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> GEOTHERMAL RISK MITIGATION FACILITY FOR EASTERN AFRICA (GRMF)



Request for Expression of Interest for Surface Studies and Exploration Drilling Programmes for the Fifth Application Round (Fifth Edition) 10 October 2017



Rödl & Partner



Geothermal Risk Mitigation Facility for Eastern Africa	Geothermal Risk Mitigation Facility (GRMF)	African Union a United and Strong Africa
Fifth Edition (2017)	Request for Expression of Interest (EoI) for Surface Studies and Exploration Drilling Programmes	Page 2/15

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Request for Expression of Interest (EoI) for Surface Studies and Exploration Drilling Programmes

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1 INTRODUCTION

The African Union Commission (AUC) on the one side and the German Federal Ministry for Economic Cooperation and Development (BMZ) and the EU-Africa Infrastructure Trust Fund via KfW Entwicklungsbank (KfW) on the other side, have agreed to establish the Geothermal Risk Mitigation Facility (GRMF) for Eastern Africa (the Facility) to fund geothermal exploration to facilitate development in Eastern Africa. In addition the UK Department for International Development (DFID) is making a contribution to the GRMF.

The GRMF is soliciting Applications for grants for <u>surface studies</u> relevant to determining the optimal location of reservoir confirmation wells at the most promising geothermal prospects and for <u>drilling of reservoir confirmation wells</u> at the most promising geothermal prospects to assist developers secure finance for subsequent reservoir confirmation and/or well field development wells.

The objective of this announcement is to encourage public and private investors as well as public private partnerships (developers / eligible entities) to develop geothermal prospects for geothermal power generation in GRMF eligible countries of Burundi, Eritrea, Ethiopia, Comoros, Democratic Republic of Congo, Djibouti, Kenya, Rwanda, Tanzania, Uganda and Zambia. The development of geothermal resources has the potential to provide low emission baseload generation for the region, to improve security of supply, to reduce the frequency and severity of energy price fluctuations and to promote economic development in the region. Reduction of greenhouse gas emissions and adding low-cost power generation capacity in these countries constitute further advantages of geothermal energy projects. The geothermal projects will mainly have the objective of power generation based on high-enthalpy reservoirs, although projects based on lowand medium-enthalpy may also apply, if they can provide a comprehensive concept of heat use.

GRMF is managed by AUC's Regional Geothermal Co-ordination Unit (RGCU) and provides financial instruments to assist in mitigating geothermal exploration risk. It is thus expected to improve access to funding for public as well as private developers and play a catalytic role in establishing geothermal energy as a strategic option in power expansion planning of the participating countries of the region. The GRMF will provide grants for surface studies, exploration drilling projects and infrastructure upgrades to a limited extent to both public and private developers as well as public private partnerships. Furthermore, and subject to an addendum to the grant contract a contingent Continuation Premium is also foreseen in case developers continue on short term with the development of their projects. As a result, reduced risks and costs for early stage geothermal development can be expected to encourage the development of further geothermal investments.

In order to limit the risk of the GRMF, the grants will be awarded on the basis of the proposed projects geological, technical, economic and financial viability and environmental acceptability. Applicants shall be required to provide sufficient data and analytical reports regarding the geothermal prospect. Proprietary data will be kept confidential.

The eligibility of the proposal will be determined by the RGCU based upon reviews of the Application submitted and the recommendations of a Technical Consultant.

On behalf of the RGCU, the Technical Consultant will monitor surface studies and/or exploration drilling and testing activities and asses the results of such activities.

The GRMF will provide the grants to developers through a competitive, transparent and rigorous two-stage Application process composing of two stages:

- The first stage is an open pre-qualification process inviting potential Applicants to submit their Expressions of Interest (EoI). Based on the evaluation of these EoI, shortlisted Applicants will be invited to participate in the application round.
- In the second stage, full applications from shortlisted Applicants will be accepted by a specified closing date.

The Application procedure from Expression of Interest (EoI) to grant award is expected to take approximately one year. This document describes the pre-qualification process which includes the submission and the evaluation of the EoI.





2 OBJECTIVES OF THE FUNDING

Hydropower and fossil fuel fired thermal generation currently provide over 95% of electricity in Eastern Africa. Years of sustained droughts have reduced the generation available from hydropower resulting in supply shortages, instigation of emergency diesel generation and increased power prices. However, Eastern Africa has an estimated geothermal resource potential of over 15,000 MW_e.

