

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U.S. Department of Energy
Golden Field Office**

**Recovery Act – Geothermal Technologies Program:
Ground Source Heat Pumps**

Funding Opportunity Announcement Number: DE-FOA-0000116

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Application Due Date: 08/06/2009, 11:59 PM Eastern Time

NOTE: Questions regarding the content of this announcement must be submitted through FedConnect. Applicants must be registered in FedConnect to submit or view Questions.

APPLICATION SUBMISSION, FEDCONNECT QUICK START GUIDE, REGISTRATION REQUIREMENTS, AND SUBMISSION OF QUESTIONS

1. Application Submission

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT AT <https://www.fedconnect.net/> TO BE CONSIDERED FOR AWARD. The Adobe Application Package identified in Section IV. C. is posted as an attachment to this Funding Opportunity Announcement (FOA) (in FedConnect). It is the responsibility of the applicant, prior to the application due date and time, to verify successful transmission.

In the Adobe Application Package that is provided as a separate attachment to this announcement in FedConnect, first attach your application documents within the Adobe Application Package. Then save the Adobe Application Package, and submit it via the FedConnect portal. IMPORTANT: DO NOT use the “Save & Submit” button in the Adobe Application Package, because that button is only used when submitting an application in Grants.gov.

Organizations with system-to-system capabilities with Grants.gov for their submissions may continue to use their systems, and they may apply through Grants.gov.

2. 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 FedConnect, 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. Submission via FedConnect constitutes the authorized representative’s electronic signature.

3. FedConnect Quick Start Guide

Use this guide to assist you with FedConnect:

https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf

4. Registration Requirements

To submit an application in response to this FOA, applicants must be registered with FedConnect. Before you can register with FedConnect, you will need the following:

- A. Your organization’s DUNS (including plus 4 extension if applicable). If you do not know your organization’s DUNS or if your organization does not have a DUNS, you can search for it or request one at <http://fedgov.dnb.com/webform/displayHomePage.do> .
- B. A Federal Central Contractor Registration (CCR) account. If your organization is not currently registered with CCR, please register at www.ccr.gov before continuing with your FedConnect registration.

- C. Possibly, your organization's CCR Marketing Partner Identification Number (MPIN). If you are the first person from your organization to register, FedConnect will need to create an organization account. Only a person who knows your organization's CCR MPIN can do this. To find out who this is in your organization, go to <http://www.ccr.gov/> and click **Search CCR**. Once you have found your organization, locate the Electronic Business Point of Contact.

After the initial FedConnect account is created, employees can register themselves without the MPIN. If you are not sure whether your organization has an account with FedConnect, complete the registration form and FedConnect will let you know if your organization is registered. (PLEASE REFER TO THE FEDCONNECT QUICK START GUIDE).

Applicants who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that applicants start the process as soon as possible. For those applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

5. Adobe Application Package - Instructions for Completion of Forms

The Adobe Application Package was intended to be utilized in Grants.gov; however, DOE is currently utilizing it with FedConnect. Please disregard any information within the Adobe Application Package regarding use with Grants.gov; specifically, DO NOT use the "Save & Submit" button in the Adobe Application Package, because that button is only used when submitting an application in Grants.gov.

- A. Copy the Adobe Application Package to your desktop;
- B. Open the Adobe Application Package, and first complete the SF-424 Application, Project/Performance Site Location(s) form, and SF-LLL form (if applicable), which are all part of the Adobe Application Package. To start this process, simply click on the form's name to select the item and then click on the => button. This will move the document to the appropriate "Documents for Submission" box and the form will be automatically added to your application package. Open the forms by selecting the form name and clicking on the "Open Form" button, then complete the required data fields.
- C. Identify the remaining forms required to be completed, as identified in Part IV of the Announcement. Prepare and save these forms to your desktop (e.g., project narrative, resume file, budget file). Once finalized and files are named as indicated in Part IV of the Announcement, upload (attach) these files individually within the Adobe Application Package by clicking on "Add Mandatory Other Attachment" to attach the Project Narrative and clicking on "Add Optional Other Attachment" to attach the remaining files;
- D. Once all completed files have been attached within the Adobe Application Package, save the Adobe Application Package to your desktop, and submit to FedConnect, following the steps outlined in the FedConnect Quick Start Guide at:

https://www.fedconnect.net/Fedconnect/PublicPages/FedConnect_Ready_Set_Go.pdf

Note that applications may be submitted to multiple Topic Areas; however, SEPARATE applications must be submitted for each Topic Area. If submitting to multiple Topic Areas, save the Adobe Application Package in a single file, using up to 10 letters of the applicant's Organization Name as the file name (e.g., UCLA). If your organization is submitting more than one application to different Topic Areas, you must identify an application number and the Topic Area Number at the end of each file name (e.g., UCLA-1-Topic1).

Note that it is the responsibility of the applicant, prior to the application due date and time, to verify successful transmission in FedConnect.

6. Questions

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to submit questions and to receive responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been distributed.

Instructions for completing the Grant Application Package are contained in the full text of the Funding Opportunity Announcement (FOA) which can be obtained at: https://www.fedconnect.net/Fedconnect/PublicPages/PublicSearch/Public_Opportunities.aspx by clicking on the "Advanced Options" link, and in "Issuing Office" field, entering "Golden Field Office", then clicking on "Search". Once the screen comes up, locate the appropriate Announcement. In order to be considered for award, you MUST follow the instructions contained in the Announcement.

Questions pertaining to the submission of applications through FedConnect or the FedConnect system should be directed by e-mail to support@FedConnect.net or by phone to FedConnect Support at 1-800-899-6665.

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SECTION I – FUNDING OPPORTUNITY DESCRIPTION

A. Introduction: American Recovery and Reinvestment Act of 2009

Projects under this FOA will be issued with funds appropriated by the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (Recovery Act or Act). The Recovery Act's purposes are to stimulate the economy and to create and retain jobs. The Act gives preference to activities that can be started and completed expeditiously, including a goal of using at least 50 percent of the funds made available by it for activities that can be initiated not later than June 17, 2009. Due to the schedule of this FOA, this date does not impact applications to this FOA. Accordingly, special consideration will be given to projects that promote and enhance the objectives of the Act, especially job creation, preservation and economic recovery, in an expeditious manner.

