Exchange. To access these materials, go to <https://eere-exchange.energy.gov/> and select the appropriate funding opportunity number.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect.

(e.g. ControlNumber_LeadOrganization_Project_Part_1, Part_2, etc.)

B. Letter of Intent, Pre-Application, and Concept Paper

1. Letter of Intent Required

Applicants must submit a Letter of Intent by the due date to be eligible to submit a Concept Paper and Application.

Applicants are required to submit a Letter of Intent by the submission deadline. This letter should include the name of the applicant, the title of the project, the name of the Project Director/Principal Investigator(s), the amount of DOE funds requested, the single project topic area that best describes their proposed technology or approach (water heating, appliances, building envelope, fenestration etc.), and a one- or two-sentence description of the project. Letters of intent will be used by DOE to organize and expedite the merit review process. They should not contain any proprietary or sensitive business information. No facsimile or hard copy submissions will be accepted; Letter of Intent submissions are to be made via the Exchange at <https://eere-exchange.energy.gov/>. DOE strongly encourages Applicants to submit their Letters of Intent at least 24 hours in advance of the submission deadline.

Each Principal Investigator is limited to only a single Letter of Intent to Apply. Institutions can submit multiple letters, but an individual can be named as the Principal Investigator on only one of them.

2. Pre-applications Not Required

A pre-application is not required.

3. Concept Paper Required

Applicants must submit a Concept Paper by the due date to be eligible to submit an Application.

Following the Concept Paper application phase, applicants will receive a notice as to whether or not they are encouraged or discouraged to submit a full application.

The typical Concept Paper should express a consolidated effort in support of the development and commercialization of related technical concepts or ideas. No facsimile or hard copy submissions will be accepted; Concept Paper submissions are to be made via the Exchange at <https://eere-exchange.energy.gov/>.

The Concept Paper must be submitted through the web-based submission system discussed in Section IV.A. The Concept Paper, with the exception of the Summary Slide, is limited to three (3) pages. If a Concept Paper exceeds the page limitation, only the first three (3) pages will be reviewed, plus the Summary Slide. All pages must be formatted to fit on 8-1/2 by 11 inch paper with type not smaller than 12 point font, except in figures and tables, and margins not less than one inch on every side. The Concept Paper must be submitted as a single PDF file, including the Summary Slide. The page limitation for Concept Papers includes all figures, tables, and charts. Concept Papers must contain all pertinent information – no external data sources (e.g., websites) should be required for Concept Paper review. All applications must be word-processed or typed and in English.

Each Principal Investigator is limited to only a single Concept Paper. Institutions can submit multiple Concept Papers, but an individual can be named as the Principal Investigator on only one of them.

Due to the expected volume of submissions, DOE may not provide feedback on Concept Papers, except for the notice of whether the applicant is encouraged or discouraged to submit a full application.

Concept Paper Structure:

Cover Page: Not included in three (3) page limit. Include Project Title, Submitting Organization, Principal Investigator, and Topic Area.

The major section headings should be exactly as shown below in **bold font**; additional sub-headings can be added if desired.

The body of the concept paper is limited to three (3) pages for the Abstract, Impact of the Proposed Technology Relative to the State of the Art, and Overall Scientific and Technical Merit Sections .

1. Abstract (limited to 200 words)

The abstract should summarize the Concept Paper, providing the essence of the concept and what the potential impact of this work is likely to be to the relevant market. One of the technical topics described in Section I.C must be defined as the primary topic, and underlined within the body of the Abstract.

2. Impact of the Proposed Technology Relative to the State of the Art

Describe the proposed technology or approach. Include a description of the specific target market (residential, commercial, new buildings, retrofit, climate zone, etc.) for which the proposed technology or approach is suitable. Present the current status of the field, and how the work proposed here extends beyond currently available state-of-the-art. Note that either (or both) primary energy savings and energy costs are of interest.

Present an estimation of the potential primary annual energy savings to be derived from the proposed technology or approach, in Quads, and/or annual energy cost savings, as defined by the size of the target market (residential, commercial, new buildings, retrofit, climate zone, etc.) and the end use (HVAC, windows, sensors, integrated design process, etc.). Provide adequate justification for these estimated potential primary annual energy savings.

3. Overall Scientific and Technical Merit

Describe the approach to be taken to implement the project, including if a one-year or two-year project is envisioned. Describe any planned deliverables or major milestones to be accomplished. Present the market opportunity for the proposed technology or approach, and the path to commercialization within five (5) years.

Provide a description of the performance team. Describe any partnerships that involve two different types of institutions. Discuss the potential to enhance US-based manufacturing capability, for proposed technologies.

Summary Slide (1 page)

Applicants are required to provide a single slide summarizing the proposed project. A template for the summary slide is provided in Microsoft PowerPoint on the Exchange server and must be submitted in Adobe PDF format. The slide must conform to the format shown in Appendix D. This slide is used during the evaluation process. The slide should include the following information:

- Institution and Principal Investigator
- Summary of the proposed project
- Potential impact of the proposed project relative to the state of the art, i.e., uniqueness of the innovative concept
- Proposed target metrics, relative to the state of the art
- Key graphics or tables showing the impact of the proposed work

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect.

(e.g. ControlNumber_LeadOrganization_Project_Part_1, Part_2, etc.)

C. Content and Form of Application

You must complete the following application forms found on the EERE Exchange website

at <https://eere-exchange.energy.gov/>, in accordance with the instructions. **Applicants will receive a Control Number once they “Apply to this FOA” on the EERE Exchange website and should include the Control Number in the file name, as indicated below. [This Control Number was issued if a Letter of Intent was previously submitted.]**

Each Principal Investigator is limited to only a single Application. Institutions can submit multiple Applications, but an individual can be named as the Principal Investigator on only one of them.

1. SF-424 – Application for Federal Assistance

Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances in Field 21 can be found at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>, under Certifications and Assurances. Note: The dates and dollar amounts on the SF 424 are for the complete project period and not just the first year, first phase or other subset of the project period. Save the information in a single file titled “ControlNumber_LeadOrganization_App424”.