Despite this potential, geothermal resources in the region are, in general, largely unexploited primarily due to the high upfront cost and the associated risk of discovering and proving the resource. Geothermal resources within Eastern African countries are in general poorly defined with the exception of Kenya. Furthermore, the framework conditions (e.g. regulations together with financial and institutional arrangements) required to encourage geothermal development are insufficiently supportive.

These upfront costs require a major financial commitment by project developers in the face of the risk that a reservoir confirmation drilling programme may fail to identify an economically viable prospect, even when extensive surface investigations including geochemistry and geophysics indicate the potential for encountering a viable geothermal resource. Therefore, the GRMF has been established, which will partially share the resource risks of geothermal exploration and reservoir confirmation.

The GRMF is a grant programme designed to cost share exploration work. The programme provides grants for the siting, drilling and testing of reservoir confirmation wells.

Since the major focus of the Facility is on electricity generation, the majority of projects are expected to be related to high-temperature reservoirs. However, low and medium-temperature reservoirs with lower resource potential and higher generation costs can be suggested as well, especially if there is a high benefit for the local communities (e.g. within rural electrification projects competing with and replacing electricity from diesel generators).

Joint funding by GRMF and other public bilateral and multilateral funding schemes or facilities (e.g. NEPAD-IPPF, ARGeo and Development Banks) is allowed.





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3 ELIGIBILITY

3.1 Eligible Entities

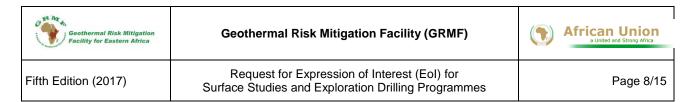
Public or private companies as well as public private partnerships (eligible entities) are eligible to apply to the Facility. In order to be eligible for pre-qualification, the eligible entity or consortium shall ensure and demonstrate that they have in-house or can contract the required expertise, experience and capacity to carry out the activities for which financing support is requested.

3.2 Eligible Activities

Eligible activities for support from the Facility comprise the following:

- Surface studies to determine the optimal site for reservoir confirmation wells at geothermal prospects that have previously been studied. Surface studies are geophysical surveys (e.g. seismic, gravity, magnetic or magnetotelluric or other resistivity surveys) including supplementary geological, hydrogeological and/or geochemical surveys and shallow temperature gradient wells if necessary and justifiable for siting reservoir confirmation wells. Surface studies shall include an integrated resource report interpreting and summarising the results of the surface studies in terms of a detailed three-dimensional conceptual model of the resource and identification of high priority drill sites and targets at depth. Environmental / social studies and assessments as per Applicable Standards (see Chapter 11, Developer Manual) are part of the surface studies (scoping studies) as well as the establishment of a stakeholder engagement plan and corresponding stakeholder engagement activities. Costs to obtain environmental/social permits and licences (for subsequent drilling) are part of surface studies. Environmental / social studies / -assessments and -management plans (including RAPs if applicable) and update of Stakeholder Engagement Plan as per Applicable Standards (see Chapter 11, Developer Manual) in the course of the preparation of the subsequent drilling phase are part of surface studies.
- Exploration drilling programmes at geothermal prospects once the optimal sites for the drilling and testing of reservoir confirmation wells as well as targets at depth have been determined. An exploration drilling programme for funding by the Facility may comprise:
 - $\circ~$ up to three full size reservoir confirmation wells (\geq 5" diameter of the last casing or liner) or
 - a combination of up to three slim hole wells (< 5" diameter of last casing or liner) and one full size reservoir confirmation well or
 - a combination of up to two slim holes and two full size reservoir confirmation wells.

In addition, a drilling programme may include mobilisation and demobilisation of drilling rigs, cutting analyses and well logging; well-testing and completion of a reservoir model. Infrastructure costs required for exploration drilling (e.g. access roads, water supply) are covered by a separate infrastructure grant. Furthermore, a drilling programme may incorporate a feasibility study that has the explicit aim of securing finance for subsequent reservoir confirmation wells. As such, it is expected that a



