

REQUEST FOR INFORMATION

GEO THERMAL DEVELOPMENT

COLORADO GOVERNOR'S ENERGY OFFICE

I. ADMINISTRATIVE INFORMATION

The Colorado Governor's Energy Office (GEO) is issuing this Request for Information (RFI) to gain an understanding of the potential for geothermal projects in the state and the resources needed to assist developers of projects.

The intent of this information gathering is to conduct a market analysis that may lead to the preparation by GEO of a Request for Proposals (RFP) for the procurement of services to assist in implementing geothermal projects. This information may also identify project needs for grants or support or may identify opportunities to partner with GEO to support geothermal development. The State of Colorado is conducting a market analysis and a future solicitation/bid may not be conducted. This decision is solely based on the state's determination.

GEO is interested in receiving information from interested parties, including : organizations involved in the geothermal project development, including drilling, financing, technical and feasibility studies; communities, businesses or entities with geothermal resources , technology or related expertise, or parties interested in the program described in this RFI.

Similarly, project or background information, which may be submitted, will be used solely for the purposes of performing a market analysis and establishing a budget and or refined focus for the program. This information gathering process will not be considered as responsive to any solicitation subsequently issued by GEO.

The information that follows is intended to provide background information and support focus to GEO's expectations for geothermal resource development in the state.

THIS IS NOT A SOLICITATION FOR SUCH PRODUCTS, PROJECTS OR SERVICES.

If an entity is seeking funding for a project, there is a grant funding process available on the GEO website under Clean Energy Fund
<http://www.colorado.gov/energy/resources/funding-opportunities.asp>

Information that any interested party wishes to submit will be done so voluntarily and with the understanding that this RFI is for information gathering purposes only and is not a formal solicitation. A formal RFP may be issued as a result of, and subsequent to, this RFI.

A. DISCLOSURE OF RESPONSES

GEO reserves the right for information submitted in response to this RFI to be reviewed by other agencies within the state for purposes of developing the voluntary carbon offset program. Otherwise, the materials submitted in response to this RFI will not be publicly disclosed until such time as a competitive solicitation has been issued and an award has been made by GEO or GEO determines that a competitive solicitation will not be issued. At such time, all materials will be made available for public disclosure with the exception of those materials determined by GEO to be confidential/proprietary (as identified in Section I.B below for information).

B. CONFIDENTIAL/PROPRIETARY INFORMATION

Any restrictions on the use or inspection of material contained within the responses, outside of the process identified in Section I.A above, shall be clearly stated in the response itself. Written requests for confidentiality shall be submitted by the interested party, with its response, along with a justification for considering the material confidential/proprietary. The interested party must state specifically what elements of the proposal are to be considered confidential/proprietary.

Confidential/proprietary information must be readily identified, marked and packaged separately from the rest of the response. Co-mingling of confidential/proprietary and other information is NOT acceptable. Neither a response, in its entirety, nor responsive cost information will be considered confidential and proprietary. Materials that would not be considered confidential in response to a RFP will NOT be considered confidential for this RFI.

GEO will make a written determination as to the apparent validity of any written request for confidentiality. In the event GEO does not concur with an interested party's request for confidentiality, the written determination will be sent to the interested party. Ref. Section 24-72-101 *et seq*, C.R.S, as amended, Public (Open) Records.

II. INTRODUCTION

A. PURPOSE

GEO is issuing this RFI to gain knowledge and understanding about the potential for geothermal resource development in Colorado and to assess available support for geothermal projects.

The state is interested in promoting the development of geothermal applications with direct use of heat and/ or production of electricity as a renewable resource for local economic development.

In Colorado there are currently direct use geothermal applications of heat for recreational hot springs, green houses, district heating and other uses. Homes and commercial buildings are also being heated with ground source heat pumps. In addition, the state legislature and staff at the Colorado Geological Survey have identified Colorado's geothermal resource as having potential for electricity production and other development. There is a state Geothermal Strategic Plan and 2008 Action Plan on the GEO website:

(http://www.colorado.gov/energy/in/uploaded_pdf/ColoradoGeothermalDevelopmentStratPlan.pdf)

B. 1. OBJECTIVES

As outlined by the Geothermal Strategic Plan and 2008 Action Plan, GEO is developing a Geothermal program to advance the following objectives:

- A. Identify geothermal resources and economic development projects for direct use of heat resources and/or for geothermal electricity production;
- B. Investigate frameworks for reducing barriers to geothermal development with community leaders, geothermal development experts and owners of geothermal properties. A representative committee will be formed and facilitated to identify possible solutions.
- C. Support options including possible public/private partnerships for an EGS (Enhanced Geothermal System) pilot project in Colorado with assistance of Colorado School of Mines.
- D. Support potential applications for Department of Energy (DOE) funding solicitations in 2008-2009. DOE solicitations may further promote geothermal resource identification and project support through cost sharing for exploratory drilling and other project development methods.
- E. Evaluate the application of ground source heat pumps as a potential clean energy resource.