2. Project Summary/Abstract File

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information, as the Department may make it available to the public if an award is made. The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right), single spaced, with font not smaller than 11 point. Save the information in a single file titled “ControlNumber_LeadOrganization_Summary”.

3. Project Narrative File

The project narrative must not exceed 17 pages for 1-year projects or 18 pages for 2-year projects, in Adobe PDF format. The page limit includes cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right), single spaced. EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Section VIII.D for instructions on how to mark proprietary application information. Save the information in a single file titled “ControlNumber_LeadOrganization_Project”.

Applicants must provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Project Narrative. Citations should be listed in the *Bibliography and References* section in the Appendix.

Following the Title Page, the major section headings and subsection headings should be exactly as shown below in bold font; additional sub-subheadings can be added if desired. The page limitations for each major section must be adhered to strictly.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect.

(e.g. ControlNumber_LeadOrganization_Project_Part_1, Part_2, etc.)

Title Page (1 page)

The application must include a title page containing the following information:

- FOA number and FOA title
- Application control number
- Primary technical topic from Section 1.C. of this FOA
- Project title
- Applicant name
- Partner institutions (indicate ‘none’ if appropriate)
- Principal investigator (with postal address, telephone and fax numbers, and email address)
- Other investigators and their affiliations

Section I - Project Objectives (2 pages)

This section should provide a clear, concise statement of the specific objectives/aims of the proposed project and describe the technology or approach.

Section II - Merit Review Criterion Discussion (1 page)

This section should be formatted to address each merit review criterion and sub-criterion listed in Part V.A. below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria.

Section III - Project Timetable/Work Plan

This section should outline as a function of time, year by year, all the important activities or phases of the project, including any activities planned beyond the project period. Successful applicants must use this project timetable to report progress.

Technical Approach (4 pages)

Describe the detailed approach by which the project will be carried out. Discuss the rationale for a one-year or two-year project. The Technical Approach must be tightly coordinated with the Work Plan described in the next section. That is, the Technical Approach must be organized to describe the tasks listed in the Work Plan.

Work Plan (1 page for 1-year projects, 2 pages for 2-year projects)

Include a work plan, using the template provided in Appendix F. Define specified tasks that are described in the Technical Approach. Each task should include quarterly milestones/deliverables, as appropriate. The milestones/deliverables should be quantitative, if possible.

For one-year projects the Work Plan will be one page. For two-year projects the Project

Management Plan will be two pages. Two-year projects must also include a “go/no-go” decision point at the end of Year 1. This “go/no-go” decision point must be successfully passed in order to proceed to Year 2 of the project.

Section IV - Relevance and Outcomes/Impacts

Improvement Over State of the Art (2 pages)

Provide a description of the state-of-the-art of the relevant application (HVAC, water heating, building envelope, systems integration, building energy storage, etc.) that the proposed technology or approach is targeting. Describe the present shortcomings of the state-of-the-art, and how the proposed technology or approach represents a significant improvement over the state-of-the-art in terms of reducing primary building energy consumption and/or energy costs.

Potential Primary Annual Energy Savings and/or Cost Savings (2 pages)

Describe, with justification, an estimation of the potential primary annual energy savings to be derived from the proposed technology or approach, in Quads, and/or annual energy cost savings, as defined by the size of the target market (residential, commercial, new buildings, retrofit, climate zone, etc.) and the end use (HVAC, windows, sensors, integrated design process, etc.). Be sure to cite relevant literature, such as the 2011 Buildings Energy Data Book.

Potential to Enhance US-Based Manufacturing Capability (1 page)

This section only applies to proposed technologies that are manufacturable. For example, an innovative approach for building energy storage can be manufactured, but a software solution cannot.

For manufacturable technologies, describe the potential for the technology to be manufactured in the US. For non-manufacturable technologies, simply write “Non-manufacturable” in this section.

Section V - Roles of Participants

Prior Work (1 page)

Discuss prior relevant work by any members of the project team.

Performance Team (2 pages)

Describe the qualifications of the performance team that will enable it to successfully complete the proposed project. In particular, discuss the qualifications of the Principal Investigator, and why he/she is well suited to lead this project. Discuss the facilities and resources available for carrying out the project.

Describe any partnership arrangements, especially between at least two different kinds of institutions. Such partnership arrangements should be advantageous from the viewpoint of developing and commercializing the proposed technology or approach. Any letters of support are to be included in the Appendix, and are not counted in the page limits of the Project Narrative.

Section VI - Additional requirements for the Project Narrative

Market Opportunity & Commercialization Path (1 page)

Describe the market for the proposed technology or approach, including an assessment of the market size, potential market penetration, and the competitive landscape. Include a discussion about market barriers and explain how the proposed technology or approach might have a distinct competitive advantage or value to the marketplace.

Describe a feasible pathway to transition the project results to the next logical stage of R&D, and how the proposed technology or approach can be commercialized within 5 years, given adequate support.

All the components of your Project Narrative must be within the Narrative page limits specified above.

4. Summary Slide (1 page)

Applicants are required to provide a single slide summarizing the proposed project. The slide must be submitted in Adobe PDF format and conform to the format shown in Appendix E. This slide is used during the evaluation process, together with the rest of the application. The slide should include the following information:

- Institution and Principal Investigator
- Summary of the proposed project
- Potential impact of the proposed project relative to the state-of-the-art, i.e., uniqueness of the innovative concept
- Proposed target metrics, relative to the state-of-the-art
- Key graphics or tables showing the impact of the proposed work

Save the information in a file titled

“ControlNumber_LeadOrganization_Summary_Slide”.

5. Bibliography and References, if applicable

Provide a bibliography for any references cited in the Project Narrative. This section must include only bibliographic citations.

Save the information in a file titled “ControlNumber_LeadOrganization_Bibliography”.

