



Geothermal Risk Mitigation Facility

GRMF POWER & HEAT

15th November 2023, Joseph Mwangi



An Integrated, Prosperous
and Peaceful Africa

1. GRMF in General

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 MW. 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 CO2 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:



Implementing Consultants:



1. GRMF in General

- In order to mitigate the high risk of exploration and reservoir confirmation drilling, the **Geothermal Risk Mitigation Facility (GRMF) for East Africa** was established in 2012.
- Mandate was given to the AUC by the Ministers of Energy from 11 countries of the EARS to establish the Regional Geothermal Programme.
- In 2020 Somalia was added to the list of eligible countries.
- GRMF POWER provides funding for power production project
- GRMF HEAT provides funding for geothermal direct use (NEW)



1. GRMF in General

Objectives:

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

Encourage public and private sector investment into geothermal power generation.

Act as a catalyst in establishing geothermal energy as a strategic option for power generation capacity expansion in eleven partner countries in the Eastern African Rift region

GRMF offers:

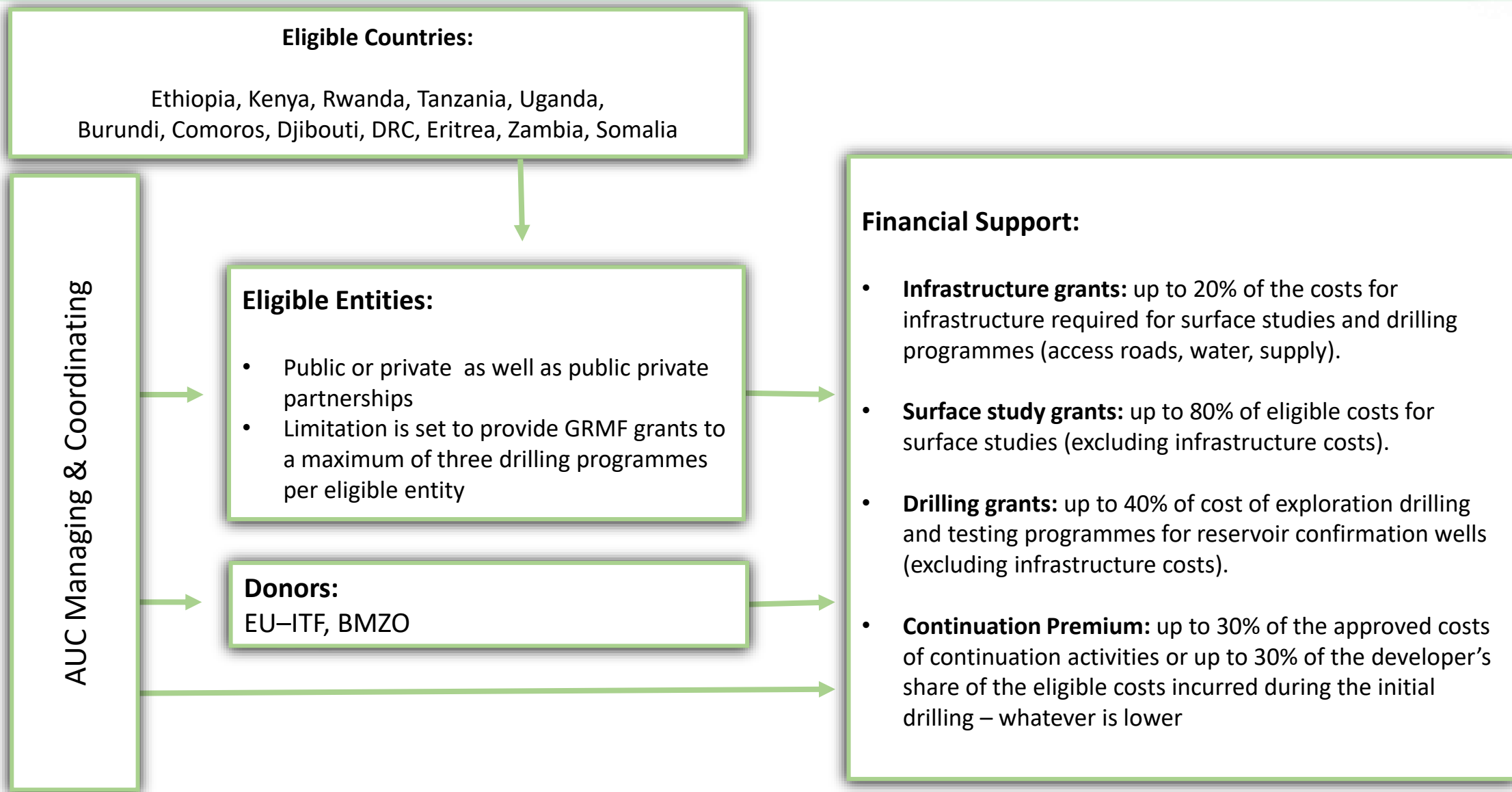
Information (pre-bidding workshops, geothermal database)

