



Geothermal Risk Mitigation Facility GRMF

Its Role in Unlocking Investment

Presented by Philippe NIYONGABO, Head of Energy
Division, African Union Commission

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REGIONAL GEOTHERMAL PROGRAMME and GRMF

❑ **Mandate given by Ministers Responsible for Energy from the 11 countries of the EARS in their Addis Ababa Declaration on Geothermal Energy (June 2009).**

❑ **Major Donors:**

- **EUITF: 30 M Euros**
- **BMZ: 20 M Euros**
- **DFID: 47 M Pounds**
- **AUC: 0.5 M \$ per year**



Geothermal Energy Development - Risks

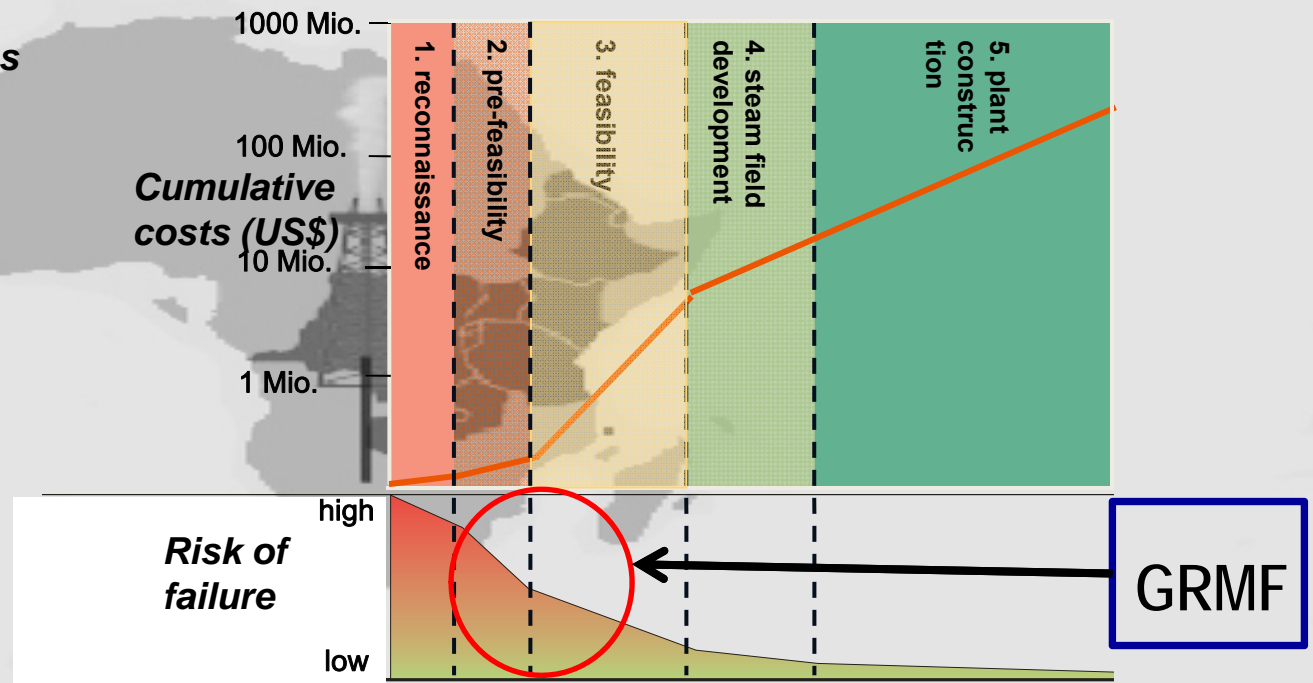
Significant upfront costs at high risk – before the success of the project has been secured !



Public and private investors to invest in Geothermal Energy



Filling the gap: Public support mechanisms are crucial to remove entry hurdles into geothermal power development



Amended based on Sinclair, Knight & Merz

GRMF FINANCIAL SUPPORT

- ❑ **Infrastructure grants:** Up to 20% of the costs for infrastructure for surface studies drilling programmes (access roads, water, power)
- ❑ **Surface studies grants:** Up to 80% of the costs (excluding infrastructure costs)
- ❑ **Drilling grants:** Up to 40% of the costs for the exploration drilling and testing programme for reservoir confirmation wells (excluding infrastructure costs)
- ❑ **Continuation Premium:** Up to 30% of the developer's share for the drilling and testing programme in case developers wish to continue with project (depending on the availability of funds).