6. Resume File

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of a key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. The biographical information for each resume must not exceed 2 pages when printed on 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right), single spaced, with font not smaller than 11 point and should include the information below, if applicable. Save the information in a file titled “ControlNumber_LeadOrganization_Resume”.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect.

(e.g. ControlNumber_LeadOrganization_Project_Part_1, Part_2, etc.)

Education and Training. Undergraduate, graduate and postdoctoral training; provide institution, major/area, degree and year.

Professional Experience: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications. Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address, if available electronically.

Patents, copyrights and software systems developed may be provided in addition to, or substituted for, publications.

Synergistic Activities. List no more than 5 professional and scholarly activities related to the effort proposed.

- Of the key personnel identified in this file, indicate the Principal Investigator(s) (PI(s)).
- For Multiple Principal Investigators:

The applicant, whether a single organization or team/partnership/consortium, must indicate if the project will include multiple PIs. The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a “Coordination and Management Plan” that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction;
- Publications;
- Intellectual property issues;
- Communication plans;
- Procedures for resolving conflicts; and
- PIs’ roles and administrative, technical, and scientific responsibilities for the project.

The resume file does not have a page limitation.

7. Budget File – SF424A Excel, Budget Information–Non-Construction Programs File

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, “Budget Information – Non Construction Programs” form on the DOE Financial Assistance Forms Page at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>. The SF424A provides columns for each individual budget-year as well as the commulative project-budget.

You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (see Section IV, G). Save the information in a single file titled “ControlNumber_LeadOrganization_SF424A”.

8. Budget Justification File (PMC 123.1)

You must justify the costs proposed in each Object Class Category/Cost Classification category using the PMC 123.1 Budget Justification File. The total project cost, including cost share (if applicable) and federal funding, must be represented in this document

Save the budget justification information in a single file titled “ControlNumber_LeadOrganization_Budget”.

9. Letters of Commitment

If cost share is required, you must have a letter from each third party contributing cost share (i.e., a party other than the organization submitting the application) stating that the third party is committed to providing a specific minimum dollar amount of cost share. **All Letters of Commitment must be attached as an Appendix to the Project Narrative File.** Identify the following information for each third party contributing cost share: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed type of cost share – cash, services, or property. Letters of Commitment from parties participating in the project, exclusive of vendors, who will not be contributing cost share, but will be integral to the success of the project must be included as part of this Appendix to the Narrative. *Letters of Commitment will not count towards the Project Narrative page limit.*

10. Budget for DOE Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable

If a DOE FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal (FWP) in accordance with the requirements in DOE Order 412.1 Work Authorization System. The DOE Order 412.1, Work Authorization System and the DOE O 412.1, Field Work Proposal form are available at the following link, under “DOE Budget Forms”: <https://www.directives.doe.gov/directives/current-directives/412.1-BOrder-a/view>. Save the Field Work Proposal in a single file titled “ControlNumber_LeadOrganization_FFRDC_FWP”.

Because Federally Funded Research and Development Center (FFRDC) and Government Owned and Government Operated (GOGO) entities are funded by the Federal Government, costs incurred by FFRDCs and GOGOs generally may not be used to meet the cost share requirement.

11. Authorization for non-DOE or DOE FFRDCs

Save the Authorization for non-DOE or DOE FFRDCs, as specified in Section III.C. Other Eligibility Requirements, in a single file titled “ControlNumber_LeadOrganization_FFRDC_Auth”.

12. Environmental Questionnaire

You must complete the environmental questionnaire on-line at <https://www.eere-pmc.energy.gov/NEPA.asp>. Save the questionnaire in a single file titled “ControlNumber_LeadOrganization_Env” in Adobe PDF format.

13. SF-LLL Disclosure of Lobbying Activities

If applicable, complete the SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying." If applicable, save the SF-LLL in a single file titled “ControlNumber_LeadOrganization_SF LLL”.

14. Waiver Request - (a) Foreign Entities and (b) Performance of Work in the United States (If Applicable)

(a) **Foreign Entities** As set forth in Section III.A.3, 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.

To seek a waiver of this requirement, the Applicant must submit an explicit waiver request in the Full Application, which includes the following information: entity name, country (or state) of incorporation, description of the work to be performed by that entity, and the Countries in which the work will be performed. In the waiver request, the Applicant must demonstrate to the satisfaction of EERE that it would further the purposes of this FOA and is otherwise in the interests of EERE to have a foreign entity serve as the prime recipient. The Contracting Officer may require additional information before considering the waiver request. Save the Waiver Request(s) in a single PDF file titled “ControlNumber_LeadOrganization_Waiver.”

(b) **Performance of Work in the United States** Section II.I requires that all work under EERE funding agreements to be performed in the United States – i.e., prime recipients must expend 100% of the total project cost in the United States.

To seek a waiver of this requirement, the Applicant must submit an explicit waiver request in the Full Application, which includes the following information: the countries in which the work will be performed, a description of the work to be performed outside the U.S., and the rationale for performing the work overseas. In the waiver request, the Applicant must demonstrate to the satisfaction of the EERE that a waiver would further the purposes of this FOA and is otherwise in the interests of EERE. For example, an Applicant may seek to demonstrate the United States economic interest will be better served through a greater percentage of work performed outside the United States (e.g., provide evidence that

expertise to develop a technology exists only outside the United States, but that ultimate commercialization of the technology will result in substantial benefits to the United States such as improved electricity reliability, increased employment, increased exports of U.S.-manufactured products, etc.). The Contracting Officer may require additional information before considering the waiver request. Save the Waiver Request(s) in a single PDF file titled “ControlNumber_PerformanceofWork_Waiver.”