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.

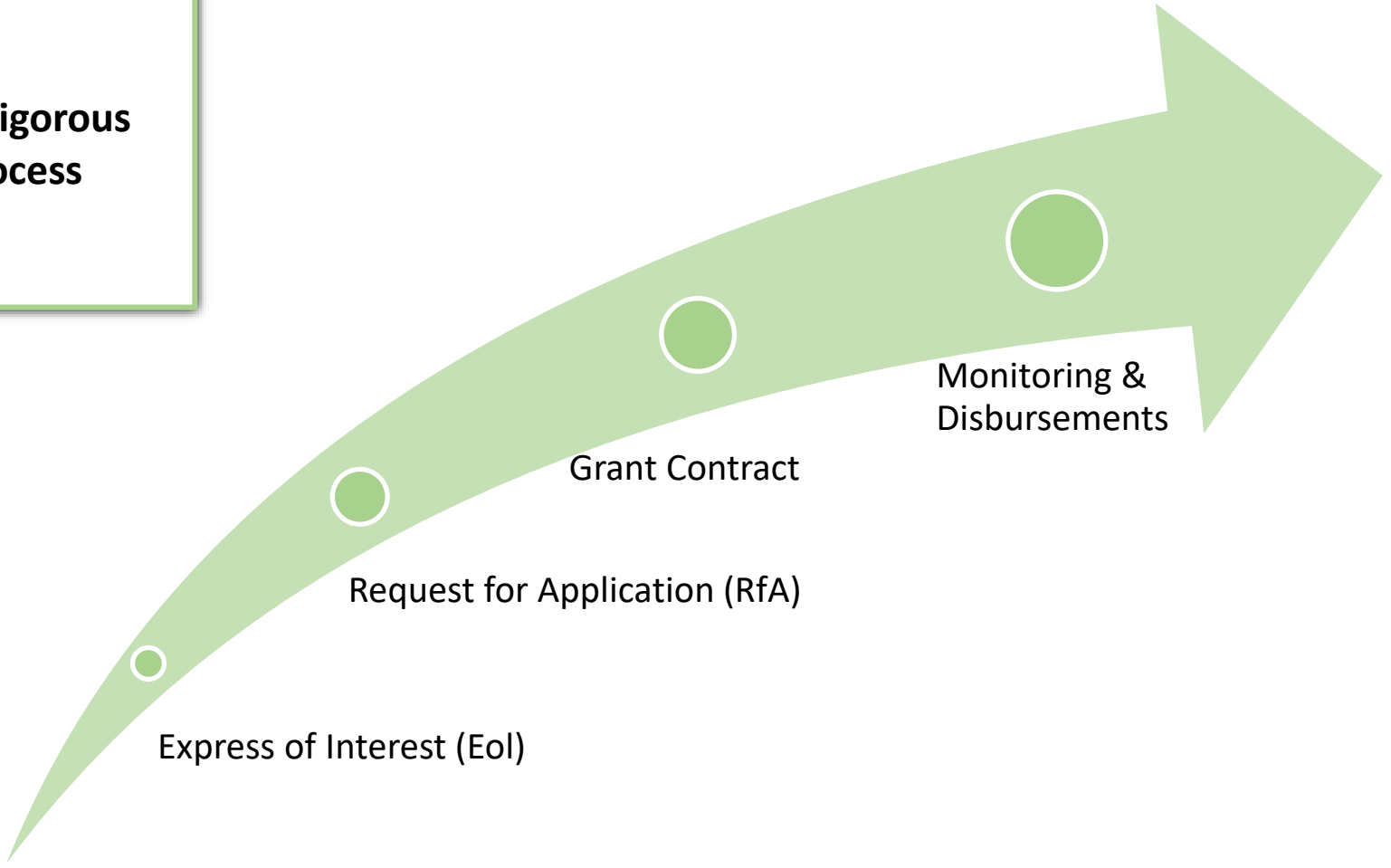
Funding for Drilling Programmes once the optimal locations for exploration wells as well as targets at depth have been determined.

