



# World Bank Support to Geothermal in East Africa

## ARGEO C6, Addis Ababa

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# World Bank Focus on Geothermal Globally

- **The World Bank continues strong focus on geothermal**
  - Underpinned by WB Climate Action Plan (April 2016)
  - Since 2011 ~14% of WB financing for non-hydro renewables has been in geothermal while its proportion of installed capacity is less than 1%
- **Need for public intervention to absorb some of the resource risk**
  - In 2016 18% of MDB financing for exploration drilling compared to 6% in 2011
- **Global Geothermal Development Plan**
  - Collective fundraising effort to scale up geothermal (US\$250 million CTF)
  - Concessional financing to leverage private investment in exploration drilling
  - Knowledge dissemination – capacity building
- **World Bank activities in geothermal in East Africa**
  - Traditional approach
  - Iceland – World Bank Compact
  - GGDP

# ETHIOPIA

## *Geothermal Sector Development Project*



**Sites:** Aluto Langano and Alalobeda

**Volume of financing:** US\$218.5 million (IDA and SREP)

**Collaboration:** Iceland Compact, Japan (downstream development)

### **Type of intervention:**

- Exploration, confirmation and capacity drilling of up to 26 wells
- Procurement of drilling rig/refurbishment of existing rig
- Technical Assistance

### **Progress/timeline:**

- Consumables for 10 wells procured
- Bids for drill rigs received
- Owners Engineer/Supervision Consultant in advanced stage of procurement
- Drilling planned to start in 2017

# KENYA



## *Electricity Expansion Project Additional Financing*

**Site:** various sites including Olkaria

**Volume of financing:** US\$68 million (World Bank along with 7 co-financiers)

### **Type of intervention:**

- Access roads and SGS for Olkaria I and IV
- Investments in transmission and distribution

### **Progress/timeline:**

- Work is largely completed

### **Capacity Building under GGDP**

- Preparation of National Geothermal Strategy and GDC Business Plan”
- Phase 1 (diagnostic) had been completed
- Phase 2 will be launched mid November (consultant being hired)

# DJIBOUTI

## *Geothermal Power Generation Project (GGDP)*



**Site:** Lake Assal

**Volume of financing:** US\$31.2 million (World Bank along with 7 co-financiers)

### **Type of intervention:**

- Exploration drilling of 4 wells
- Technical Assistance

### **Progress/timeline:**

- All tenders for large procurement packages have been launched and are in advanced stages of completion, e.g. steel materials (wellheads and casing) and civil works
- Contract for Drilling Service Company (DSC) under procurement
- Drilling is expected to start by end of 2016.

# TANZANIA

## *Capacity Building under GGDP*



**Site:** Ngozi Geothermal Prospect

### **Type of capacity building:**

- Planning of geothermal exploration drilling projects
- Best Practices in Environmental and Social Safeguards for exploration drilling projects

### **Progress/timeline:**

- Consultant under contract for capacity building on planning geothermal exploration drilling
- Consultant for environmental and social safeguards in advanced stages of procurement
- Both activities to be completed in April 2017

# MALAWI

## *Energy Sector Support Project*



**Site:** Country wide

**Volume of financing:** US\$84.7 million (~1 million for geothermal)

### **Type of intervention:**

- Transmission and distribution upgrade and expansion
- Evaluation of generation option (incl. geothermal)
- Energy efficiency

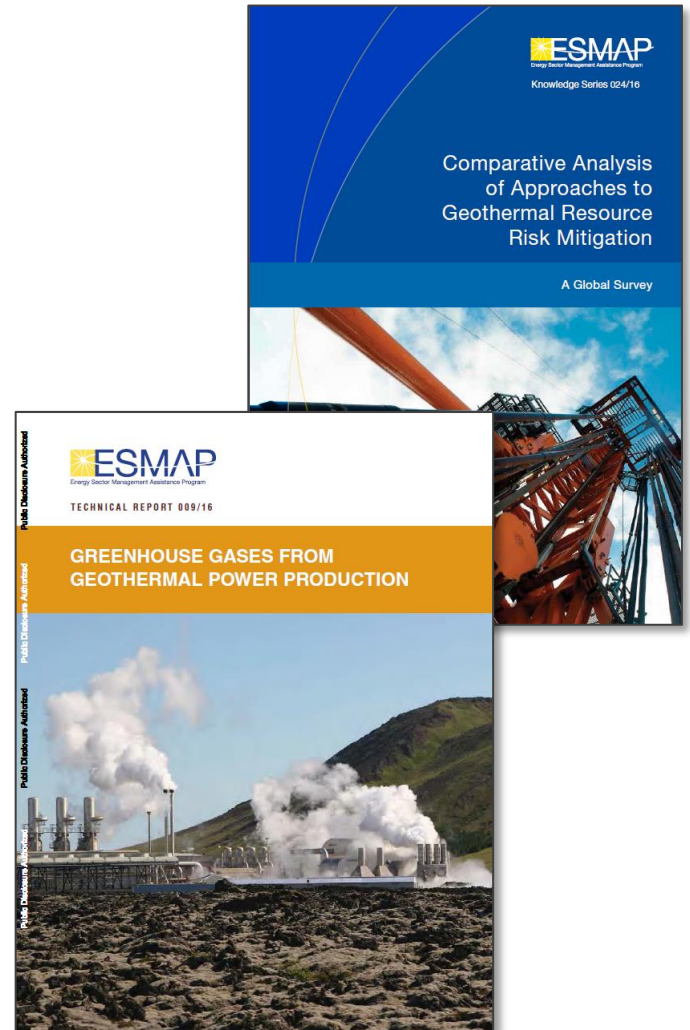
### **Geothermal component progress/timeline:**

- Consultants contracted to carry out reconnaissance and surface exploration
- Country wide reconnaissance completed (25 sites)
- Preliminary surface exploration (geology, geochemistry) planned for 6 sites
- Complete surface exploration planned for two most feasible sites
- Technical and economic pre-feasibility of power generation for two sites
- Estimated completion by June 2017

# GGDP Knowledge Dissemination

## RECENT ACTIVITIES

- Reducing Drilling Risk course (WGC 2015)
- UNECE – IGA Definition of Global Standards for Geothermal Resource Classification
- Geothermal Resource Risk Mitigation Mechanisms report
- Greenhouse Gases and Geothermal Utilization Technical Report
- Global Geothermal Development Plan Roundtables (The Hague, Copenhagen, Reykjavik)





# Planned Collaboration with Iceland MFA on Geothermal

CONCEPT UNDER DEVELOPMENT

- **Best Practices in Geothermal Data Management**
  - Definition of global best practices
  - Pilot TA projects to bring beneficiaries to best-practice levels
  - Preparation of guidelines for incorporation of GDM into WB financed geothermal projects
- **Improving Gender Equality and Social Inclusion in Geothermal Projects**
  - Definition of gender aspects in geothermal projects
  - Preparation of actionable guidelines for addressing gender equality in geothermal projects
  - Pilot TA incorporating gender aspects into an ongoing geothermal project in accord with guidelines

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Thank You.

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