Be advised that special terms and conditions may apply to projects funded by the Act relating to:

- Reporting, tracking and segregation of incurred costs;
- Reporting on job creation and preservation;
- Publication of information on the Internet;
- Access to records by Inspectors General and the Government Accountability Office;
- Prohibition on use of funds for gambling establishments, aquariums, zoos, golf courses or swimming pools;
- Ensuring that iron, steel and manufactured goods are produced in the United States;
- Ensuring wage rates are comparable to those prevailing on projects of a similar character;
- Protecting whistleblowers and requiring prompt referral of evidence of a false claim to an appropriate inspector general; and
- Certification and Registration.

These special terms and conditions will be based on provisions included in Titles XV and XVI of the Act. The exact terms and conditions will be provided as soon as possible. The currently available Special Provisions are located at:

http://management.energy.gov/business_doe/business_forms.htm.

The Office of Management and Budget (OMB) has issued Initial Implementing Guidance for the Recovery Act. See [M-09-10, Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009](#). OMB will be issuing additional guidance concerning the Act in the near future. Applicants should consult the DOE website, www.energy.gov, the OMB website <http://www.whitehouse.gov/omb/>, and the Recovery website, www.recovery.gov, regularly to keep abreast of guidance and information as it evolves.

Recipients of funding appropriated by the Act shall comply with requirements of applicable Federal, State, and local laws, regulations, DOE policy and guidance, and instructions in this FOA, unless relief has been granted by DOE. Recipients shall flow down the requirements of applicable Federal, State and local laws, and regulations, DOE policy and guidance, and instructions in this FOA to subrecipients at any tier to the extent necessary to ensure the recipient's compliance with the requirements.

Be advised that Recovery Act funds can be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of the Recovery Act and related OMB Guidance. Applicants for projects funded by sources other than the Recovery Act should plan to keep separate records for Recovery Act funds and ensure those records comply with the requirements of the Act. Funding provided through the Recovery Act that is supplemental to an existing grant is one-time funding.

Applicants should begin planning activities for their first tier subawardees, including obtaining a DUNS number (or updating the existing DUNS record), and registering with the Central Contractor Registration (CCR). The extent to which subawardees will be required to register in CCR will be determined by OMB at a later date.

B. Description

Background

The U.S. Department of Energy (DOE) Geothermal Technologies Program (GTP) will address Section 931(a)(2)(C) of the Energy Policy Act (EPA) of 2005, which includes authorization to promote the deployment of ground source heat pumps, also known as geothermal heat pumps (GHPs). Funding will be made available through the American Recovery and Reinvestment Act of 2009. Through this FOA, DOE seeks to increase the deployment of ground source heat pumps through new commercialization strategies that incorporate: 1) innovative commercial-scale or residential community technology demonstration projects; 2) data gathering and analysis related to system costs, performance, and installation techniques; and 3) a national GHP certification standard. These strategies should address key barriers that have prevented this technically-mature technology from reaching its full commercial potential, including the high cost of installation, limited consumer knowledge and trust in GHP systems, and the lack of business and financing approaches to deliver the technology in a cost-effective and ubiquitous manner in the marketplace.

DOE's objective in offering this FOA is to promote ground source heat pumps via the following three Topic Areas:

- 1. Technology Demonstration Projects:** DOE will fund mid- or large-scale (**i.e., provide 50-100 tons of heating and/or cooling**) cost-shared technology demonstration projects that incorporate innovative business and financing strategies and/or technical approaches designed to overcome commercialization barriers that currently exist for GHPs. These projects should also include a data gathering, analysis and reporting component, to provide hard data on system performance and benefits, installation techniques and other best practices. The data generated from these projects will be presented via the GTP website or other means and made available to aid consumers in their purchase decisions. Please see pages 3, 4 and 5 for more detail.
- 2. Data Gathering and Analysis:** DOE will fund data gathering and analysis research papers related to system costs, performance, and installation techniques which will provide insights into the lowest life-cycle cost applications for GHPs and assist consumers in determining project feasibility. Proposed projects should include collaboration with industry, academia and National Laboratory partners to assemble independent, statistically valid data on the costs and benefits of GHPs in a variety of

building applications to target those that are most cost effective from a life cycle standpoint. Projects should include modeling of system performance and cost benefits for a variety of system designs and applications, from small residential to large district heating systems, and identify GHP applications based on lowest life cycle cost. Please see page 5 for more detail.

- 3. National Certification Standard:** DOE will fund organization(s) to create a national certification standard for the GHP industry designed to increase consumer confidence in the technology, reduce the potential for improperly installed systems, and assure product quality and performance. Projects should solicit information and input from a variety of industry stakeholders, manufacturers, professional and trade organizations to develop a certification standard for all primary personnel involved in the installation of GHP systems, including drillers; plumbers and electricians; Heating, Ventilating, and Air Conditioning (HVAC) and refrigeration specialists; engineers; and architects. **This Topic Area does NOT include the development of curriculum, training, or certification programs.** Please see page 6 for more detail.

The Program seeks to maintain an aggressive schedule for project completion as well as the creation and maintenance of jobs. Applications with more aggressive schedules for completion, greater number of jobs created, cost share above the minimum level required, and cooperation between industry, accredited educational institutions, and/or Indian Tribes/ Tribal Energy Resource Development Organizations or Groups may be given greater consideration.

A single Principal Investigator or organization may submit separate applications to multiple Topic Areas, or separate applications to a single Topic Area. **However, a single Principal Investigator or organization may not submit a single application that addresses multiple Topic Areas. Each application will be evaluated according to its respective merit review criteria. Therefore, applicants are required to clearly declare which Topic Area they are applying for within each application. Applications that address more than one Topic Area will not pass the Initial Review.** Also, DOE reserves the right to make one award, multiple awards, or no awards in any given Topic Area.