QUALIFICATION PHASES FOR GRMF GRANT

Pre-qualification Phase:

1. Receive Expression of Interest (Eoi)
2. Preliminary examination (incomplete, invalid, non-responsive to Eoi)
3. Full Evaluation for following criteria:
 - Geo-scientific (50 points)
 - Financial, technical and permits (30 points)
 - Experience (20 points)
4. Invite Short List Pre-Qualified projects to submit full application

Full Application Phase:

1. Receive the full application
2. Preliminary examination (incomplete, invalid, non-responsive to application)
3. Full Evaluation for 12 criteria:
 - Indication drill sites, Robustness plans, authorization for exploration, Plan for financing , business plan, exploration experience, project references, management, organizational capabilities, etc.
4. Invite Qualified projects for Grant negotiation

OUTCOME 1st APPLICATION ROUND

(Ethiopia, Kenya, Rwanda, Tanzania, Uganda)

☐ List of projects awarded GRMF Grant

Project	Applicant	Type of Project	Awarded Grant USA	Grant Status
Dofan (Ethiopia)	Geological Survey of Ethiopia (GSE)	Surface Study	976,872	Grant Signed on 3 rd March 2014
Corbetti (Ethiopia)	Reykjavik Geothermal	Drilling	5,594,821	Grant signed 26 May 2014
Bogoria-Silali (Kenya)	Geothermal Development Company (GDC)	Drilling	4,251,652	Grant Signed on 3 rd March 2014
Longonot (Kenya)	Africa Geothermal International Ltd. (Agil)	Drilling	6,098,941	Grant Signed on 27 November 2013

OUTCOME 2nd APPLICATION ROUND

(Burundi, Comoros Islands, Djibouti, D. R. Congo, Ethiopia, Eritrea, Kenya, Rwanda, Tanzania, Uganda, Zambia)

☐ List of projects awarded GRMF Grant

Project	Applicant	Type of Project	Awarded Grant USA	Grant Status
Karthala (Comoros)	Bureau géologique des Comores	Surface Study	844,680	14 May 2015
Fantale (Ethiopia)	Cluff Geothermal – Private	Surface Study	876,770	July 2015
Tulu Moya (Ethiopia)	Reykjavik Geothermal – Private	Surface Study	----	Evaluation Done
Akiira One (Kenya)	Akiira One Ltd – Private	Drilling	2,517,295	July 2015
Suswa (Kenya)	Geothermal Development Company (GDC)	Drilling	6,579,017	July 2015

OUTCOME 2nd APPLICATION ROUND

(Burundi, Comoros Islands, Djibouti, D. R. Congo, Ethiopia, Eritrea, Kenya, Rwanda, Tanzania, Uganda, Zambia)

❑ List of projects requested to re-submit Full Application

Project	Applicant	Type of Project	Submission Date
Buranga (Uganda)	Ministry of Energy and Mineral Development	Surface Study	July 2015
Tendaho (Ethiopia)	Geological Survey of Ethiopia	Drilling	July 2015
Kinigi (Rwanda)	Energy Development Corporation	Drilling	July 2015

STATUS OF 3rd APPLICATION ROUND

(10 Surface Studies, 6 Drilling evaluated from 5 countries public and private developers)