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name
SF 424 - Application for Federal Assistance	Part of Adobe Application Package	ControlNumber_LeadOrganization_App424
Project Summary/Abstract File	PDF	ControlNumber_LeadOrganization_Summary
Project Narrative File	PDF	ControlNumber_LeadOrganization_Project
Summary Slide	PDF	ControlNumber_LeadOrganization_Summary_Slide
Bibliography and References File, if applicable	PDF	ControlNumber_LeadOrganization_Bibliography
Resume File	PDF	ControlNumber_LeadOrganization_Resume
Letters of Commitment File	PDF	ControlNumber_LeadOrganization_Letters
SF 424A Excel – Budget Information for Non-Construction Programs File	Excel	ControlNumber_LeadOrganization_SF424A
PMC 123.1 Budget Justification File	Excel	ControlNumber_LeadOrganization_Budget
SF-424A Subaward Budget File(s), if applicable	Excel	ControlNumber_LeadOrganization_Subaward

		wardee_SF424A
Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable	PDF	ControlNumber_LeadOrganization_FFRDC_FWP
Authorization from cognizant Contracting Officer for FFRDC, if applicable	PDF	ControlNumber_LeadOrganization_FFRDC_Auth
Environmental Questionnaire	PDF	ControlNumber_LeadOrganization_Env
SF-LLL Disclosure of Lobbying Activities, if applicable	PDF	ControlNumber_LeadOrganization_SFLLL
Waiver Request: Foreign Entities and / or Performance of Work in the United States, if applicable	PDF	ControlNumber_LeadOrganization_Institution_Waiver

D. Submissions from Successful Applicants

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Commitment Letter from Third Parties Contributing to Cost Share, if applicable
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Environmental Questionnaire

E. Submission Dates and Times

1. Letter of Intent Due Date

Letters of Intent must be received by 03/18/2013, not later than 5:00 PM Eastern Time to be eligible to submit a Concept Paper and Application. DOE strongly encourages Applicants to submit their Letters of Intent at least 24 hours in advance of the submission deadline.

2. Concept Paper Due Date

Concept Papers must be received by 04/1/2013, not later than 5:00 PM Eastern Time to be eligible to submit an Application. DOE strongly encourages Applicants to submit their Letters of Intent at least 24 hours in advance of the submission deadline. No facsimile or hard copy submissions will be accepted.

3. Application Due Date

Applications must be received by 05/28/2013, not later than 5:00 PM Eastern Time. DOE strongly encourages Applicants to submit their Letters of Intent at least 24 hours in advance of the submission deadline. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.** No facsimile or hard copy submissions will be accepted.

F. Intergovernmental Review

Program Not Subject to Executive Order 12372

- This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. Funding Restrictions

Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority.

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in: 2 CFR 220 for Educational Institutions; 2 CFR 225 for State, Local, and Indian Tribal Governments; 2 CFR 230 for Non Profit Organizations and FAR Part 31 for commercial organizations.

Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award and no earlier than the selection date, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the Contracting Officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

If recipients are State or Local Governments, they may not incur pre-award costs prior to award, without prior approval of the DOE Contracting Officer.

H. Submission and Registration Requirements

1. Where to Submit

LETTERS OF INTENT, CONCEPT PAPERS AND APPLICATIONS MUST BE SUBMITTED UNDER THIS ANNOUNCEMENT THROUGH EERE EXCHANGE at

<https://eere-exchange.energy.gov/> TO BE CONSIDERED FOR AWARD. No facsimile or hard copy submissions will be accepted. You cannot submit a Letter of Intent, Concept Paper or Application through EERE Exchange unless you are registered. Please read the registration requirements below carefully and start the process immediately. Concept Papers and Applications submitted by any other means will not be accepted.

If you have problems completing the registration process or submitting your application, send an email to the EERE Exchange helpdesk at EERE-ExchangeSupport@hq.doe.gov.

It is the responsibility of the applicant to verify successful transmission, prior to the Application due date and time.

2. Registration Process Requirements

There are several one-time actions that must be completed before submitting an Application in response to this Funding Opportunity Announcement (FOA), as follows:

- Register and create an account on EERE Exchange at:

<https://eere-exchange.energy.gov/>. This account will then allow the user to register for any open EERE FOAs that are currently in 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 appropriate contact point for each submission.

The applicant will receive an automated response when the Concept Paper or Application is received. This will serve as a confirmation of receipt. Please do not reply to the automated response. The applicant will have the opportunity to re-submit a revised Concept Paper or Application for any reason as long as the relevant submission is submitted by the specified deadline. The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements is found at <https://eere-exchange.energy.gov/Manuals.aspx>.

The EERE Exchange registration does not have a delay; however, the remaining **registration requirements below could take several weeks to process and are necessary in order for a potential applicant to receive an award under this announcement.** Therefore, although not required in order to submit an Application through the EERE Exchange site, **all potential applicants lacking a DUNS number, or not yet registered with SAM or FedConnect should complete those registrations as soon as possible.**

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

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including 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/PublicPages/FedConnect_Ready_Set_Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to this FOA are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>

3. Electronic Authorization of Applications and Award Documents

Submission of an application and supplemental information under this announcement through electronic systems used by the Department of Energy, including EERE Exchange, constitutes the authorized representative's approval and electronic signature.

Submission of award documents, including modifications, through electronic systems used by the Department of Energy, including FedConnect, constitutes the authorized representative's approval and acceptance of the terms and conditions of the award. Award acknowledgement via FedConnect constitutes the authorized representative's electronic signature.

SECTION V - APPLICATION REVIEW INFORMATION

A. Review Criteria

1. Concept Paper Review

DOE will perform a preliminary review of Concept Papers to determine whether they are compliant and responsive.

DOE considers a mix of quantitative and qualitative criteria in determining whether to encourage or discourage the submission of a Concept Paper. DOE carefully considers all of the information obtained through the Concept Paper process, and evaluates each compliant and responsive Concept Paper based on the criteria described here.

a. Review Criteria for Concept Papers

Concept Papers will be evaluated based on the following criteria. Based on the review, applicants will either be encouraged or discouraged to submit a full application.