For all Topic Areas, the applicant must state, in writing with concurrence from an authorized representative from the organization, that non-proprietary data collected during the project period will be made available to the public through the National Geothermal Data System (please reference <http://www1.eere.energy.gov/geothermal/> for more information). The data shall be converted to a common file format (e.g., Word, PDF, .jpg) if necessary. DOE must also be provided with reasonable access to the project site.

Topic Area 1 **Technology Demonstration Projects**

Proposed projects for Topic Area 1 (Technology Demonstration Projects) MUST be of a mid- or large-scale (i.e. provide no less than 50 tons of heating and/or cooling). It is NOT the intent of this topic to fund installation of small-scale residential or commercial heat

pump systems that do not provide at least 50 tons (individually or in aggregate) of heating and/or cooling. If the application does not clearly state and demonstrate adherence to this requirement, it will NOT pass the Initial Review in order to be considered for Merit Review as described in Part V.A.

For Topic Area 1, any costs incurred prior to selection for negotiation of award (such as temperature gradient well drilling, borehole drilling, installation of existing system components, etc.) are not allowable project costs.

Applications for Topic Area 1 should also include an economic analysis and detailed discussion regarding the proposed approach for project replicability and transferability. Proposed projects should also be cost-effective, on a life-cycle and/or simple payback basis, and take advantage of existing conditions that reduce installation costs, such as local geological factors or the nature of the built environment that serve to minimize ground loop installation costs. DOE is seeking applications that offer greater energy savings, jobs created, and emissions avoided. Projects may include the following Phases:

Phase I – Feasibility Study and Engineering Design

During Phase I, recipients must conduct a feasibility study to ensure that a ground source heat pump can be utilized (technically and economically at the site) and provide a comprehensive design approach for the GHP installation, including the bore-field and ground loop system design.

Innovative business and financing strategies and/or technical approaches should be implemented. The project could successfully share or leverage financing and expertise from third parties (e.g., utilities, municipalities) to address the first-cost barrier that GHP systems face over conventional HVAC alternatives. This could include, for example, a GHP tariff approach, a community loop, or loop leasing scenario for a residential subdivision. The project could also be innovative from a technology perspective (e.g., it incorporates technology that improves the GHP value proposition, efficiency, performance, and maintenance requirements). This could include a new application approach, such as a hybrid system (e.g., GHP + cooling towers), the use of advanced energy storage technologies or heat exchanger designs. However, the proposed approach should also be replicable in that it should be capable of being transferred elsewhere.

Regulatory and environmental permitting must be completed prior to the end of this phase. Additionally, a program review may be included at the end of Phase I.

Phase II – Installation and Commissioning of Equipment

During Phase II, recipients will procure and install the equipment for the ground source heat pump and to report data on capital costs. The data shall include a detailed accounting of installation costs for the ground loop heat exchanger and balance of system components, as well as direct and indirect jobs created by the project.

Phase III – Operation, Data Collection, and Marketing

During Phase III, recipients must operate the geothermal heating/cooling facility for 2-3 years, provide annual reporting on energy savings, performance, operations and

maintenance characteristics, and continue to market the GHP system according to the business and design approach utilized. Marketing should be included in order to extend the business and technical approach to additional hardware installations. The ground source heat pump systems themselves will continue to serve as showcase facilities for the technology in order to market the innovative approach.

Award recipients will be required to provide detailed utility energy consumption data to demonstrate GHP energy performance. For retrofit applications, utility data should be provided that establishes building energy consumption baselines, pre- and post-retrofit. All non-proprietary data collected during the project period shall be made available on the National Geothermal Data System.

Topic Area 2 **Data Gathering and Analysis**

Projects for Topic Area 2 (Data Gathering and Analysis) will consist of research papers that address system costs, performance, and installation techniques to provide insights into the lowest life-cycle cost applications for GHPs and assist consumers in determining project feasibility. Recipients should propose projects that assemble independent, statistically valid data on the costs and benefits of GHPs utilized in a representative sample of building applications (e.g. residential, commercial, government, schools and universities), age, and utility service type (compare between electric and natural gas systems) and generating fuel mix (to calculate emissions offsets). The data gathering sample should be representative of major system loop designs and sizes, climate zones, and ground conditions, all which may have an impact on installation cost and feasibility. Data generated will be utilized by consumers to identify the most cost-effective applications. This Topic Area will include modeling of system performance and cost benefits for a variety of system designs and applications from small residential to large district heating systems to identify GHP applications based on lowest life cycle cost. Specifically, research papers may include but are not limited to:

- Investigate options to enhance efficiencies and reduce costs to the consumer, including options to aggregate drilling services and installations, simplify the customer purchase experience, and investigate unique financing approaches and novel applications
- Evaluate innovative utility programs and incentives, such as loop tariffs, community loops, loop leases, etc. Identify potential new business models, financing arrangements, project, service, and delivery approaches that address current GHP market barriers including industry best practices, and seek approaches to enhance system design and performance
- Create new modeling “decision” tools that enable prospective GHP customers to analyze system cost and performance for a variety of applications to aid in purchase and design decisions
- Develop validated hybrid designs and simulation tools. Hybrid GHP systems may offer the potential to improve system cost, economics and design flexibility
- Develop enhanced commercial-quality models/modeling tools for vertical, horizontal, and pond/lake loops. This may include GHP-specific interfaces for existing HVAC software design tools

Topic Area 3
National Certification Standard

Projects for Topic Area 3 (National Certification Standard) should develop a certification standard for all primary personnel involved in the installation of GHP systems. The standard should be based on a nationally-recognized competency regimen developed in conjunction with professional and trade organizations, product manufacturers, and government regulatory authorities. Recipients should base the certification standard on industry best practices for system design and installation, to provide the highest level of system performance, quality and safety. DOE anticipates that certification standards would remain in place and available to the public beyond the project period. **This topic does NOT include the development of curriculum, training, or certification programs.**

SECTION II – AWARD INFORMATION

A. Type of Award Instrument

DOE anticipates awarding grants or cooperative agreements under this program announcement.