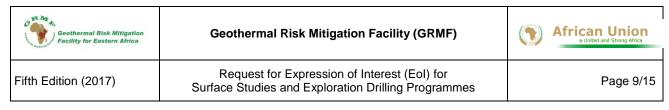
feasibility study would combine exploration drilling results and reservoir engineering together with market, regulatory and technical considerations. Infrastructure costs required for surface exploration or exploration drilling (e.g. access roads, water supply) are covered by a separate infrastructure grant, which can be applied for in conjunction with the surface study / drilling programme. Preparation of environmental / social studies / -assessments and -management plans (including RAPs if applicable) and update of Stakeholder Engagement Plan as per Applicable Standards (see Chapter 11, Developer Manual) in the course of the preparation of the subsequent construction of production facilities are part of exploration drilling studies. Costs for permits and licences (in preparation of the subsequent construction of power plant) are part of exploration drilling studies. For Developers who only join GRMF for the Drilling Phase: Preparation of Environmental / social studies / -assessments and management plans (including RAPs if applicable) and Stakeholder Engagement Plan as per Applicable Standards (see Chapter 11, Developer Manual) for the drilling phase, are part of the exploration drilling studies. With regards to Environmental and Social Management: The Implementation of the Environmental and Social Action Plan (ESAP) excluding RAP implementation up to a maximum of USD 300.000 in total is part of exploration drilling studies.

The Facility will <u>not</u> support activities other than those described above. The Facility will therefore not provide grants for activities of a general nature, e.g. concession area reconnaissance, country wide reconnaissance, university research, general project development costs, legal costs, mitigation of political or legal risk, or general eligible entity overheads.

It is allowed to provide multiple EoI for eligible activities related to different sites. Eligible entities whose surface studies were funded in a previous Application round can apply for exploration drilling programmes in one of the possibly subsequent Application rounds. However, if a prospect has already sufficient information available, an eligible entity can apply directly for drilling funding by submitting an Expression of Interest (without having a surface study funded by GRMF).

Since there may well be multiple promising sites within a large concession, it is permissible to apply for both a surface study grant and a drilling grant for different sites within a single concession. It will however be important to give clear justification for both requests, clear justification on why the sites are considered separate/not connected and to have adequate personnel identified to manage both projects. <u>Separate</u> EoI for the different activities must be prepared and submitted accordingly.

For the same project, joint funding by GRMF and other public bilateral and multilateral funding schemes or facilities (e.g. NEPAD-IPPF, ARGeo and Development Banks) is allowed but must be capped in such a way that the developer (except public entities) has to provide at least 20% of the eligible costs. Information about receiving funding from other sources has to be disclosed by the developer in the financing plan (see Annex 2 and Annex 3).



3.3 Eligible Countries

The Facility will support geothermal activities in the following countries:

- Burundi,
- Comoros,
- Democratic Republic of Congo,
- Djibouti,
- Eritrea,
- Ethiopia,
- Kenya,
- Rwanda,
- Tanzania,
- Uganda and
- Zambia.

The Facility will not support projects at sites in areas subject to either conflicts, or where disputes about borders exist.

3.4 Financial Support

The upper limits for financial support of the eligible costs at the time of proposal submission (as stated in the eligible activities), fixed in the form of a grant contract, to winning bidders for surface studies and exploration drilling and testing programmes are as follows:

- Infrastructure grants: up to 20% of approved eligible costs for infrastructure required for eligible surface studies or eligible drilling programmes (e.g. access roads, water supply).
- Surface studies grants: up to 80% of approved eligible costs (excluding infrastructure costs).
- Drilling programme grants: up to 40% of approved eligible costs for the drilling and testing programme for reservoir confirmation wells (excluding infrastructure costs).
- Continuation Premium: up to 30% of the approved eligible costs of continuation activities or up to 30% of the developer's share of the eligible costs incurred during the initial drilling and testing programme - whatever is lower - according to certain conditions as defined in the Developer Manual.

The disbursements will be based on actual costs up to the limits stated above upon reaching pre-defined milestones.





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4 EXPRESSION OF INTEREST (EOI)

4.1 Invitation to EoI

The African Union Commission, through the Directorate of Infrastructure and Energy, established the **Regional Geothermal Co-ordination Unit** (**RGCU**) situated along *Roosevelt Street, New Conference Centre, Addis Ababa, Ethiopia*, as Project Executing Agency acting for- and on behalf of the AUC. The AUC via the RGCU invites public or private organisations, as well as public private partnerships (eligible entities) to submit an Expression of Interest to pre-qualify for financing support to be given to activities as described in section 3.2.

