Good morning, everyone and welcome to our webinar. Thank you for your interest in the U.S. Department of Energy’s efforts on renewable energy and energy efficiency. You are joining us for the Informational Webinar for Applicants and other Interested parties for the Deep Direct-Use Feasibility Studies Funding Opportunity Announcement, or FOA, which was issued on November 15th. My name is Arlene Anderson and I am a Technology Manager in the Geothermal Technologies Office within the DOE’s Office of Energy Efficiency and Renewable Energy. We hope to cover the basic aspects of the Funding Opportunity Announcement during this webinar.

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

We will have a live Q&A period at the end of the webinar, so please type in your questions as they come up. Again, please be careful not to submit any language that might be business sensitive, proprietary or confidential. We will be posting all Q&As to EERE Exchange after the webinar. There may be questions that require further discussion with
EERE staff and will not be addressed today. If you don’t hear your question during the Webinar, please check EERE Exchange in the next few days as the answer will be posted there.

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

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

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0001601 ("FOA") and adhere to the stated submission requirements.

- This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document and applicants should rely on the FOA language and seek clarification from EERE.

- If you believe there is an inconsistency, please contact DDUFOA1601@ee.doe.gov.
The agenda for this presentation is as follows: READ SLIDE

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

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<td><strong>Agenda</strong></td>
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<td>1)</td>
<td>FOA Description</td>
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<td>2)</td>
<td>Topic Areas/Technical Areas of Interest</td>
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<td>3)</td>
<td>Award Information</td>
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FOA Description

OBJECTIVE: Through this Funding Opportunity Announcement (FOA) The U.S. Department of Energy (DOE) Geothermal Technologies Office (GTO) seeks to conduct feasibility studies of large-scale, low-temperature deep-well geothermal systems coupled with advanced direct-use applications and cascaded surface technologies whose applications will extend the reach of geothermal into geologically distinct parts of the country beyond the western U.S. These systems are referred to herein as deep direct-use or DDU. Feasibility studies funded under this FOA will support subsequent geothermal direct-use applied research and analysis projects, also known as renewable thermal applications, which seek to harvest heat from geothermal brines and use it to directly heat (or cool) buildings, as well as for other beneficial thermal processes. By displacing high-temperature power generation with low-to-medium temperature geothermal fluids, significant energy conservation gains can be achieved for end-use processes with moderate temperature requirements. Direct-use geothermal applications have the potential to provide cost-effective, renewable thermal energy in large portions of the U.S.
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<th><strong>FOA Description</strong></th>
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<tr>
<td>OVERVIEW: The concept for DDU is to engineer large-scale, multi-application geothermal direct-use projects that can replace or be installed in lieu of conventional district heating and cooling systems; along with other cascading thermal applications such as water heating, ice making, laundry drying, pool and sauna heating, etc. If the geothermal resource temperature is sufficient, the system could also be a combined heat and power (CHP) application, with the fluid generating power from a binary unit(s) prior to the direct-use applications.</td>
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Read Slide
**Topic Areas/Technical Areas of Interest**

This FOA is comprised of two topic areas. Topic Area 1 “DDU Feasibility Assessment” consists of establishing criteria and then modeling/analyzing results to determine the techno-economic feasibility of potential deep direct-use sites. Topic Area 2 “DDU Community of Practice Administration and Techno-Economic Validation of DDU Projects” is seeking a competent professional or team of professionals to benchmark DDU project data and provide broad outreach regarding awards made under Topic Area 1.
## Topic Areas/Technical Areas of Interest

### FOA Topic Area 1: DDU Feasibility Studies

This topic area will focus on the initial site selection, resource assessment, and feasibility study of DDU technology(s). Responses in this area should outline a detailed approach to completing an in-depth feasibility study of a potential site to include planned thermal demands for the proposed location with supporting techno-economic analysis and detail of the thermal application. One significant anticipated outcome of the FOA will be to match low-temperature geothermal resources with thermal end-uses, expanding the reach of geothermal applications to regions of the country with temperatures below current technical capabilities for geothermal power generation. EERE anticipates making approximately 4-15 awards under Topic Area 1. Individual awards in Topic Area 1 may vary between $240,000 and $900,000 and be up to 24 months in length.
## Topic Areas/Technical Areas of Interest