B. Estimated Funding

Approximately \$50 million is expected to be available for new awards under this announcement.

C. Maximum and Minimum Award Size

The DOE funding ceiling is defined as the maximum amount for an individual award made under this announcement. The DOE funding floor is defined as the minimum amount for an individual award made under this announcement. The following funding levels are expected for each Topic Area:

<u>Program/Topic Area:</u>	<u>DOE Funding Ceiling</u>	<u>DOE Funding Floor</u>
1	\$5,000,000	None
2	\$250,000	None
3	\$3,000,000	None

D. Expected Number of Awards

Under this announcement, DOE expects to make the following number of awards for each Topic Area:

<u>Program/Topic Area:</u>	<u>Number of Awards</u>
1	Up to 10 for Topic Area 1
2	Up to 8 for Topic Area 2
3	Up to 3 for Topic Area 3

E. Anticipated Award Size

The anticipated award size for projects under each Topic Area in this announcement is:

<u>Program/Topic Area</u>	<u>Anticipated Award Size</u>
1	\$5,000,000
2	\$250,000
3	\$1,000,000 - \$3,000,000

F. Period of Performance

The anticipated period of performance for projects under each Topic Area in this announcement is:

<u>Program/Topic Area</u>	<u>Award Duration</u>
1	Up to 5 years
2	Up to 1 year
3	Up to 5 years

G. Type of Application

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

SECTION III - ELIGIBILITY INFORMATION

A. Eligible Applicants

The following domestic entities are eligible to apply for this announcement: institutions of higher education, non-profit and for-profit private entities, State and Local Governments, Indian Tribes, and Tribal Energy Resource Development Organizations or Groups.

DOE Federally Funded Research and Development Centers (FFRDCs), non-DOE FFRDCs, National Laboratories, and Federal agencies are not eligible to apply as prime recipients for this announcement; however, these entities are eligible as sub-recipients **provided their scope and budget does not exceed 20% of total project costs.**

Foreign participants are eligible as sub-recipients provided that:

- The foreign sub-recipient effort, in aggregate, shall not exceed one-third (33%) of the total project costs which includes both the applicant's and the foreign subcontractor's portions of the effort.
- The foreign sub-recipient must provide the minimum required cost share for the Topic Area for its own portion of the project.

B. Cost Share

- **For Topic Area 1 (Technology Demonstration Projects),** DOE is seeking applications that provide a minimum cost share of 50% of the total project costs. However, DOE will consider applications with proposed cost share as low as 25% of the total project costs, using the Secretary of Energy's authority to reduce cost-share requirements under the Recovery Act. For Indian Tribes or Tribal Energy Resources Groups, cost share may be

waived in full. **Applicants proposing cost share below 50% must provide a justification for their request in the Project Narrative Part IV.C.b.** The justification should explain why the applicant cannot cost share at the statutory level (50%) and provide specifics as to why the applicant is proposing at the lower level.

- **For Topic Area 2, (Data Gathering and Analysis),** DOE is seeking applications that provide a minimum cost share of 20% of the total project costs. However, DOE will consider applications with proposed cost share as low as 10% of the total project costs, using the Secretary of Energy’s authority to reduce cost-share requirements under the Recovery Act. For Indian Tribes or Tribal Energy Resources Groups, cost share may be waived in full. **Applicants proposing cost-share below 20% in must provide a justification for their request in the Project Narrative Part IV.C.b.** The justification should explain why the applicant cannot cost share at the statutory level (20%) and provide specifics as to why the applicant is proposing at the lower level.
- **For Topic Area 3, (National Certification Standard),** recipient cost share is not required.

C. Other Eligibility Requirements

Federally Funded Research and Development Center (FFRDC) Contractors

FFRDC contractors may be proposed as a team member 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 and must not place the FFRDC contractor in direct competition with the private sector.

Save the authorization document in a single file named “FFRDC_Auth.pdf,” and attach.

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, and will not place the laboratory in direct competition with the domestic private sector.”

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:

- The FFRDC contractor effort, in aggregate, shall not exceed **20%** of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

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. Multiple Principal Investigators

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PI's. The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PI's will be designated, the application must identify in the application 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 PI's. 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
- PI's roles and administrative, technical, and scientific responsibilities for the project.

SECTION IV – APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Forms

Apply at FedConnect

In the Adobe Application Package that is provided as a separate attachment to this announcement in FedConnect, first attach your application documents within the Adobe Application Package. Then save the Adobe Application Package, and submit it via the FedConnect portal. **IMPORTANT: DO NOT** use the "Save & Submit" button in the Adobe

Application Package, because that button is only used when submitting an application in Grants.gov.

Organizations with system-to-system capabilities with Grants.gov for their submissions may continue to use their systems, and they may apply through Grants.gov.

B. Notice of Intent and Pre-Application

1. Notice of Intent

- Provide a notice of intent to apply via email to go.geothermal@go.doe.gov by 07/16/2009, 11:59 PM Eastern Time. The notice should include the applicant's name, FOA title, and Topic Area to which you will be applying. The notice of intent will be used for DOE planning purposes only.

2. Pre-Application

- A pre-application is not required.

C. Content and Form of Application

The Adobe Application Package is provided as a separate attachment to this Funding Opportunity Announcement in FedConnect.

Organizations with system-to-system capabilities with Grants.gov for their submissions may continue to use their systems, and they may apply through Grants.gov.

You must complete the mandatory forms and any applicable optional forms in accordance with the instructions on the forms and the additional instructions below, as required by this FOA. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF), unless otherwise specified in this announcement.**

Once the forms below have been completed, save the Adobe Application Package in a single file, using up to 10 letters of the applicant's Organization Name as the file name (e.g., UCLA). If your organization is submitting more than one Application, you must identify an application number at the end of each file name (e.g., UCLA-1). If your organization is submitting more than one Application to different Topic Areas, you must identify an application number and the Topic Area Number at the end of each file name (e.g., UCLA-1-Topic1).

