Second Geothermal Roundtable: CIF role in global market developments

Mafalda Duarte
Manager – Climate Investment Funds
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Humans are changing the climate

It is extremely likely that we are the dominant cause of warming since the mid-20th century

Globally averaged combined land and ocean surface temperatures
Sources of emissions

Energy production remains the primary driver of GHG emissions

- **35%** Energy Sector
- **24%** Agriculture, forests and other land uses
- **21%** Industry
- **14%** Transport
- **6.4%** Building Sector

2010 GHG emissions
Large growth potential for renewables in dynamic markets with fast-growing demand beyond IEA projections

Stable markets with slow demand and growing policy risks means relatively small growth
Geothermal Energy: Potential and Value Proposition

- Stable base load energy
- Low OPEX
- Competitive prices
Investments not Reflective of Potential or Value

✓ Geothermal energy investments are ~<1% of $214 billion RE investments in the world in 2013.

✓ Current global capacity: 13 GW
Barriers to Catalyzing Geothermal Development

- Exploratory Drilling Risk
- Lack of technical capacity
- Lack of financing experience in local institutions
CIF funding is supporting some of the first large-scale geothermal development projects in Armenia, Chile, Dominica, Ethiopia, Kenya and Tanzania.
Geothermal Energy in the Climate Investment Funds

**SREP**
- **LAC**: $104m, $43m
- **AFRICA**: $49.5m, $110.5m
- **ECA**: $0m, $74m
- **ASIA**: $325m, $40m

**CTF**
- **LAC**: $104m, $43m
- **AFRICA**: $49.5m, $110.5m
- **ECA**: $0m, $74m
- **ASIA**: $325m, $40m

**COMMITTEE APPROVED**

**ENDORSED (NOT APPROVED)**
Menengai Geothermal Project (AfDB)

SREP Funding: $25m;
AFDB - $124.1m
Gov’t - $245.2m
Bilaterals - $108.7m
Total Co-financing: $478m

Expected Results:
• 150MW new capacity
• 2.5m people with new access to clean energy
• 48.75 MtC02 reduction over lifetime

SREP funding is covering exploratory drilling, an essential activity to prove the availability of steam resources but one in which the private sector has little appetite to invest. Phase I drilling is underway and expected to provide 150 MW to the national grid by 2017.
Indonesia Geothermal Clean Energy Investment Project (IBRD)

**CTF Funding: $125m**

- IBRD - $175m
- Gov’t - $274.7m
- Total Co-financing: $449.7m

**Expected Results:**
- 150MW new capacity
- 1.1 MtCO2 reduction annually

CTF funding is facilitating confirmation of geothermal resources, steam field development and above ground systems.
NAFIN Geothermal Financing and Risk Transfer Facility (IDB)

CTF Funding: $54.3m
IDB - $54.3m
Gov’t NAFIN, & others - $65.8m
Private Sector - $1,025m
Total Co-financing: $1,145.7m

Expected Results:
• 300 MW new capacity
• 33 MtC02 reduction over 30 year lifetime

Project will help with risk mitigation for geothermal projects in the early stages of exploration and test drilling through a range of financial instruments (loans, grants, & insurance)
The CIF has commissioned CPI to undertake a body of analytical work—including a series of dialogues, case studies, and reports—leading to recommendations on how to effectively target public finance and public policy to scale up geothermal deployment.
Thank You!

www.climateinvestmentfunds.org

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