(a.1) *Impact of the Proposed Technology Relative to State of the Art (50%)*

- Extent to which the proposed technology or approach would significantly improve building energy efficiency and/or energy costs relative to the state of the art
- Potential primary annual energy savings (in Quads) and/or annual energy cost savings, as defined by the size of the target market (residential, commercial, new buildings, retrofit, climate zone, etc.) and the end use (HVAC, windows, sensors, integrated design process, etc.)

(a.2) *Overall Scientific and Technical Merit (50%)*

- Strength of the proposed approach, including proposed deliverables and/or milestones
- Strength of the performance team, including evidence of a partnership between at least two different types of institutions
- Strength of the market opportunity and the proposed path to commercialization within 5 years
- Strength of the potential to enhance US-based manufacturing capability (only applicable for proposed technologies that can be manufactured)

B. Initial Review of Applications

Prior to a comprehensive merit evaluation, DOE will perform an initial review of the full applications to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review and Selection Process

Applications that pass the initial review as described in V.A.2 will be subjected to a merit review in accordance with the guidance provided in the “Department of Energy Merit Review Guide for Financial Assistance”. This guide is available at <http://energy.gov/management/office-management/operational-management/financial-assistance> under Financial Assistance Policy and Guidance.

It is very important that the Project Abstract and Project Narrative file used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

3. Merit Review Criteria for Full Applications

Full Applications will be evaluated based on the following criteria:

(a) *Impact of the Proposed Technology or Approach Relative to State of the Art (40%)*

- Extent to which the proposed technology or approach would significantly improve building energy efficiency and/or energy costs relative to the state of the art, based upon quantitative performance and cost metrics described in the application
- Potential primary annual energy savings (in Quads) and/or annual energy cost savings, as defined by the size of the target market (residential, commercial, new buildings, retrofit, climate zone, etc.) and the end use (HVAC, windows, sensors, integrated design process, etc.)

(b) *Overall Scientific and Technical Merit (40%)*

- Extent to which the Applicant proposes a sound technical approach to accomplish the proposed R&D objectives
- Extent to which the project outcomes and deliverables are clearly defined in the Project Management Plan
- Extent to which the Applicant proposes a convincing technology development strategy, including a feasible pathway to transition the program results to the next logical stage of R&D and/or directly into commercial development and deployment
- Potential to enhance US-based manufacturing capability (for manufacturable technologies)

(c) *Qualifications, Experience, and Capabilities (20%)*

- Extent to which the capabilities, experience, and qualifications of the performance team are consistent with and support the proposed project
- Adequacy of the facilities and resources for executing the proposed project
- Strength of the partnership with at least two different types of institutions, reflecting complementary skills (e.g., academic + business)

In addition to the above criteria, DOE may consider the following program policy factors in determining which Full Applications to select for award negotiations.

- Diversity of technologies, approaches, methods, and institutions (including the degree to which proposed technologies, approaches, and methods would be complementary to and support a diversity of geographic locations and of technical approaches and methods that, in conjunction with the existing portfolio of projects funded by DOE, best achieve the overall goals and objectives of the Building Technologies Office)
- Level of cost-share above the minimum required and leveraging of additional resources

Unlike the Merit Review Criteria in V.A.4, these factors are not weighted.

4. Pre-Selection Clarification

Based upon the results of the merit review of written applications, DOE may determine that pre-selection clarifications are necessary from certain Applicants. These pre-selection clarifications will be for the purposes of clarifying the application and may take the form of one or more of the following procedures: written responses to DOE's written clarification questions, video or conference calls with DOE representatives, in person-meetings or presentations at DOE or applicant site. DOE, based upon the results of the merit review of written applications and in its sole discretion, may decide not to hold any pre-selection clarifications. The information provided by Applicants to DOE through pre-selection clarifications is incorporated in their application and contributes to the merit review evaluation and DOE's selection decisions. Selection for participation in pre-selection clarifications does not signify that Applicants have been selected for negotiation of award. Applicant costs incurred to participate in pre-selection clarifications (such as travel or other presentation costs) are application costs and are only allowable to awardees as indirect expenses to Federally sponsored projects to the extent that those costs are allowable, allocable and reasonable.

5. Selection

Selection Official Consideration

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

6. Discussions and Award

Government Discussions with Applicant

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. Anticipated Notice of Selection and Award Dates

Selection and Award Date

- DOE anticipates notifying applicants selected for award by July 31, 2013 and making awards by September 30, 2013.

SECTION VI - AWARD ADMINISTRATION INFORMATION

A. Notice of Selection

1. Notice of Selection

Selected Applicants Notification

DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Section IV.G with respect to the allowability of pre-award costs.)

Non-selected Notification

Organizations whose applications have not been selected will be advised as promptly as possible.

2. Notice of Award

A Financial Assistance Award or Assistance Agreement issued by the Contracting Officer is the authorizing award document. It normally includes, either as an attachment or by reference: (1) Special Terms and Conditions; (2) Applicable program regulations, if any; (3) Application as approved by DOE; (4) DOE assistance regulations at 10 CFR part 600; (5) National Policy Assurances To Be Incorporated As Award Terms; (6) Intellectual Property Provisions; (7) Statement of Project Objectives; (8) Federal Assistance Reporting Checklist, which identifies the reporting requirements; and (9) Budget Summary.

For grants and cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110, the Award also includes the Research Terms and Conditions and the DOE Agency Specific Requirements located at:

<http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

B. Administrative Requirements, National Policy Requirements, and Applicant Representations and Certifications

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in Title 10 CFR Part 600 (See: [10 CFR 600](http://www.ecfr.gov/g10/cfr/part0600)). Grants and cooperative agreements made to universities, non-profits and other entities subject to Title 10 CFR Part 600 are subject to the Research Terms and Conditions located on the National Science Foundation web site at:

<http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

DUNS and SAM Requirements

Additional administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR, Part 25 (See: <http://ecfr.gpoaccess.gov>). Prime awardees must keep their data at the System for Award Management (SAM) current at <https://www.sam.gov>. SAM is the government-wide system that replaced the CCR. If you had an active registration in the CCR, you have an active registration in SAM. Subawardees at all tiers must obtain DUNS numbers and provide the DUNS to the prime awardee before the subaward can be issued.

Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR, Part 170. (See: <http://ecfr.gpoaccess.gov>). Prime awardees must register with the new FSRS database and report the required data on their first tier subawardees. Prime awardees must report the executive compensation for their own executives as part of their registration profile in the System for Award Management (SAM).

- 2. Special Terms and Conditions, National Policy Requirements, and Applicant Representations and Certifications** The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at:

<http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>.

The National Policy Assurances To Be Incorporated as Award Terms are located at

<http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>

Applicant Representations and Certifications

Corporate Felony Conviction and Federal Tax Liability Representations (March 2012)

By submitting an application in response to this FOA the Applicant represents that:

- (1) It is **not** a corporation that has been convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months,
- (2) **No** officer or agent of the corporation have been convicted of a felony criminal violation for an offence arising out of actions for or on behalf of the corporation under Federal law in the past 24 months,
- (3) It is **not** a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these representations the following definitions apply:

A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations]. It includes both for-profit and non-profit organizations.

3. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>

4. Statement of Substantial Involvement

DOE has the right to intervene in the conduct or performance of project activities for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities. Please see 10 CFR 600.5 (d) for additional language

and authority. In the final award documents, DOE will provide a detailed statement of substantial involvement that articulates DOE's role in the cooperative agreement. Substantial involvement may include, but is not limited to, DOE participation and oversight of the following: review and approval of projects planned by the organization to reach programmatic goals; review of organization progress based on metrics; and participation in go/no go decision points and peer reviews – any of which may lead to redirecting efforts.

C. Reporting

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement.

SECTION VII - QUESTIONS/AGENCY CONTACTS

- A. Questions regarding the content of this announcement must be submitted to BTIP.FOA823@go.doe.gov not later than 3 business days prior to the application due date.
- B. All questions and answers related to this FOA will be posted on EERE Exchange at: <https://eere-exchange.energy.gov/>. **Please note that you must first select this specific FOA Number in order to view the questions and answers specific to this FOA.** DOE will attempt to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website.

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

SECTION VIII - OTHER INFORMATION

A. Amendments

Amendments to this announcement will be posted on the EERE eXCHANGE web site and the Grants.gov system. However, you will only receive an email when an amendment or an announcement is posted on these sites if you register for email notifications for this FOA in Grants.gov. DOE recommends that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any amendments or other announcements.

B. Government Right to Reject or Negotiate

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. Commitment of Public Funds

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. Proprietary Application Information

DOE will use data and other information contained in applications strictly for evaluation purposes. Applicants should not include confidential, proprietary, or privileged information in their applications unless such information is necessary to convey an understanding of the proposed project.

Applications containing confidential, proprietary, or privileged information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

The cover sheet of the application must be marked as follows and identify the specific pages containing confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data:

Pages *[list applicable pages]* of this document may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

The header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: "Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure."

In addition, every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

E. Evaluation and Administration by Non-Federal Personnel

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

F. Intellectual Property Developed under this Program

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

Special Protected Data Statutes. This program is covered by a special protected data statute.

The provisions of the statute provide for the protection from public disclosure, for a period of up to 5 years from the date of its development, of first-produced data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data – Programs Covered Under Special Protected Data Statutes, (10 CFR 600 Appendix A to Subpart D), will apply to an award made under this announcement. This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and may also identify data that will be recognized by the parties as protected data. For National Laboratories and FFRDCs, the data rights clause in Applicant’s Management and Operating (M&O) Contract will apply.

G. Notice of Right to Request Patent Waiver

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits

domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. Notice Regarding Eligible/Ineligible Activities

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. Notice of Right to Conduct a Review of Financial Capability

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. Notice of Potential Disclosure under Freedom of Information Act

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

K. Lobbying Restrictions

By accepting funds under this award, you agree that none of the funds obligated on the award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

Reference Material

APPENDIX A – DEFINITIONS

“Amendment” means a revision to a Funding Opportunity Announcement

"Applicant" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Application" means the documentation submitted in response to a Funding Opportunity Announcement.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization’s E-Business Point of Contact designated in the SAM.

"Award" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

"Consortium (plural consortia)" means the group of organizations or individuals that have chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity. Refer to [10 CFR 600.5](#) for additional information regarding cooperative agreements.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the SAM. Call 1-866-705-5711 to receive one free of charge.

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the SAM registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to conduct SAM transactions.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

“**EERE Exchange**” is the Department of Energy, Energy Efficiency and Renewable Energy’s web system for posting Federal Funding Opportunity Announcements and receiving applications.

[EERE eXCHANGE website](#)

"**Financial Assistance**" means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“**FedConnect**” is where federal agencies make awards via the web.

<https://www.fedconnect.net/FedConnect/>

“**Federally Funded Research and Development Center (FFRDC)**” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“**Funding Opportunity Announcement (FOA)**” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

"**Grant**" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

“**Grants.gov**” is the “storefront” web portal which allows organizations to electronically find grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

“**Indian Tribe**” means any Indian tribe, band, nation, or other organized group or community, including Alaska Native village or regional or village corporation, as defined in or established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688)[43 U.S.C. § 1601 et seq.], which are recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

"**Key Personnel**" mean the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

“**Marketing Partner Identification Number (MPIN)**” is a very important password designated by your organization when registering in SAM. The E-Business Point of Contact will need the MPIN to assign privileges to the individual(s) authorized to perform SAM transactions on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

“**Nonprofit**” Nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.

"**Participant**" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement

(including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

“Principal Investigator” refers to the technical point of contact/Project Manager for a specific project award.

"Project" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

“Proposal” is the term used to describe the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

“Recipient” means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

“System for Award Management (SAM)” is the primary database which collects, validates, stores and disseminates data in support of agency missions (<https://www.sam.gov>).