**FOA Topic Area 2: DDU Community of Practice Administration and Techno-Economic Validation of DDU Projects**

DOE will select one Community of Practice Administrator (COPA) under this Topic Area to convene and establish a DDU Community of Practice (COP). The COPA will select models for assessing the technical and economic potential and will rank the feasibility of DDU projects. DOE will serve as ex officio heads of the COPA and will provide confirmation and validation of the criteria. DOE will not establish the criteria for communities of practice prior to FOA release. The selected COPA will work with Topic Area 1 awardees.

Responses in this topic area will include three (3) budget periods with each being one year in length. EERE anticipates making 1 award under Topic Area 2 totaling up to $350,000 in federal share. Budget Period 1 will focus on initiating all activities outlined in the proposal necessary to establish a COP and includes outreach and collaboration with Topic Area 1 awardees to determine appropriate Topic Area 1 models/tools to be utilized, input criteria to be submitted, desired output metrics and model assumptions both cumulatively and in each Topic Area 1 Section. This will be done to ensure uniformity and best practices are established and utilized by all Topic Area 1 awardees. Budget Period 2 will focus on implementation of the modeling and validation of the results. Budget Period 3 will focus on implementation, final validation of project results, and reporting also as described in the proposal.
Non-Responsive Applications

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

- Applications that fall outside the technical parameters specified in Section 1.B of the FOA, including but not limited to:
  - Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
  - Applications that apply exclusively to power production rather than applications that consider cascading direct geothermal from power production.
  - Applications for Combined Heat and Power that do not utilize geothermal resources.
  - Applications that propose demonstration projects.
  - Applications that propose basic research.
  - Applications for engineering validation that do not include sufficient amounts of materials tested to conduct a meaningful techno-economic analysis.
EERE expects to make approximately $4 million of Federal funding available for new awards under this FOA subject to the availability of appropriated funds. The average award amount is anticipated to range from $240,000 to $900,000 for Topic Area 1 and up to $350,000 for Topic Area 2.

EERE intends to fund mostly cooperative agreements under this FOA, but may also fund Grants, TIAs, Work Authorizations, and Interagency Agreements. Cooperative Agreements include Substantial Involvement, which we will discuss next.
• Under cooperative agreements, there will be what is known as “substantial involvement” between EERE and the Recipient during the performance of the project.

• READ SLIDE
Applicants who believe their project qualifies for the reduced recipient cost share must be able to provide verification that the above requirements are satisfied.
The total budget presented in the application must include both Federal (DOE), and Non-Federal (cost share) portions, thereby reflecting TOTAL PROJECT COSTS proposed. All costs must be verifiable from the Recipient’s records and be necessary and reasonable for the accomplishment of the project.
Cost Share must be allowable and must be verifiable upon submission of the Full Application. Please refer to this chart for your entity’s applicable cost principles. It is imperative that you follow the applicable cost principles when creating your budget for the full application.
Cost share can be provided in cash and/or in-kind. It can be provided by the Prime Recipient, subs, or a third party.

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

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<th>Allowable Cost Share</th>
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<tr>
<td>- Cash Contributions</td>
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<tr>
<td>o May be provided by the Prime Recipient, Subrecipients, or a Third Party</td>
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<tr>
<td>- In-Kind Contributions</td>
</tr>
<tr>
<td>o Can include, but are not limited to: personnel costs, indirect costs, facilities and administrative costs, rental value of buildings or equipment, and the value of a service, other resource, or third party in-kind contribution</td>
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</table>
of work hours, facility use, equipment use.
Be aware that there are items that are considered unallowable cost share. If a cost is considered unallowable, it cannot be counted as cost share. This slide provides some examples of cost share that is unallowable.
Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award.

- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated.