4.2 Inquiries to the Request for EoI

Any inquiry regarding the pre-application process shall be submitted via e-mail to both of the following addresses:

grmf-app@africa-union.org and grmf@roedl.com.

Deadline for all inquiries is on, or before 12:00 H (noon) on **28th November 2017**, Ethiopian time. Inquiries received after the deadline will not be considered. Answers will be published, without eligible entity's or inquirer's details, on the GRMF website:

http://www.grmf-eastafrica.org/application/prequalification-stage/clarifications

All news of the GRMF project as well as documents for Applications will be published on this website. A geothermal database is also available on the website.

4.3 Content and Form of Submission of EoI

The Expression of Interest, as well as supporting documents, must be submitted in English language. The EoI must contain the following documents:

- cover letter (Annex 1) as both electronic and hard copy
- filled submission form [Annex 2 (surface studies) or Annex 3 (drilling programmes)] as electronic copy (searchable PDF) including all Appendices; Appendices 1 and 2 to be submitted as both electronic and hard copy

Only complete EoI which are in line with the required submission form will be considered for evaluation.

NOTE: For administrative handling the length of the file names for any attachment to the EoI submitted with the electronic copy is not to exceed 20 digits.

Cover Letter – to be submitted as electronic and hard copy

The cover letter (Annex 1) shall comprise the eligible entity's name, address, contact person, telephone number, fax and e-mail. If applicable; list the consortium members for this project and the activity for which financial support is asked for.

The cover letter shall be signed, featuring the name and position of the signing person, and shall include a company stamp. A template for the cover letter is provided to the applicants.

Submission Form

The submission form (Annex 2 or Annex 3 - to be submitted as electronic copy) shall be completely filled - if not mentioned otherwise, within the submission form. All fields ticked as "Not Applicable" **must** be supported by providing additional remarks. The submission form contains the Appendices 1-6. The order of the submission forms must be adhered to and all pages must contain the provided GRMF header – including consecutive page numbers.

Appendix 1: Declaration of Acceptance and Adherence to Procurement Standards – to be submitted as both electronic and hard copy.

Declaration to observe free, fair and competitive procurement during execution of the contract. Applicants should be aware that any fraudulent or corrupt activities disqualify them immediately from participation in the selection process and will be subject to further legal investigation. The said declaration shall be duly signed (use the form provided) and must be availed in soft- as well as in hard copy format.

Appendix 2: Declaration of Non-Existence of Rejection Grounds – to be submitted as both electronic and hard copy.

- Declaration to observe that the Applicant is not in a situation which will lead to a direct rejection (use the form provided). The said declaration shall be duly signed (use the form provided) and must be availed in soft- as well as in hard copy format.
- Appendix 3: Experience to be submitted as electronic copy.
- List of relevant reference projects for the last 7 years (use the forms provided, additional rows and tables can be added if necessary). The project references shall be strictly related to the envisaged services. In case of currency other than USD, the exchange rate of the date of project end shall be used for recalculation.

Appendix 4: Key Personnel – to be submitted as electronic copy.

- A list of available personnel for the envisaged services, including envisaged subcontractors and sub-consultants, and their role and rank in the project (use form provided, additional rows can be added if necessary). The list has to comprise key personnel for the requested Environmental and Social Studies and –management plans (as per Applicable Standards, see Chapter 11, Developer Manual);
- CV with up-to-date information about education, professional experience, regional experience, years with eligible entity, and experience in similar assignments (use form provided for each key person).

Appendix 5: Project Organisation – to be submitted as electronic copy.

Organisational chart for the project including names of key personnel; Statement of affiliations of any kinds with other companies.

Appendix 6: Eligible Entity Presentations – to be submitted as electronic copy.

Clear statements of eligible entity type, fields of speciality and key tasks in the consortium which are relevant to the project applied for, if applicable (maximum 5 pages).