2. Funding

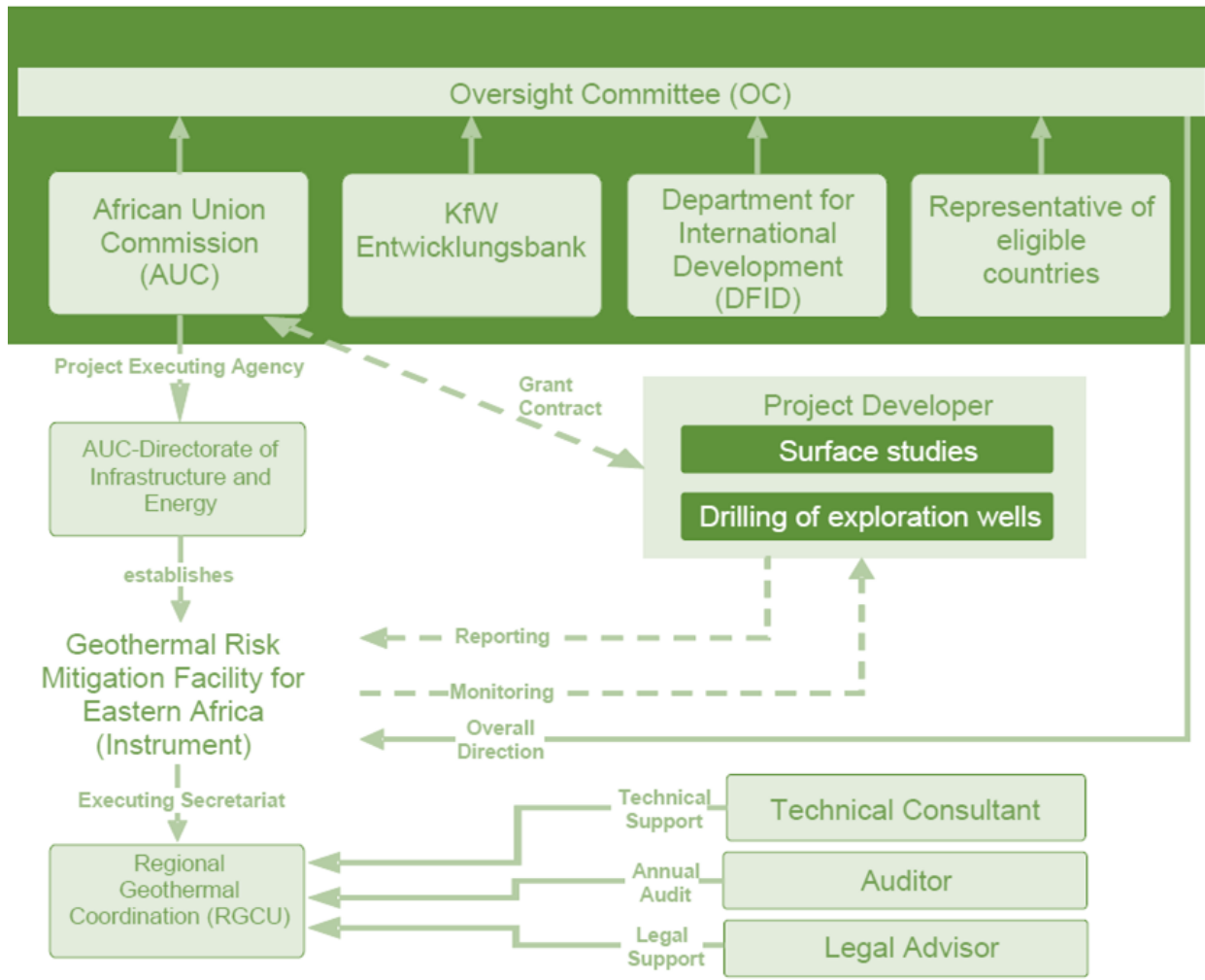


3. Application Process