"Selection" means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

"Selection Official" means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

"Substantial Involvement" means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

“Technology Investment Agreement (TIA)” is a type of assistance instrument used to support or stimulate research projects involving for-profit firms, especially commercial firms that do business primarily in the commercial marketplace. TIAs are different from grants and cooperative agreements in that the award terms may vary from the Government-wide standard terms (See DOE TIA regulations at 10 CFR Part 603). The primary purposes for including a TIA in the type of available award instruments are to encourage non-traditional Government contractors to participate in an R&D program and to facilitate new relationships and business practices. A TIA can be particularly useful for awards to consortia (See 10 CFR 603.225(b) and 603.515, Qualification of a consortium).

"Total Project Cost" means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

“Tribal Energy Resource Development Organization or Group” means an “organization” of two or more entities, at least one of which is an Indian Tribe (see “Indian Tribe” above) that has the written consent of the governing bodies of all Indian Tribes participating in the organization to apply for a grant or loan, or other assistance under 25 U.S.C. § 3503.

APPENDIX B – PERSONALLY IDENTIFIABLE INFORMATION

In responding to this Announcement, Applicants must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

- a. **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
- b. **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Applicants must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of Birth associated with an individual
- Date of Birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Employment history and other employment information associated with an individual
- Ratings
- Disciplinary actions

- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal
- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Applicants may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g. to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

APPENDIX C – COST SHARE INFORMATION

Cost Sharing or Cost Matching

The terms “cost sharing” and “cost matching” are often used synonymously. Even the DOE Financial Assistance Regulations, 10 CFR Part 600, use both of the terms in the titles specific to regulations applicable to cost sharing. DOE almost always uses the term “cost sharing,” as it conveys the concept that **non-federal share is calculated as a percentage of the Total Project Cost**. An exception is the State Energy Program Regulation, 10 CFR Part 420.12, State Matching Contribution. Here “cost matching” for the non-federal share is calculated as a percentage of the Federal funds only, rather than the Total Project Cost.

How Cost Sharing Is Calculated

As stated above, cost sharing is calculated as a percentage of the Total Project Cost. Following is an example of how to calculate cost sharing amounts for a project with \$1,000,000 in federal funds with a minimum 20% non-federal cost sharing requirement:

Formula: Federal share (\$) divided by Federal share (%) = Total Project Cost

Example: \$1,000,000 divided by 80% = \$1,250,000

Formula: Total Project Cost (\$) minus Federal share (\$) = Non-federal share (\$)

Example: \$1,250,000 minus \$1,000,000 = \$250,000

Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)

Example: \$250,000 divided by \$1,250,000 = 20%

See the sample cost share calculation for a blended cost share percentage below. **Keep in mind that FFRDC funding is DOE funding.**

What Qualifies For Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or even a couple of sentences, in general, if a cost is allowable under the cost principles applicable to the organization incurring the cost and is eligible for reimbursement under a DOE grant or cooperative agreement, then it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, then it is not allowable as cost share. In addition, costs may not be counted as cost share if they are paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing.

The rules associated with what is allowable as cost share are specific to the type of organization that is receiving funds under the grant or cooperative agreement, though are generally the same for all types of entities. The specific rules applicable to:

- Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations are found at 10 CFR 600.123;
- State and Local Governments are found at 10 CFR 600.224;
- For-profit Organizations are found at 10 CFR 600.313.

In addition to the regulations referenced above, other factors may also come into play such as timing of donations and length of the project period. For example, the value of ten years of donated maintenance on a project that has a project period of five years would not be fully allowable as cost

share. Only the value for the five years of donated maintenance that corresponds to the project period is allowable and may be counted as cost share.

Additionally, DOE generally does not allow pre-award costs for either cost share or reimbursement when these costs precede the signing of the appropriation bill that funds the award. In the case of a competitive award, DOE generally does not allow pre-award costs prior to the signing of the Selection Statement by the DOE Selection Official.

Following is a link to the DOE Financial Assistance Regulations. You can click on the specific section for each Code of Federal Regulations reference mentioned above.

[DOE Financial Assistance Rules \(10 CFR 600\)](#)

As stated above, the rules associated with what is allowable cost share are generally the same for all types of organizations. Following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

(A) *Acceptable contributions.* All contributions, including cash contributions and third party in-kind contributions, must be accepted as part of the recipient's cost sharing if such contributions meet all of the following criteria:

- (1) They are verifiable from the recipient's records.
- (2) They are not included as contributions for any other federally-assisted project or program.
- (3) They are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- (4) They are allowable under the cost principles applicable to the type of entity incurring the cost as follows:

(a) *For-profit organizations.* Allowability of costs incurred by for-profit organizations and those nonprofit organizations listed in Attachment C to OMB Circular A-122 is determined in accordance with the for-profit costs principles in 48 CFR Part 31 in the Federal Acquisition Regulation, except that patent prosecution costs are not allowable unless specifically authorized in the award document. (v) Commercial Organizations. [FAR Subpart 31.2—Contracts with Commercial Organizations](#)

(b) *Other types of organizations.* Allowability of costs incurred by other types of organizations that may be subrecipients under a prime award is determined as follows:

(i) *Institutions of higher education.* Allowability is determined in accordance with: [2 CFR 220 Cost Principles for Educational Institutions](#)

(ii) *Other nonprofit organizations.* Allowability is determined in accordance with: [2 CFR 230 Cost Principles for Nonprofit Organizations](#)

(iii) *Hospitals.* Allowability is determined in accordance with the provisions of: [Title 45 Appendix E to Part 74—Principles for Determining Costs Applicable to Research and Development Under Grants and Contracts With Hospitals](#)

(iv) *Governmental organizations.* Allowability for State, local, or federally recognized Indian tribal government is determined in accordance with:

[PART 225—Cost Principles for State, Local, and Indian Tribal Governments](#)
[\(OMB Circular A–87\)](#)

- (5) They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.
- (6) They are provided for in the approved budget.