- In limited circumstances, and where it is in the government’s interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.6 of the FOA.

Cost Share must be provided on an invoice basis, unless a waiver is requested and approved by the DOE Contracting Officer.
EERE's Evaluation and Selection Process is shown in blue here. EERE will review Concept Papers, Replies to Reviewer Comments (which we will cover later in the presentation), and Full Applications. The gray boxes represent the actions that apply to applicants throughout the FOA process.
Concept Papers are required for this FOA. Concept Papers are brief descriptions of the proposed project. It allows applicants to submit their ideas with minimal time and expense. EERE will provide feedback on the proposed project so the Applicant can make an informed decision whether to expend additional resources to prepare a full application.

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

Concept Papers must be submitted by [insert due date, time], through EERE Exchange.

EERE will provide applicants with either an encouraged or discouraged notification. A “discouraged” notification conveys EERE’s lack of programmatic interest in the proposed project. An applicant who receives a “discouraged” notification may still submit a Full Application.
EERE will provide applicants with (1) either an “encouraged” or “discouraged” notification, and (2) the reviewer comments.

Please note that regardless of the date applicants receive the Encourage/Discourage notifications, the submission deadline for the
Full Application remains the date stated on the FOA cover page
The Full Application includes:

**Technical Volume:** The key technical submission. Applicants submit info pertaining to the technical content, project team members, etc.

**SF-424 Application for Federal Assistance:** The formal application signed by the authorized representative of the applicant. Includes cost share amounts and Federal certifications and assurances.

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

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

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

**Administrative Documents:** E.g., U.S. Manufacturing Plan, FFRDC Authorization (if applicable), Disclosure of Lobbying Activities, etc.
The key technical component of the full application is the Technical Volume, which helps applicants frame the technical information that the application will be evaluated on. The Technical Volume provides information regarding what the project is, how the project tasks will be accomplished, and the project timetable.

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

<table>
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<tr>
<th>Content of Technical Volume</th>
<th>Suggested % of Technical Volume</th>
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<tbody>
<tr>
<td>Cover Page</td>
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<tr>
<td>Project Overview</td>
<td>10%</td>
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<tr>
<td>Technical Description, Innovation and Impact</td>
<td>25%</td>
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<tr>
<td>Workplan</td>
<td>50%</td>
</tr>
<tr>
<td>Technical Qualifications and Resources</td>
<td>15%</td>
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<tr>
<td>FOA Specific Requirements</td>
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• The Cover Page will be a one page document and provides basic information on their project, such as title, topic area, points of contact, etc.

• The Project Overview constitutes approximately 10% of the Technical Volume and provides information on project background, goals, impact of EERE funding

• The Technical Description, Innovation, and Impact section is approximately 25% of the Technical Volume. It provides information on project relevance and outcomes, feasibility, and innovation/impacts. This ultimately provides the justification as to why EERE should fund the project.

• The Workplan is the key element to the Technical Volume, and constitutes approximately 50% of the Technical Volume. It details the proposed milestones and project schedule. If selected for award negotiations, the Workplan serves as the starting point when negotiating the Statement of Project Objectives.

• The Technical Qualifications and Resources section is approximately 15% of the Technical Volume. It provides applicants and opportunity to provide information about the proposed project team and demonstrate how the applicant will facilitate the successful completion of the proposed project.
As we previously pointed out, applicants must submit full applications by Feb. 22nd, 2017. EERE will conduct an eligibility review, and full application will be deemed eligible if: READ SLIDE
Who’s Eligible to Apply?

Eligible applicants for this FOA include:
1. Individuals
2. Domestic Entities
3. Foreign Entities
4. Incorporated Consortia
5. Unincorporated Consortia

For more detail about each eligible applicant, please see Section III.A of the FOA for eligibility requirements.