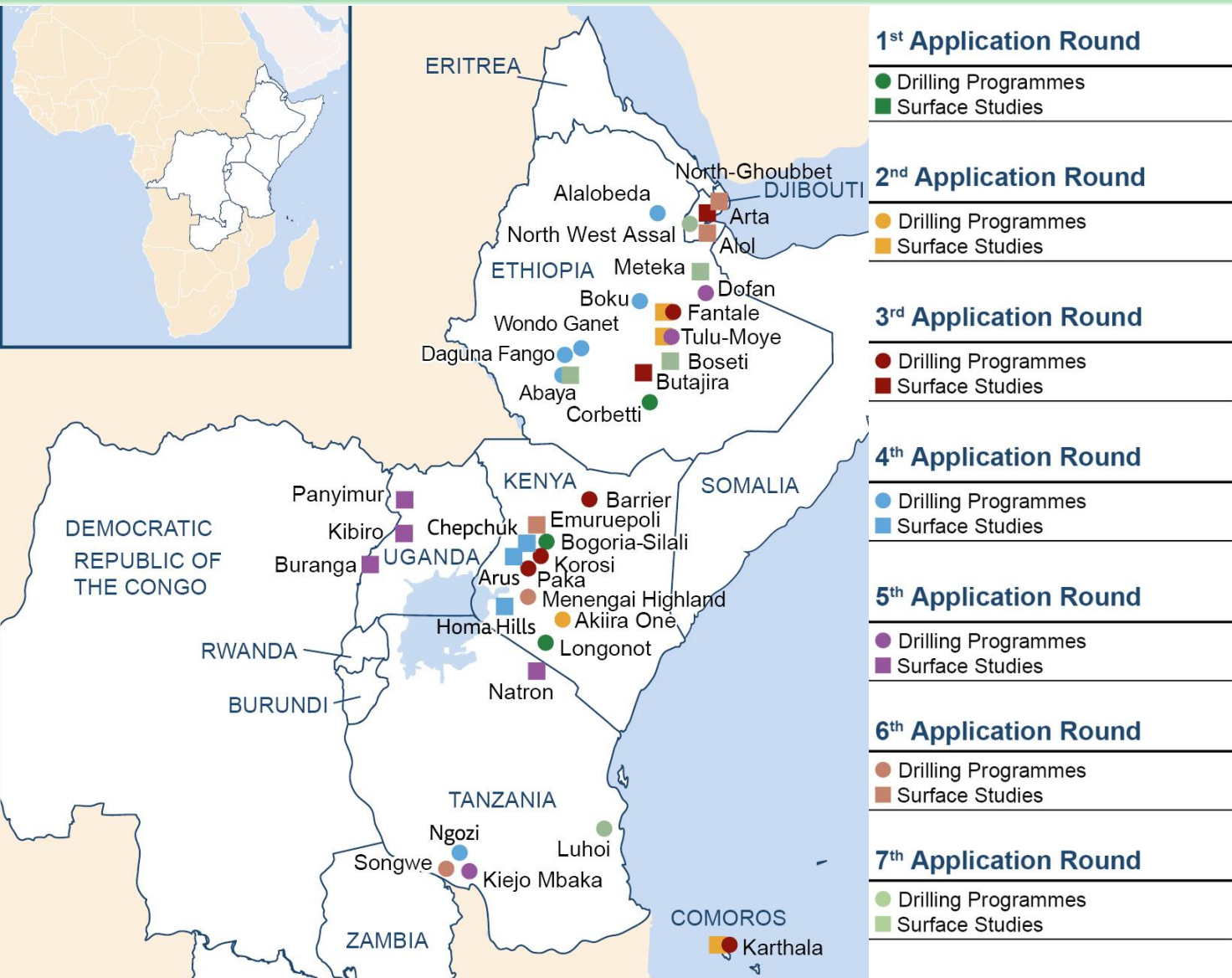
**Competitive, transparent, rigorous
two-stage evaluation process**