1. SF 424 - Application for Federal Assistance

Complete this form first to populate data in other forms. Complete all required fields in accordance with the pop-up instructions on the form. To activate the instructions in the form, turn on the "Help Mode" (icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 21 can be found at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. Project/Performance Site Location(s)

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided. **Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code; for example, VA-001.** In the form, place the mouse pointer over this field for additional instructions.

Use the “Next Site” button to expand the form to add additional Project/Performance Site Locations.

3. Other Attachments Form

Submit the following files with your application and attach them to the Other Attachments Form. Click on “Add Mandatory Other Attachment” to attach the Project Narrative. Click on “Add Optional Other Attachment,” to attach the other files.

a. 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 (e.g., benefits or 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. 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 this information in a file named “Summary.pdf,” and click on “Add Optional Other Attachment” to attach.

b. Project Narrative File - Mandatory Other Attachment

The project narrative must not exceed 15 pages, including 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 FIRST 15 PAGES OF THE PROJECT NARRATIVE.** 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 named “Project.pdf,” and click on “Add Mandatory Other Attachment” to attach.

The project narrative must include:

- Statement of Project Objectives (SOPo)
The SOPo must address how the project objectives will be met. It must

contain a clear, concise description of all activities to be completed during the project performance and follow the requirements in the template. In the SOPO, describe the technical merit of the proposed project as well as the project phases as specified in the Project Description in Part I. For a suggested format, please refer to form PMC 134.1 (SOPO template) at the following link:

https://www.eerepmc.energy.gov/procurenet/FinancialAssistance/Forms/Procurenet/PMC134_1-SOPO.doc.

- Merit Review Criterion Discussion
The section should be formatted to address each of the 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. **Describe the current state of the art for the Topic Area and proposed improvement to that technology, as applicable.** DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.
- American Recovery and Reinvestment Act of 2009, P.L. 111-5 (Recovery Act) Information This section should address how the project will promote and enhance the objectives of the Recovery Act, especially job creation and/or preservation, and economic recovery in an expeditious manner. The response must include quantitative data supporting the number of jobs created and/or preserved, as well as data supporting any other direct economic recovery impacts attributable to the performance and conduct of the project.
- Justification, if any, for reduced recipient cost share request (see Part III.B) Applicants requesting reduced recipient cost share must address the following factors: (1) why the additional DOE contribution is necessary to finance the project - that sufficient equity or debt financing is not readily available in the commercial markets; (2) why the project's financial model requires the additional DOE contribution to be viable; and, (3) why the additional contribution is necessary to achieve the objectives of the Topic Area.
- 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 above listed components of your Project Narrative combined, must be within the 15-page limit specified above.

If cost share is proposed, you must have a letter from each third party contributing cost share (i.e., a party other than the organization submitting the application) that proposes to provide all or part of the required cost share. Each letter must state that the third party is committed to providing a specific minimum dollar amount of cost share. In the budget justification, 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. **All Letters of Commitment must be attached to the Project Narrative File.** Letters of Commitment will not count towards the Project Narrative page limit.

Documents listed below may also be included as clearly marked appendices to your Narrative and will not count towards the Project Narrative page limit. Please note that some of the required documents listed below may have their own page limits to which you must adhere.

c. Resume File

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file named “resume.pdf” and click on “Add Optional Other Attachment” to attach. 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 following information, if applicable:

Education and Training. Provide institution, major/area, degree and year for undergraduate, graduate and postdoctoral training.

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 proposed effort.

Of the key personnel identified in this file, indicate the Principal Investigator(s) (PI). If multiple PIs are proposed, the applicant must provide the information indicated in Section III, Section D. as part of this file.

The resume file does not count towards the 15-page limit for the Project Narrative. Save this information in a file named “Resume.pdf,” and click on “Add Optional Other Attachment” to attach.

d. Budget File, SF 424 A Excel, Budget Information – Non-Construction Programs File

You must provide a separate budget for each year of support requested and an accumulative 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://management.energy.gov/business_doe/business_forms.htm.

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 named “SF424A.xls,” and click on “Add Optional Other Attachment” to attach.

e. Budget Justification File

You must justify the costs proposed in each Object Class Category/Cost Classification category. Specifically, where applicable, you should (1) identify key persons and personnel categories and the estimated costs for each person or category; (2) provide a list of equipment and cost of each item; (3) identify proposed subaward/consultant work and cost of each subaward/consultant; (4) describe purpose of proposed travel, number of travelers and number of travel days; (5) list general categories of supplies and amount for each category; and (6) provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. 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. In the budget justification, 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. By submitting your application, you are providing assurance that you have signed letters of commitment. Successful applicants will be required to submit these signed letters of commitment. Save the budget justification information in a single file named “Budget.pdf,” and click on “Add Optional Other Attachment” to attach.

f. American Recovery and Reinvestment Act of 2009, P.L. 111-5 (Recovery Act) Additional Budget Justification Information

Applications shall provide information that validates all laborers and mechanics on projects funded directly by or assisted in whole or in part by and through funding appropriated by the Recovery Act are paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by Subchapter IV of Chapter 31 of Title 40, United States Code (Davis-Bacon Act). For guidance on how to comply with this provision, see <http://www.dol.gov/esa/whd/contracts/dbra.htm>.

To satisfy this requirement, please provide a written assurance that you will comply with the Davis-Bacon Act, as identified above, with the signature of the authorized representative of your organization. Save this information in a file named “Assurance.pdf,” and click on “Add Optional Other Attachment” to attach.

g. Subaward Budget File(s)

You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). Use the SF 424 A Excel for Non Construction Programs, which can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee’s name (plus 424.xls) as the file name (e.g., ucla424.xls or energyres424.xls). Click on “Add Optional Other Attachment” to attach each file.

A budget justification for the subaward budget is also required. The budget justification must include the same justification information described in paragraph e. above.