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

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

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

Applicants may submit more than one application to this FOA, provided that each application describes a unique, scientifically distinct project.
Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an initial eligibility review and a thorough technical review.
- Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA.
- Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions.
Applications will be evaluated against the following merit review criteria:

READ SLIDE
Applications will be evaluated against the following merit review criteria:

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<th>Criterion</th>
<th>Description</th>
<th>Weight</th>
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<td>Criterion 1</td>
<td>Ability to Establish and Benchmark Communities of Practice</td>
<td>20%</td>
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<tr>
<td>Criterion 2</td>
<td>Techno-Economic Validation of DDU Feasibility Analysis</td>
<td>20%</td>
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<tr>
<td>Criterion 3</td>
<td>Metrics and Data Sharing</td>
<td>20%</td>
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<tr>
<td>Criterion 4</td>
<td>National Technological Innovation and Data Sharing Recognition and Outreach</td>
<td>20%</td>
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<tr>
<td>Criterion 5</td>
<td>Local Benefits and Sustainability of DDU Projects</td>
<td>10%</td>
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The Full Application are reviewed by experts in the FOA topic area(s). After those experts review the applications, EERE will provide applicants with reviewer comments. Applicants will have a brief opportunity to review the comments and prepare a short Reply to Reviewer Comments responding to comments however they desire. The Reply to Reviewer Comments is due by the date and time provided on this slide. Applicants should anticipate receiving the independent reviewer comments approximately three business days before this due date. The Reply to Reviewer Comments is an optional submission; applicants are not required to submit a Reply to Reviewer Comments.

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

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

Please see Sections IV.F. and V.A.3 for additional information regarding Replies to Reviewer Comments.
Selection Factors

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA.
After the Merit Review process, the Selection Official may consider program policy factors to come to a final selection decision.

READ SLIDE

**Program Policy Factors**

- The Selection Official may consider the following program policy factors in making his/her selection decisions:
  - Whether deep direct-use proposals serve energy end-uses that provide a broad public interest such as education, medical care, national defense or environmental protection.
  - Whether project teams leverage federal, state, or local plans, goals or strategies that target utilization of geothermal or renewable thermal resources.
  - Whether project teams leverage or coordinate with Federal, State, or local research and development authorities or other entities responsible for approving new energy research, development and demonstration in the proposed jurisdiction.
  - The level of industry involvement and demonstrated ability to advance direct-use related technologies.
  - Whether the proposed project is likely to lead to increased employment and manufacturing in the United States.
  - Whether the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty.
  - Whether the proposed geographical area(s) includes high population density and/or high thermal energy demand that is also geographically coincident with known or anticipated elevated subsurface temperatures.
There are several one-time actions before submitting an application in response to this FOA, and it is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant’s ability to apply to this FOA, or to meet the negotiation deadlines and receive an award if the application is selected.

**DUNS Number**

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

**System for Award Management**

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

**Fedconnect**

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

Register in Grants.gov to receive automatic updates when Amendments to this FOA are posted. However, please note that [Delete if Letters of Intent are not applicable] Letters of Intent, Concept Papers, and Full Applications will not be accepted through Grants.gov.
All required submissions must come through EERE Exchange. EERE will not review or consider applications submitted through any other means.
### Key Submission Points

- Check entries in EERE Exchange
  - Submissions could be deemed ineligible due to an incorrect entry
- EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE Exchange
- Make sure you hit the submit button
  - Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again
- For your records, print out the EERE Exchange Confirmation page at each step, which contains the application’s Control Number

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READ SLIDE
### Applicant Points-of-Contact

- Applicants must designate primary and backup points of contact in EERE Exchange with whom EERE will communicate to conduct award negotiations.
- It is imperative that the Applicant/Selectee be responsive during award negotiations and meet negotiation deadlines.
  - Failure to do so may result in cancellation of further award negotiations and rescission of the Selection.
Questions

- Questions about this FOA? Email DDUFOA1601@ee.doe.gov
  - All Q&As related to this FOA will be posted on EERE Exchange
    - You must select this specific FOA Number in order to view the Q&As
    - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website

- Problems logging into EERE Exchange or uploading and submitting application documents with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov.
  - Include FOA name and number in subject line