

ABOUT KALAHARI GEOENERGY LTD - Corporate, Regulatory and Supervisory

Kalahari GeoEnergy Ltd: Private Company, Registered in Zambia.

Aims and Objectives: To explore and, if viable, develop geothermal energy resources to produce electrical power in East and Southern Africa, with current focus on Zambia. To become an Independent Power Producer.

Permitting for Exploration and Development Rights: March 2011 Agreement with Zambian Government - represented by Department of Energy - covers exploration rights to areas associated with identified geothermal systems and provides basis for development of viable targets. Extended from December 2017.

Reporting and Supervisory: In Zambia the Company reports to a steering committee composed of stakeholders.

Technical Collaboration: Technical co-operation agreement with National Institute for Scientific and Industrial Research, Zambia + Copperbelt University, Zambia. Other collaboration agreements for research with southern African institutions pending.

Peer Review & Consultancy: Geologica Geothermal Group, USA. www.geologica.net

Investment Licence: Kalahari has been granted an Investment Licence by the Zambian Development Agency specifically for its geothermal investment.

Environmental: Environmental Impact Assessment for geothermal drilling approved by Zambia Environmental Management Agency ("ZEMA").

Funding: USDA committed to fund feasibility study. Currently share-holder funded. Following the completion of preliminary drilling, partners or third party funding may be sought.

Directors: Kalahari GeoEnergy Ltd Board and Management include:

- Dr. Moses Banda - Director (previously chairman of Kiwara Resources Ltd, Zambian subsidiary of minerals exploration company, Kiwara plc.)
- Peter Vivian-Neal - CEO (previously a founder and the chief executive of minerals exploration company, Kiwara plc.)

BWENGWA RIVER GEOTHERMAL RESOURCE

Exploration work undertaken:

- Geological mapping
- Hydrochemistry sampling
- Geophysics (including ground magnetics, AMT resistivity, radiometric, gravity and combined 3D modelling)
- Shallow soil temperature measurements
- Engineering, drilling and logging of six (6) temperature gradient holes designated Wells LOCH 01-06
- Slim well pressure and flow tests

Results confirm a geologic setting conducive for geothermal hydrothermal systems

Initial Indicated Resource: Greater than 10MW of usable power

The surface manifestations of the Bwengwa River Geothermal Resource Area include geothermal springs that extend over 7km and lie on the southern bounding fault of the Kafue Trough. Ongoing exploration has to-date included the drilling of six temperature gradient/slim wells totalling 2,340m.

Results confirm a geologic setting conducive for geothermal hydrothermal systems and also give a strong probability of a medium-low enthalpy geothermal resource that can support a power generation project of at least 10MW. Heat-in-place, power density and heat flow methods were used, providing a consistent estimated usable resource capacity in the range of 10-20MW.

The Bwengwa River Geothermal Resource Area contains compelling evidence of the three key elements required for hosting a hydrothermal system: temperature, permeability and water. Evidence for minimum reservoir temperature from 130°C to more than 150°C is provided by both fluid chemistry and temperature gradient holes. Permeability is confirmed by the discharge of the hot springs along the regional bounding fault and the associated geologic structures. The reservoir is in fractured basement rocks at a shallow to medium depth adjacent to the bounding fault. The source of water is local meteoric water that is plentiful.

Bwengwa River Geothermal Resource Area is within Kalahari GeoEnergy's defined exploration area covering the Kafue Trough, which included five other identified targets.



STEPS TO DEVELOP AND PRODUCE POWER AT BWENGWA RIVER

Development

Each 10MW Development phase to consist of:

- Wells: Produce and inject ~1,000 m³/h of ~130°-160°C geothermal fluid: 3-4 production and 2-3 injection wells; Wells either vertical or directionally drilled to maximise penetration of reservoir
- Well-head Equipment: Fluid collection and reinjection piping systems, pumps, wellhead and pipeline valves and monitoring equipment
- Power Plant: Water-cooled binary unit capable of generating 10MW net including heat exchangers, turbines and auxiliary equipment
- A generator step-up transformer and switch yard to export power to the transmission line. Access/meter/sync point to energized 33kV line <6 km from location of wells

Concurrent Exploration to increase resource

- Geophysics suggests likely extensions and systems at Bwengwa River Resource Area
- Company has identified and is conducting surface exploration including geophysics at additionally identified targets within the Kafue Trough exploration area
- Assessment is that license area may contain 50-80MW. KGE's objective is to have 50MW either in production or as defined resources by 2022

GEOTHERMAL: ENERGY BEYOND POWER

- **Cascade Energy Applications:** in addition to power production, investigation into direct applications of energy with potential users (dairy processing and aquaculture). Opportunity to create rural development with sustainable employment
- Ongoing research to upgrade community water quality (drawn from poorly maintained wells and hot springs) to 'Potable' in support of Millennium Challenge initiatives
- Studies to be made into using geothermal power for sustainable fuel synthesis. Also Hybrid generating options
- Project to form part of the National Park management plan to secure and develop the park - as has happened at Hell's Gate National Park, Kenya
- Providing and maintaining water and grazing outside the park (currently silted up and overgrown with invasive plant species, both of which could be rectified)