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

If a DOE FFRDC contractor is expected to perform a portion of the work, you must provide a DOE Field Work Proposal 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”:

http://management.energy.gov/business_doe/business_forms.htm

Use up to 10 letters of the FFRDC name (plus .pdf) as the file name (e.g., lanl.pdf or anl.pdf), and click on “Add Optional Other Attachment” to attach.

i. 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 named “FFRDC_Auth.pdf” and click on “Add Optional Other Attachment”

j. Environmental Questionnaire, if applicable

For Topic Area 1 (Technology Demonstration Projects) ONLY, you must complete the environmental questionnaire at <https://www.eere-pmc.energy.gov/NEPA.asp>. As the online instructions indicate:

- a. Enter your user ID and password to access the site (if you are a new user, select "Create a new account for me" and create a user ID and password). Then select “DOE PMC-EF1 Environmental Checklist” as your submission type and click "Login." *Please remember your User ID and Password for all future NEPA submissions. You may also return to view and update your previous submissions.*
- b. On the next screen, complete all fields except for Subcontract Number (select “Eric Hass” as the DOE Project Officer in the dropdown box and specify “DE-FOA- EE0000116” as the Solicitation [FOA] Number), and upload a document describing your project by clicking on the “Browse” button and selecting your file. Click “Create EF1 and Continue to Part I and Part II” to proceed.
- c. Then, complete Part I of the Environmental Checklist and **make sure to click on the “Update Part I Information” button in the middle of the page.** After that, complete Part II and click on the “If You are Finished with Parts 1 & 2, Click to Continue to the Forms Area” button at the bottom of the page.

On the final screen, upload construction/operation/regulatory permits already obtained for the project and other relevant documents by clicking on the “Browse” button, selecting your file, and then clicking on the “Upload Now” button. Save the questionnaire in a single file named “Env.pdf” and click on “Add Attachments” in Field 11 to attach. When you have completed uploading all files, you may close the browser window as your EF1 submission is complete.

Please provide sufficient information to describe the extent of environmental benefits and impacts resulting from the proposed project including assumptions and quantitative data – provide as much information as possible on topics including but not limited to cultural and biological resources, handling/disposal of GHP working fluids, and site restoration.

Sufficiently characterize the technical work to be accomplished and all historical and future environmental related activities in support of the proposed technical work. Include completed documents or links to completed documents and identify work remaining to be completed. These documents include, but are not limited to, permits, regulatory approvals, environmental assessments and environmental impact statements.

k. Project Management Plan

The Project Management Plan (PMP) should identify the activities/tasks to be performed, a time schedule for the accomplishment of the activities/tasks, the spending plan associated with the activities/tasks, and the expected dates for the release of outcomes. Applicants may use their own project management system to provide this information. This plan should identify any decision points and go/no-go decision criteria. Award recipients must use this plan to report schedule and budget variances. Save this plan in a single file named “pmp.pdf” and click on “Add Optional Other Attachments” to attach.

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name	Topic Area 1: Technology Demonstration Projects	Topic Area 2: Data Gathering and Analysis	Topic Area 3: National Certification Standard
1) SF 424 - Application for Federal Assistance	Part of Adobe Application Package		X	X	X
2) Project/ Performance Site Location(s)	Part of Adobe Application Package		X	X	X
3) Other Attachments Form: Attach the following files to this form:	Part of Adobe Application Package	See Instructions	X	X	X
a) Project Summary/Abstract File	PDF	Summary.pdf	X	X	X
b) Project Narrative File, including required appendices (e.g., Letters of Commitment)	PDF	Project.pdf	X	X	X
c) Resume File	PDF	Resume.pdf	X	X	X

d) SF 424A Excel – Budget Information for Non-Construction Programs File	Excel	SF424A.xls	X	X	X
e) Budget Justification File	PDF	See Instructions	X	X	X
f) Davis-Bacon Act Assurance	PDF	Assurance.pdf	X	X	X
g) Subaward Budget File(s), if applicable Budget Justification(s), if applicable	Excel for Budget PDF for Justification	See Instructions	if applicable	if applicable	if applicable
h) Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable	PDF	See instructions	if applicable	if applicable	if applicable
i) Authorization from cognizant Contracting Officer for FFRDC, if applicable	PDF	FFRDC_Auth.pdf	if applicable	if applicable	if applicable
j) Environmental Questionnaire	PDF	See Instructions	X	N/A	N/A
k) Project Management Plan	PDF	PMP.pdf	X	X	X

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
- Environmental Questionnaire, if applicable
- Because Recovery Act funds apply to awards under this announcement, additional certification requirements will be required for state or local governments. See Special Provisions located at:
http://management.energy.gov/business_doe/business_forms.htm.

E. Submission Dates and Times

1. Pre-Application Due Date

- Pre-applications are not required.

2. Notice of Intent Due Date

- Provide a notice of intent to apply via email to go.geothermal@go.doe.gov by 07/16/2009, 11:59 PM Eastern Time. The notice should include the applicant's name, FOA title, and Topic Area to which you will be applying. The notice of intent will be used for DOE planning purposes only.

3. Application Due Date

Applications must be received by 08/06/2009, 11:59 PM Eastern Time. You are encouraged to transmit your application well before the deadline. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

FedConnect questions should be directed to: support@fedconnect.net
The Grants.gov Helpdesk is not available after 9:00 PM Eastern Time.

F. Intergovernmental Review

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

G. Funding Restrictions

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs. Recipients (other than State or Local Governments) 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, 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.

For Topic Area 1, any costs incurred prior to selection for negotiation of award (such as temperature gradient well drilling, borehole drilling, installation of existing system components, etc.) are not allowable project costs.

H. Submission and Registration Requirements

1. Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. Submit electronic applications through the FedConnect portal at www.FedConnect.net. Information regarding how to submit applications via Fed Connect can be found at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf.

Organizations with system-to-system capabilities with Grants.gov for their submissions may continue to use their systems, and they may apply through Grants.gov.

Further, it is the responsibility of the applicant, prior to the application due date and time, to verify successful transmission.