4. Organizational Structure



5. GRMF POWER Application Rounds 1 - 7



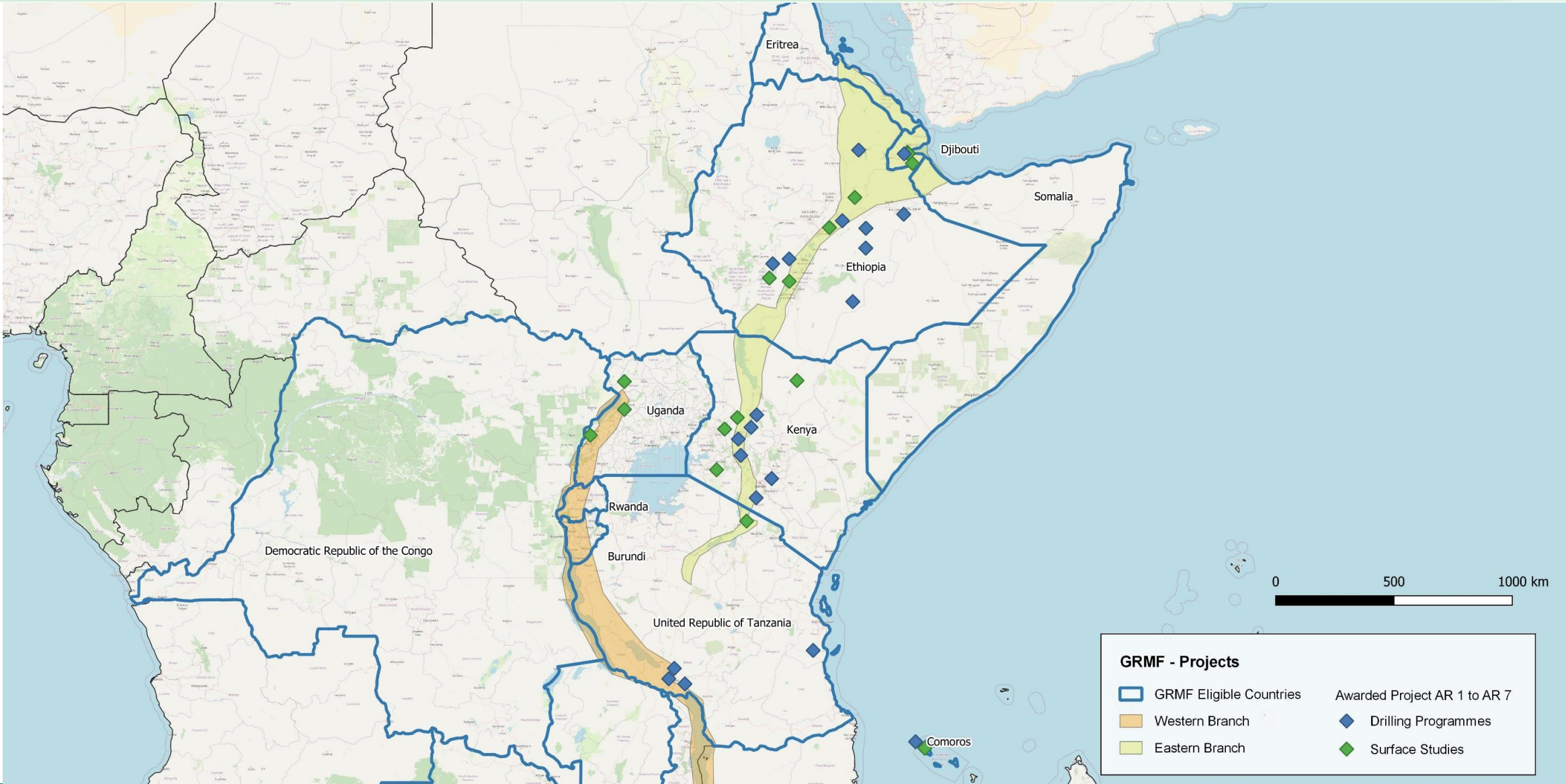
Projects from:

