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GRMF & DIRECT USE

GRMF - MARKET SOUNDING WEBINAR ON GEOTHERMAL DIRECT USE IN EAST AFRICA

Kai Imolauer Webinar, 5th May 2022



GRMF- DIRECT USE WEBINAR

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	Geothermal Develor







The Geothermal Risk Mitigation Facility (GRMF) is managed by the Regional Geothermal Coordination Unit (RGCU) within the Department of Infrastructure and Energy of the African Union Commission (AUC-DIE).

East Africa has an estimated geothermal resource potential of over 15,000 MWe. Development of this resource has potential to:		
Improve the regional power generation	Constitute further advantages of geothermal energy projects like direct-use	Improve security of energy supply
Reduce CO ₂ emissions	Reduce the frequency and severity of energy price fluctuations and black outs	Adding low-cost power generating capacity in East Africa

Implementing Agencies & Donors:



1. INTRODUCTION TO GRMF

Objectives:

Fund, facilitate, and accelerate geothermal project development in Eastern Africa.

Encourage public and private sector investment into geothermal power generation.

Act as a catalyst in establishing geothermal energy in eleven partner countries in the Eastern African Rift region

GRMF offers:

Information (pre-bidding workshops, geothermal database)

Capacity building (constructive feedback during the application process, structured approach for coherent planning)

Funding for Surface Studies to determine the optimal sites for exploration wells at geothermal prospects once they have been studied.

Funding for Drilling Programmes once the optimal locations for exploration wells as well as targets at depth have been determined.





1. INTRODUCTION TO GRMF - FUNDING



Eligible Countries:

Ethiopia, Kenya, Rwanda, Tanzania, Uganda, Burundi, Comoros, Djibouti, DRC, Eritrea, Zambia, Somalia

Eligible Entities:

- Public or private as well as public private partnerships
- Limitation is set to provide GRMF grants to a maximum of three drilling programmes per eligible entity

Donors: EU–ITF, BMZ

Financial Support:

- **Infrastructure grants:** up to 20% of the costs for infrastructure required for surface studies and drilling programmes (access roads, water, supply).
- **Surface study grants:** up to 80% of eligible costs for surface studies (excluding infrastructure costs).
- **Drilling grants:** up to 40% of cost of exploration drilling and testing programmes for reservoir confirmation wells (excluding infrastructure costs).
- **Continuation Premium:** up to 30% of the approved costs of continuation activities or up to 30% of the developer's share of the eligible costs incurred during the initial drilling whatever is lower

2. APPLICATION PROCESS



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2. APPLICATION PROCESS – AWARDED PROJECTS





Direct utilization = immediate/nonelectric use of geothermal energy

- Medium-low temperature systems are sometimes found in less depth
- Target temperature depends on planned application & offtake
- Seismic measurements are often useful to assess location of targeted aquifers



Illustration: Mannvit 2017

*Renewable hydrogen can be produced using geothermal electricity and/or heat.

3. DIRECT USE





1: https://africanexplorermagazine.files.wordpress.com/2019/07/olkaria-spa-1-2-1200x800.jpg?w=800 2: https://tradecom.com.es/en/wp-content/uploads/2019/02/Oserian.jpg 3: IRENA.(2020). Geothermal Development in Eastern Africa: Recommendations. Abu Dabi: International Renewable Energy Agency. 5-6: GDCJ Geothermal Development Company.









Social Benefits

- Prevention of malnutrition & contamination
- Increase of food security
- Improved quality of life
- Improved education
- Gender empowerment
- Job creation

Environmental Benefits

- Reduced emissions
- Reduced deforestation
- Waste management



- Today's webinar aims to capture the current and future market situation for direct use projects to set up a funding programme.
- Focus on Surface Studies & Drillings
- Separate Application Round for Direct Use
- Two-Stage Application Process







Geothermal Risk Mitigation Facility for Eastern Africa

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Thank you for your attention!









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