2. Registration Process Requirements

To submit an application in response to this FOA, applicants must be registered with FedConnect. Before you can register with FedConnect, you will need the following:

- a. Your organization's Dun and Bradstreet Data Universal Numbering System (DUNS) (including plus 4 extension if applicable). To check whether your organization has a DUNS or if your organization requires a DUNS, search for the number or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>.
- b. A Federal Central Contractor Registration (CCR) account. If your organization is not currently registered with CCR, please register at www.ccr.gov before continuing with your FedConnect registration.
- c. Possibly, your organization's CCR MPIN. If you are the first person from your organization to register, FedConnect will need to create an organization account. Only a person who knows your organization's CCR MPIN can do this. To find out who this is in your organization, go to <http://www.ccr.gov/> and click **Search CCR**. Once you have found your organization, locate the Electronic Business Point of Contact.

After the initial FedConnect account is created, employees can register themselves without the MPIN. If you are not sure whether your organization has an account with FedConnect, complete the registration form and FedConnect will let you know if your organization is registered. (PLEASE REFER TO QUICK START GUIDE).

Applicants who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that applicants start the registration process as soon as possible. For those applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

SECTION V - APPLICATION REVIEW INFORMATION

A. Criteria

1. Initial Review Criteria

- **For All Topic Areas**, prior to a comprehensive merit evaluation, DOE will perform an initial review 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.

A single Principal Investigator or organization may submit separate applications to multiple Topic Areas, or separate applications to a single Topic Area. **However, a single Principal Investigator or organization may not submit a single application that addresses multiple Topic Areas. Each application will be evaluated according to its respective merit review criteria. Therefore, applicants will be required to clearly declare which Topic Area they are applying for within each application. Applications that address more than one Topic Area will not pass the Initial Review.**

Also, proposed projects for Topic Area 1 (Technology Demonstration Projects) MUST be of a mid- or large-scale (i.e. provide no less than 50 tons of heating and/or cooling). It is NOT the intent of this topic to fund installation of small-scale residential or commercial heat pump systems that do not provide at least 50 tons (individually or in aggregate) of heating and/or cooling. If the application does not clearly state and demonstrate adherence to this requirement, it will NOT pass the Initial Review in order to be considered for Merit Review as described below.

2. Merit Review Criteria

The following factors will be used to objectively evaluate applications **for Topic Area 1 only (Technology Demonstration Projects)**. The bullets within each criterion should not be considered to be equally weighted and are not listed in order of priority.

Criterion 1: Innovativeness, Feasibility and Cost Effectiveness of Approach [Weight: 40%]

- Adequacy and completeness of the project description including the engineering design and financing approach
- Level of technical innovation in terms of the utilization of new system designs or component technologies that enhance system performance and/or life-cycle cost effectiveness
- Level of innovation of the business or financial model to: 1) address existing market barriers including high GHP installation costs; 2) deploy GHP systems on

- a large scale; 3) create an impact on GHP market demand; and 4) provide the ability for industry to deliver systems competitively and/or cost effectively
- Completeness of project economic analysis including an assessment of potential jobs created, cost/benefit analysis, life cycle cost, and payback through avoided environmental emissions and electricity consumption
- Likelihood of transferring and replicating project approach and results

Criterion 2: Project Management Approach
[Weight: 40%]

- Soundness of the project management concept with respect to proposed tasks and organizational structure to achieve project objectives
- Likelihood of achieving project objectives through realistic milestones and logical task structure and reasonableness of the schedule and milestones including Gantt Chart
- Adequacy, appropriateness, and reasonableness of the proposed budget to complete the project
- Extent of the characterization, planning, and regulatory/environmental permitting of the target site including status/evidence of permits

Criterion 3: Roles, Responsibilities and Capabilities
[Weight: 20%]

- Qualifications, capabilities, credentials, and experience of the project team to complete the hardware demonstration project
- Level of commitment as evidenced by letter(s) of commitment from all project stakeholders, including financial partners and/or sources of project capital; engineering and architectural firms; GHP designers and installers; and HVAC, plumbing, electrical, and construction contractors
- Adequacy of plan to provide non-proprietary data to the National Geothermal Data System

The following factors will be used to objectively evaluate applications **for Topic Areas 2 (Data Gathering and Analysis) and 3 (National Certification Standard) only**. The bullets within each criterion should not be considered to be equally weighted and are not listed in order of priority.

Criterion 1: Project Description
Weight: [40%]

- Clarity and completeness of the description of each activity necessary to complete the research paper or develop a national GHP certification standard
- Level of technical quality, clarity, and completeness of the application
- Feasibility of the proposed work

Criterion 2: Project Management Plan

Weight: [35%]

- Soundness of the project management concept with respect to proposed tasks and organizational structure to achieve project objectives
- Likelihood of achieving project objectives through realistic milestones and logical task structure and reasonableness of the schedule and milestones including Gantt Chart
- Adequacy, appropriateness, and reasonableness of the proposed budget to complete the project

Criterion 3: Roles, Responsibilities, and Capabilities

Weight: [25%]

- Qualifications, capabilities, credentials, and experience of the principal investigator(s) and other members of the project team
- Level of Commitment as evidenced by letter(s) of commitment from all project partners
- Adequacy of facilities and resources to accommodate the proposed project
- Adequacy of plan to provide non-proprietary data to the National Geothermal Data System

3. Other Selection Factors

For all Topic Areas, the Selection Official may consider the following program policy factors in the selection process:

1. Technological diversity of projects
2. Proposed cost share above the minimum level required
3. Projects in high electricity cost regions and rural or remote areas, or projects proposed by Indian Tribes/Tribal Energy Resource Development Organizations or Groups
4. The extent the applications promote and enhance the objectives of the American Recovery and Reinvestment Act of 2009, P.L. 111-5, especially job creation, and/or preservation and economic recovery in an expeditious manner

B. Review and Selection Process

1. Merit Review

Applications that pass the initial review 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://www.management.energy.gov/documents/meritrev.pdf>.