B.2. The 2008 Action Plan also covers the following activities:

- A. Conduct a DOE Trade Mission to Reno, Nevada in May-June 2008 to explore technology options and resources for interested partners for electricity production.
- B. Support the hiring of a full-time geologist with the Colorado Geological Survey (CGS). This geologist will continue the assessment of the geothermal resource; the work plan to include activities included on pages 11 and 12 from the Strategic Plan.

- C. Create a matrix of target geothermal resource areas. The matrix shall rate potential development for various parameters: i.e. knowledge of resource, type of resource, environmental concerns, previous drilling, community support, transmission availability, utility support, potential uses.
- D. Evaluate the Carbon Dioxide Emissions for Ground Source Heat Pump (GSHP) applications versus various fossil fuels including heating with natural gas and cooling with conventional air conditioning in Colorado Climate Zones.
- E. Determine if a program, policy or incentive is appropriate for GSHP as a Demand Side Management option for natural gas/electric applications.
- F. Conduct a workshop for utilities on GSHP applications.
- G. Determine criteria (i.e. life cycle analysis) for evaluation of GSHP applications for new construction for public buildings and schools.

Guiding Principles

- The viewpoint for this RFI is both for short and long term activities that facilitate an expanded use of the geothermal resource in the state.
- Technology for harnessing the potential for geothermal resources is changing and can advance geothermal applications in the state. For example, some turbine technologies operate at lower water temperatures to produce electricity; or cascading uses of hot water can provide more benefit for existing resources, such as utilizing heat for a greenhouse after a hot springs pool application. Ground source heat pumps are also being developed with higher efficiencies.
- There may be opportunities for heat extraction in oil and gas well fields as well as in areas of possible “blind spots” where geothermal activity is not visible at ground level.
- Communities with geothermal resources may have experienced legal or other barriers to exploring opportunities for geothermal economic development; a process for brainstorming viable alternatives is of interest to GEO.

III. RFI SUBMISSION INSTRUCTIONS

Interested entity RFI responses must be received by 5:00 PM Mountain Time on March 14, 2008. Responses may be submitted by email, fax or mail. Responses submitted past the deadline may not be considered. Interested entities may respond to all or some of the RFI questions, depending on their interest. Send responses to:

Sara Graf, Contracts Associate
Governor's Energy Office
225 East 16th Avenue, Suite 650
Denver, CO 80203
Phone: (303) 866-2326
Fax: (303) 866-2930

Email: Sara.Graf@state.co.us

Length of the response to listed questions should be limited to 5 pages. The submission may include attachments to the 5 page response but attachments should be limited to 20 pages.

IV. PARTY RFI RESPONSE

A. INTERESTED ENTITY/COMPANY/COMMUNITY PROFILE

Name

Local Address

Contact person

Contact phone number

Contact email

Contact website

Description of company's services/products/mission and experience with geothermal or an interested entity or community and related experience with geothermal, if any.

B. INQUIRY

The following questions need to be answered in order for GEO to complete the information gathering exercise. GEO has attempted to limit the number of questions in an effort to reduce the burden on interested parties responding to this RFI. GEO recognizes there may be other pertinent information that GEO has not solicited and requests interested entity expertise in providing additional information beyond the specific questions listed here.

GEO seeks information about the geothermal industry to help guide the development of its program activities. Specifically, GEO seeks input on the following:

- 1) Provide feedback on GEO's objectives and work plan.
- 2) Description of the type of geothermal project/application/issue the entity is interested in exploring.
- 3) Description of the past experience/ background, if any, with this technology.
- 4) Description of the experience of current team or proposed team participating in the project. Provide a list of people involved in the proposed project and their background qualifications.

- 5) Description of the services, assistance or support that your project will need to move to the next phase in project development
- 6) Description of the service your company or entity can provide in development of geothermal resources.
- 7) Has your company/entity or organization participated in the past in a DOE project or grant process. Please briefly describe related experience.
- 8) Please provide information on other state or federal programs which you have found useful in providing assistance to the geothermal industry.
- 9) Please provide details on the kinds of assistance you would like to see the GEO offer - such detailed resource data, funding for feasibility studies or project development, etc.