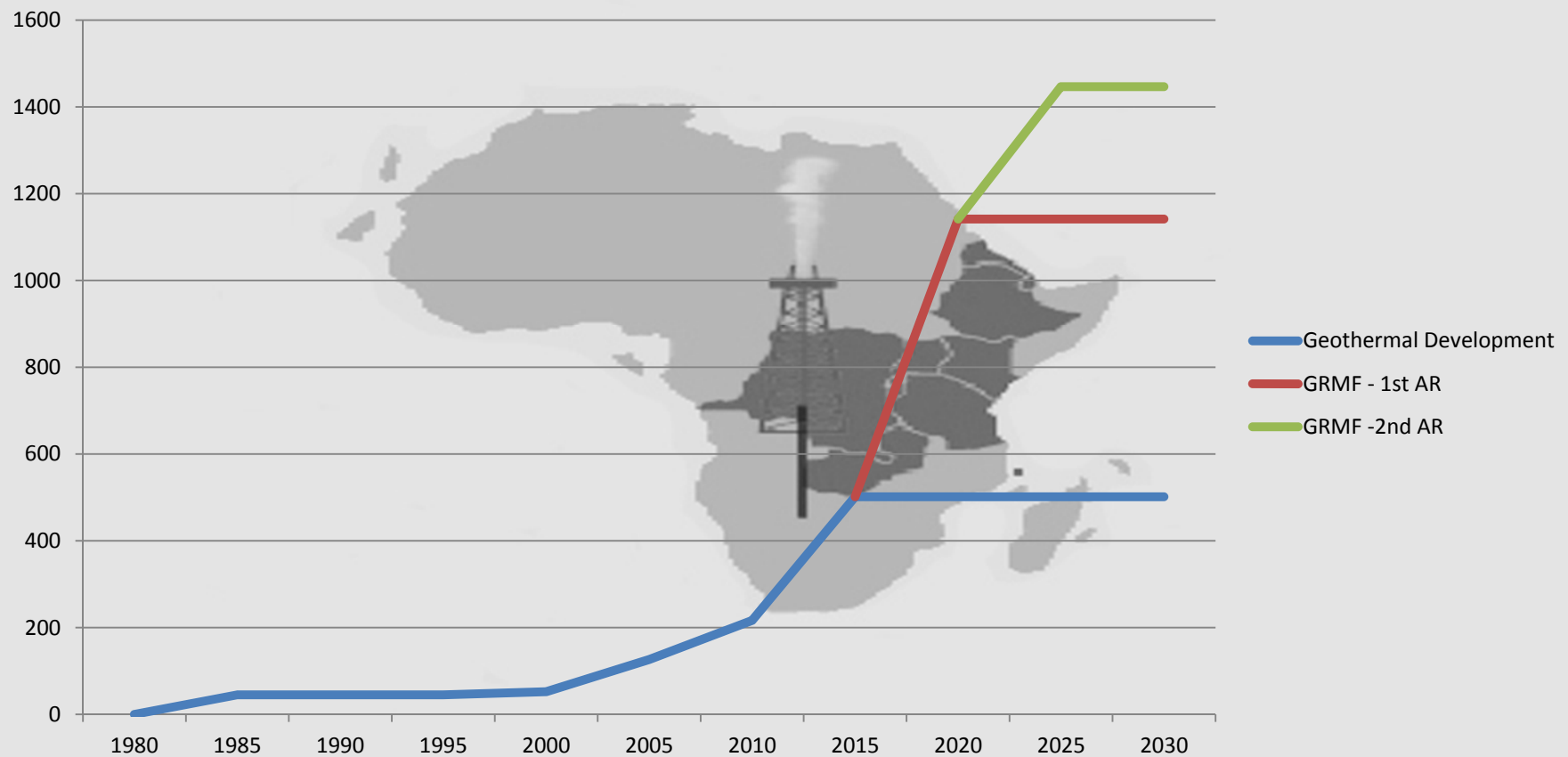
Application ID	Project	Applicant
Surface Study	Mt. Margaret	Marine Power Generation Company Ltd
Surface Study	Kisaki	Tanzania Geothermal Development company Ltd
Surface Study	Barrier	Olsuswa Energy Ltd
Surface Study	Butajira	Cluff Geothermal Ltd
Surface Study	North Goubhet	Djibouti Office for Development of Geothermal Energy
Surface Study	Arta	Djibouti Office for Development of Geothermal Energy
Surface Study	Katwe – EL0705	Cozumel Energy Ltd
Drilling Porgramme	Akiira Central	Marine Power Generation Company Ltd
Drilling Porgramme	Ngozi	Tanzania Geothermal Development company Ltd
Drilling Porgramme	Korosi	Geothermal Development Company Ltd
Drilling Porgramme	Paka	Geothermal Development Company Ltd