(B) *Valuing and documenting contributions*

- (1) *Valuing recipient's property or services of recipient's employees.* Values are established in accordance with the applicable cost principles, which mean that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as cost sharing or matching, that full value must be the lesser or the following:
 - (a) The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
 - (b) The current fair market value. If there is sufficient justification, the Contracting Officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The Contracting Officer may accept the use of any reasonable basis for determining the fair market value of the property.
- (2) *Valuing services of others' employees.* If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.
- (3) *Valuing volunteer services.* Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.
- (4) *Valuing property donated by third parties.*
 - (a) Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the cost sharing or matching share must be reasonable and must not exceed the fair market value of the property at the time of the donation.
 - (b) Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the performance of the award or fully depreciated by the end of the award, provided

that the Contracting Officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:

(i) The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.

(ii) The value of loaned equipment must not exceed its fair rental value.

(5) *Documentation.* The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:

(a) Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.

(b) The basis for determining the valuation for personal services and property must be documented.

**SAMPLE COST SHARE CALCULATION
FOR BLENDED COST SHARE PERCENTAGE**

The following example shows the math for calculating required cost share for a project with \$2,000,000 in Federal funds with four tasks requiring different Non-federal cost share percentages:

<u>Task</u>	<u>Proposed Federal Share</u>	<u>Required Federal Share %</u>	<u>Non-federal Cost Share %</u>
Task 1 (R&D)	\$1,000,000	80%	20%
Task 2 (R&D)	500,000	80%	20%
Task 3 (Demonstration)	400,000	50%	50%
Task 4 (Outreach)	<u>100,000</u>	100%	0%
	\$2,000,000		

Federal share (\$) divided by Federal share (%) = Task Cost

Each task must be calculated individually as follows:

Task 1

\$1,000,000 divided by 80% = \$1,250,000 (Task 1 Cost)

Task 1 Cost minus federal share = Non-federal share

\$1,250,000 - \$1,000,000 = **\$250,000 (Non-federal share)**

Task 2

\$500,000 divided 80% = \$625,000 (Task 2 Cost)

Task 2 Cost minus federal share = Non-federal share

\$625,000 - \$500,000 = **\$125,000 (Non-federal share)**

Task 3

\$400,000 / 50% = \$800,000 (Task 3 Cost)

Task 3 Cost minus federal share = Non-federal share

\$800,000 - \$400,000 = **\$400,000 (Non-federal share)**

Task 4

Federal share = \$100,000

Non-federal cost share is not mandated for outreach = **\$0 (Non-federal share)**

The calculation may then be completed as follows:

<u>Task</u>	<u>Proposed Federal Share</u>	<u>Federal Share %</u>	<u>Required Non-federal Cost Share \$</u>	<u>Required Non-federal Cost Share %</u>	<u>Total Project Cost</u>
Task 1	\$1,000,000	80%	\$250,000	20%	\$1,250,000
Task 2	500,000	80%	125,000	20%	625,000
Task 3	400,000	50%	400,000	50%	800,000
Task 4	<u>100,000</u>	100%	<u>0</u>	0%	<u>100,000</u>
	\$2,000,000		\$775,000		\$2,775,000

Blended Cost Share %

Non-federal share (\$775,000) divided by Total Project Cost (\$2,775,000) = 27.9% (Non-federal)

Federal share (\$2,000,000) divided by Total Project Cost (\$2,775,000) = 72.1% (Federal)

APPENDIX D – SAMPLE SUMMARY SLIDE FOR CONCEPT PAPER

Project Title

Principal Investigator, Institution + Partner Institution(s)

Technology/Approach Summary

- *Bullet points that describe how the proposed technology or approach would significantly improve building energy efficiency and/or reduce energy costs relative to the state of the art*

Technology/Approach Impact

- *Quantitatively describe (text or graphic) the primary energy savings (in Quads) and/or annual energy cost savings to be realized as a result of the proposed technology or approach*

Proposed Targets

Metric	State of the Art	Proposed
<i>List important technical metrics and/or impact categories here</i>	<i>Quantitatively describe where we are today</i>	<i>Quantitatively describe your proposed targets</i>

Topic Area; Indicate 1 or 2-Year Project

Key illustration (s), chart(s), and table(s) summarizing technology development and/or impact.

APPENDIX E – SAMPLE SUMMARY SLIDE FOR FULL APPLICATION

Project Title

Control Number

Principal Investigator, Institution + Partner Institution(s)

DOE funds: \$###K

Cost share: ##%

Technology/Approach Summary

- *Bullet points that describe how the proposed technology or approach would significantly improve building energy efficiency and/or reduce energy costs relative to the state of the art*

Technology/Approach Impact

- *Quantitatively describe (text or graphic) the primary energy savings (in Quads) and/or annual energy cost savings to be realized as a result of the proposed technology or approach*

Proposed Targets

Metric	State of the Art	Proposed
<i>List important technical metrics and/or impact categories here</i>	<i>Quantitatively describe where we are today</i>	<i>Quantitatively describe your proposed targets</i>

Key illustration (s), chart(s), and table(s) summarizing technology development and/or impact.

Topic Area; Indicate 1 or 2-Year Project

APPENDIX F – EXAMPLE WORK PLAN TEMPLATE

Project Title					
PI			PI Organization		
Project Start Date		Project End Date			
Project Quantitative Goal(s)⁷					
Year		of		Control Number	

Task No.	Task Name	Milestones/Deliverables ⁸				Go/No-Go Stage Gate ⁹
		Q1	Q2	Q3	Q4	
1						
2						

⁷ Project goal(s) should be quantitative performance and cost targets, if applicable.

⁸ Milestones and/or deliverables should be quantitative, if applicable. Include all milestones/deliverables for a given quarter. If there are no milestones/deliverables for a given quarter, leave it blank.

⁹ All 2-year projects MUST have a go/no-go Stage Gate; this should be quantitative, if applicable.