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

2. Selection

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

3. Discussions and Award

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 satisfactorily resolve the issues identified by the Government will preclude award to the applicant.

C. Anticipated Notice of Selection and Award Dates

- DOE anticipates notifying applicants selected for award by the December 2009 and making awards from December 2009 through September 2010.

SECTION VI - AWARD ADMINISTRATION INFORMATION

A. Award Notices

1. Notice of Selection

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.)

DOE will promptly notify those organizations whose applications have not been selected. This notice will explain why the application was not selected.

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) Budget Summary; and (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements.

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 and National Policy Requirements

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>). Grants and cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110 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>.

American Recovery and Reinvestment Act 2009 Award Administration Information

Special Provisions relating to work funded under American Recovery and Reinvestment Act of 2009, Pub. L. 111-5 shall apply. (Special Provisions are located at: http://management.energy.gov/business_doe/business_forms.htm.) Also, the Office of Management and Budget may be promulgating additional provisions or modifying existing provisions. Those additions and modifications will be incorporated into the Special Provisions as they become available.

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at

http://management.energy.gov/business_doe/business_forms.htm
<http://www.management.energy.gov/documents/specialtermsandcondition308.pdf>.

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

http://management.energy.gov/business_doe/business_forms.htm
http://management.energy.gov/business_doe/1374.htm.

3. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at

http://www.gc.doe.gov/financial_assistance_awards.htm.

4. Statement of Substantial Involvement

Either a grant or cooperative agreement may be awarded under this announcement. If the award is a cooperative agreement, the DOE Specialist and DOE Project Officer will negotiate a Statement of Substantial Involvement prior to award.

C. Reporting

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

<http://management.energy.gov/documents/DOEF46002PolicyVersion.pdf>.

Awards under this FOA will be issued with funds appropriated by the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (Recovery Act or Act). Be advised that Recovery Act reporting requirements may apply to projects funded by the Act. The reporting requirements will be specified in the DOE F 4600.2 or other related Recovery Act guidance as they become available.

SECTION VII - QUESTIONS/AGENCY CONTACTS

A. Questions

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to review responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at <http://www.compusearch.com/products/fedconnect/fedconnect.asp>. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions pertaining to the **submission** of applications through FedConnect should be directed by e-mail to support@FedConnect.net or by phone to FedConnect Support at 1-800-899-6665.

B. Agency Contacts

Name: Pete Simon
E-mail: go.goethermal@go.doe.gov

All questions should be submitted through the FedConnect portal (see Part VII.A. above.)

SECTION VIII - OTHER INFORMATION

A. Modifications

Notices of any modifications to this announcement will be distributed through the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements. More information is available at <http://www.fedconnect.net> and <http://www.compusearch.com/products/fedconnect/fedconnect.asp>.

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

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure that may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application that are to be restricted:

The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government's right to use or disclose data obtained without restriction from any source, including the applicant.

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

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. **For all Topic Areas:** 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. **For all Topic Areas:** 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. **For Topic Area 1 (Technology Demonstration Projects) only:** 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 three 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.

Copyrights. **For Topic Area 3 (National Certification Standard) only:** Recipients (including sub-recipients) must request written permission from DOE before asserting copyrights to any works created under this Award. The request must be in writing, addressed to the Contracting Officer, and must describe the work for which copyright assertion is requested, a plan for distribution (e.g., open source, royalty-bearing licenses, etc.), and describe how that plan for distribution furthers the Statement of Project Objectives. The Contracting Officer will consult with the Contracting Officer's Representative and the DOE Patent Counsel prior to rendering a written decision regarding copyright assertion.

G. Notice of Right to Request Patent Waiver

DOE intends to issue a class waiver for Agreements awarded under this FOA, which DOE expects will cover most, if not all, prime Recipients and team members. If a class waiver is not issued or a prime Recipient or team member does not qualify for the class waiver, an Applicant, including team members other than the prime Recipient, 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 prime Recipients and team members 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. Additionally, DOE's patent waivers will include a U.S. competitiveness provision reflecting DOE's programmatic objectives; e.g., improving the competitive position as well as the U.S. employment opportunities in U.S. industries.

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 that describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those that 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.

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 CCR.

"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.

“Central Contractor Registration (CCR)” is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements which require application submission through FedConnect or Grants.gov require that the organization first be registered in the CCR at <http://www.grants.gov/CCRRegister>.

"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.

"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.

“Credential Provider” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements that require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at <https://apply.grants.gov/OrcRegister>.

“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 CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/applicants/request_duns_number.jsp

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

“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 post opportunities and make awards via the web. Any applicant can view public postings without registering. However, registered users have numerous added benefits including the ability to electronically submit applications / responses to the government directly through this site. <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.

“Geothermal” refers to the stored thermal energy in, or heat produced from, the Earth’s interior.

“Geothermal Resources” are defined as geothermal conditions where the technology exists to use the stored thermal energy to either produce electricity or for direct use, e.g., space heating, district heating, snow melting, aquaculture.

"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.*, that 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 CCR. The E-Business Point of Contact will need the MPIN to assign privileges to the individual(s) authorized to perform CCR 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).

"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).

"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.

"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 that the applicant must 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 availability of TIAs as award instruments can encourage non-traditional Government contractors to participate in an R&D program and 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 share amounts for a project with \$1,000,000 in Federal funds with a minimum 20% non-Federal cost share 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 Share

While it is not possible to explain what specifically qualifies for cost share 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 Regulations:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=98a996164312e8dcf0df9c22912852b0&rgn=div5&view=text&node=10:4.0.1.3.9&idno=10>

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.

(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 OMB Circular No. A-21 -- Cost Principles for Educational Institutions

(ii) *Other nonprofit organizations.* Allowability is determined in accordance with OMB Circular A-122, Cost Principles for Non-Profit Organizations

(iii) *Hospitals.* Allowability is determined in accordance with the provisions of 45 CFR Part 74, Appendix E, 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 OMB Circular No. A-87, Cost Principles for State, Local, and Indian Tribal Governments

(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.