THE ROLE OF GRMF IN ENHANCING INVESTMENT IN EAST AFRICA

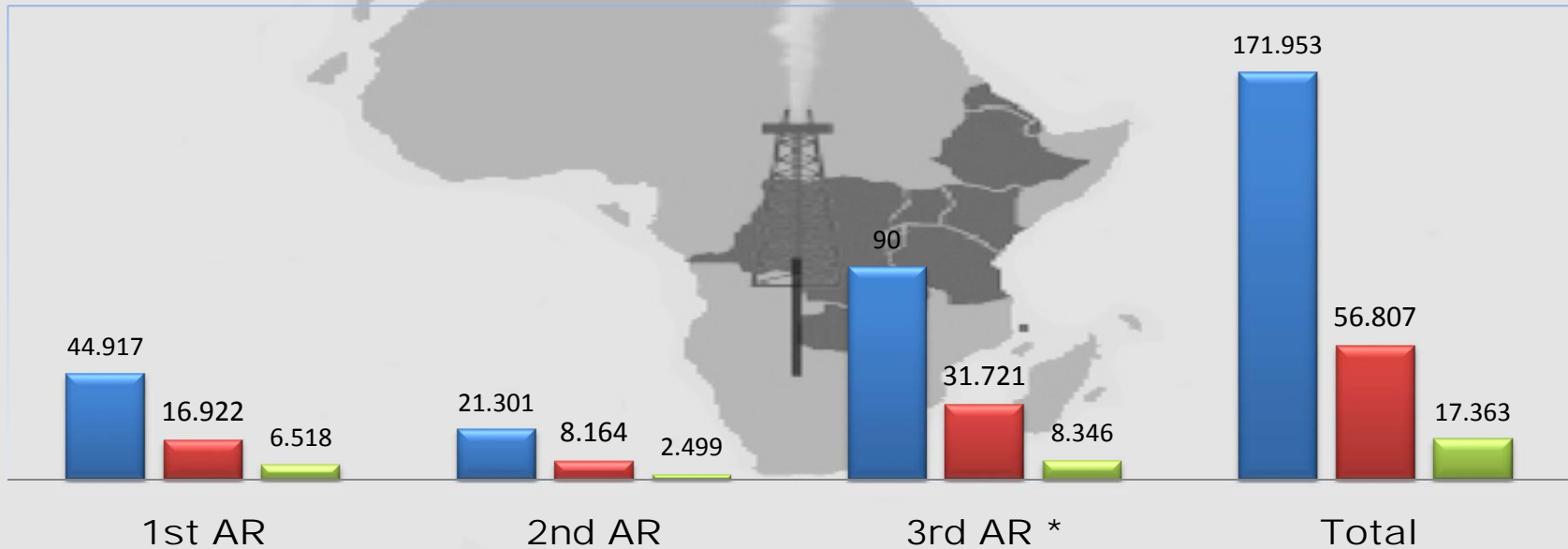
	Power plant	Capacity MW	Date
Kenya (494 MW)	Olkaria I	45	1981- 1985
	Olkaria II units 1 & 2	70	2004
	Olkaria II Unit 3	35	2010
	Olkaria III	55	2000- 2009
	Olkaria Wellhead	5	2012
	Oserian	4	2004
	Olkaria *	280	2014
Ethiopia	Aluto Langano	7.5	1998
GRMF – 1 st AR	Corbetti - Ethiopia	300	2020
	Bogoria-Silali - Kenya	200	
	Longonot - Kenya	140	
GRMF – 2 nd AR**	Akiira - Kenya	40 -140	2022
	Suswa -	150	
	Kinigi - Rwanda	44-87	
	Tendaho - Ethiopia	35	
Total		1550	

THE ROLE OF GRMF IN ENHANCING ENERGY ACCESS IN EAST AFRICA



THE ROLE OF GRMF IN UNLOCKING INVESTMENT IN EAST AFRICA

■ Projects Cost Mio USD ■ Grants Awarded Mio USD ■ Continuation Premium Mio USD



CONCLUSION

- ❑ Focus on the region with high geothermal resources
- ❑ Share the risk with developers
- ❑ Equal support to public and private
- ❑ Support high quality projects
- ❑ Transparent evaluation procedure

Thus

- GRMF attract required investment
- Boost effort of Enhancing Energy Access



Thank you for your Attention



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