- Djibouti
- Ethiopia
- Kenya
- Tanzania
- Comoros
- Uganda

21 Drilling Programmes

19 Surface Studies

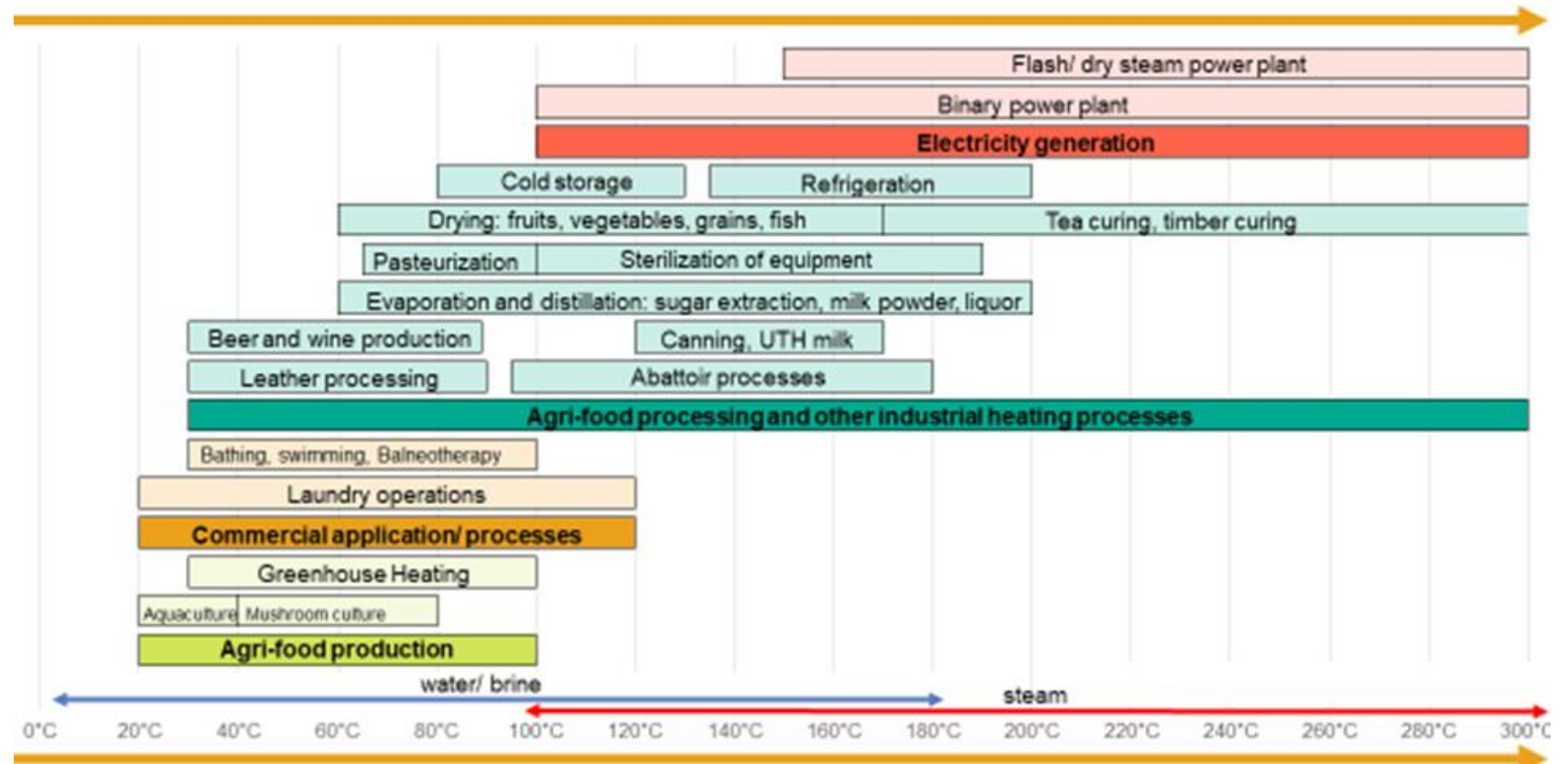
5. GRMF POWER Application Rounds 1 - 7



6. GRMF HEAT

Direct utilization = immediate/non-electric 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



Lindal diagram (modified) on geothermal direct uses applicable to the East African Rift region (based on (Lindal, Industrial and other application of geothermal energy, 1973)) taken from (IRENA, 2020).

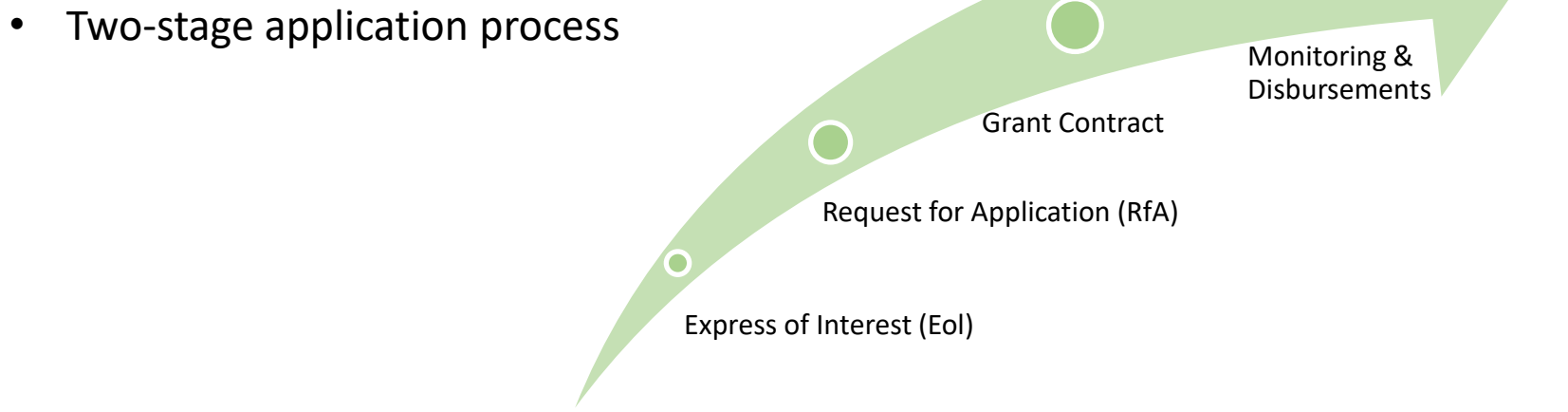
6. GRMF HEAT

- GRMF HEAT is a new funding programme by the Geothermal Risk Mitigation Facility
- It was launched on 1st December 2023
- Deadline for EoI: 16th March
- 17 EoI were received.
- 12 Projects pre-qualified for full application
- The programme provides grants for Surface Studies and Infrastructure upgrades aiming for direct use of geothermal resources.
- In contradiction to GRMF POWER, a feasibility study will be mandatory as part of the Surface Study!
- Facility might be extended to drilling.



6. GRMF HEAT

- Funding levels remain the same as or GRMF POWER
 - 20 % of eligible cost for Infrastructure Upgrades
 - 80 % of eligible cost for Surface Studies
- For public entities, external costs for preparation of Eol and full application are now eligible.



Thank you

Merci

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Obrigado

Asante