4.4 Submission Address and Deadline for EoI

One electronic copy (searchable PDF file in CD, DVD, hard drive or USB) of the completed pre-qualification document as well as one signed original (hard copy) of the cover letter and the requested declarations shall be enclosed in a sealed outer envelope and submitted to:

The Chairperson, Tender Board,

The African Union Commission

Building C, 3rd Floor Reception,

Roosevelt Street, W21K19,

Addis Ababa, Ethiopia

Attention: The Coordinator of the RGCU

Geothermal Risk Mitigation Facility for Eastern Africa (GRMF),

Procurement No.: AUC/IED/AR05/001/17

to the established tender box, on or before:

16:00 H Ethiopian Time on 12th December 2017

The Applicant has the full responsibility that the original version of the cover letter and the declarations are in total compliance with the electronic copy. Evaluation results coming up from discrepancies of submitted versions (original or electronic copy) are not disputable. The arrival date and time of the document is relevant for consideration of the EoI. EoI received after the deadline or not in the required manner will not be evaluated but will be returned unopened to the Applicant. The AUC may extend the deadline for submission of pre-qualification documents by issuing an addendum.

4.5 Cost related to EoI

All costs for preparation and submission of the pre-qualification document shall be borne by the Applicant.

4.6 Errors and Omissions

The Applicant is responsible for the preparation and the submission of the prequalification documents, and no relief or consideration can be given for errors and omissions.

4.7 Communication during the Pre-qualification Phase

Between submission of pre-qualification documents and elaboration of the short-list with the pre-qualified Applicants, <u>no communication</u> of any type shall be entertained with the RGCU and the Technical Consultant unless initiated by the procurement authority.





5 EVALUATION OF EOI

5.1 Evaluation Procedure and Criteria

The evaluation procedure for the pre-qualification process will follow the latest version of the AUC Procurement Manual (please refer to GRMF homepage). Specific grounds for rejection, evaluation criteria for surface studies and drilling programmes and their individual weight are presented in the following sections.

5.1.1 Rejection Criteria

Following criteria will lead to an initial rejection of the EoI without further evaluation:

Incompleteness of the submission form;

EoI refers mainly to non-eligible activities;

EoI refers to a non-eligible country;

No extensive geological and geochemical studies have yet been undertaken for the proposed project site;

The necessary concessions/licences/permits are not issued, or not in process of being approved;

The following two declarations are not signed and provided as soft- and hard copies:

- 1) Declaration of Acceptance and Adherence to Procurement Standards;
- 2) Declaration of Non-Existence of Rejection Grounds.

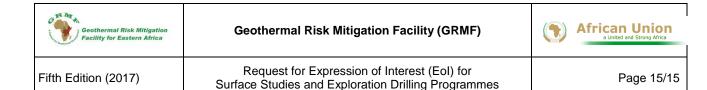
5.1.2 Evaluation Criteria for Surface Studies

Surface studies will be evaluated considering the criteria and possible total points shown in Table 1.

 Table 1: Evaluation criteria for surface studies

Evaluation criteria	Possible Total Points	
Geo-scientific		
Resource	60	40
Work plan		20
Financing Plan, Permits		
Appropriate authorisation for exploration	10	3
Financing plan for developer's portion		7
Experience		
Experience of key personnel	30	20
Experience of the eligible entity(ies) and contractors		10
Total:	100	100

Overall minimum score 70%



5.1.3 Evaluation Criteria for Drilling Programmes

Drilling programmes will be evaluated considering the criteria and possible total points shown in Table 2.

Table 2: Evaluation criteria for drilling programmes

Evaluation criteria	Possible Total Points	
Geo-scientific		
Status of geological and geochemical studies	50	8
Status of geophysical studies		22
Robustness of the proposed plan for drilling and testing		20
Financial, technical and permits		
Financing plan for applicants cost share		5
Concessions, licences and environmental permits		15
Access to power market, and direct heat use		10
Experience		
Experience of key personnel	20	12
Experience of the eligible entity(ies) and contractors		8
Total:	100	100

5.2 Short-listing of Applicants

A short-list of pre-qualified Applicants scoring a minimum of 70 points according to the evaluation criteria will be established. Application documents will be sent to the short-listed Applicants which will be invited to a mandatory pre-bidding workshop. Eligible entities not being pre-qualified will be informed accordingly. If not included in the above mentioned short-list in the current Application round, any eligible entity can apply for funding in potential further Application rounds.

5.3 Selection of Applicants

The short-listed Applicants who attend the pre-bidding workshop are invited to submit a full Application following the requirements as stated in the Request for Applications. The selection of the Applicants which will receive funds depends on the evaluation of the Applications, the number of Applications and the dollar amount of the grants applied for. The AUC is <u>not bound</u> to select any of the short-listed Applicants. The AUC is under no obligation to inform the Applicants about the grounds for AUC's action.