

Linking scientific research and the geothermal industry in East Africa

Impact Accelerator Workshop

University of Bristol

19-20 August 2013

The University of Bristol, NERC and the Cabot Institute are hosting a 2-day workshop aiming to improve the links between academic research and the geothermal industry in East Africa.

Roughly ~70% of East Africa's population traditional fuels, with no access to electricity. The geothermal potential of the East African Rift is thought to be in excess of 15,000 MW – larger than the present-day global geothermal production – but without the CO₂ output or rainfall-dependence of other energy generation methods. Multi-million dollar investments from organisations such as the World Bank are driving a 10-fold expansion in the next decade.

UK universities have a long history of research into the volcanic and tectonic processes occurring in the East African Rift. The data being collected could help industry improve geothermal production and reduce the uncertainty and risk associated with geothermal development by understanding the interactions between magmatic and geothermal processes. This potential impact would benefit from strengthened relationships between the researchers and industry.

Mon 19 August: Workshop Dinner, Loch Fyne

Tues 20 August: Scientific Tour of Bath Hot Springs

Wed 21 August: Fieldtrip to Kilve

Day 1: Improving Productivity

10.00 Introduction

Michael Kendall, University of Bristol.

10.15 **Keynote** Impact of Geophysical Monitoring on the Oil Industry

Mike Williams, Schlumberger.

10.45 The Alutu Langanu Geothermal Plant

Girme Andarge, Plant Manager, Ethiopian Electrical Power Corporation

11.00 Geothermal Resources in Kenya

Kitzito Opondo, Chief Officer for Geothermal Resource Assessment, KenGen

11.15 Coffee

11.30 Geothermal Exploration at Corbetti Volcano

Hjalmar Eysteinnsson, Reykjavik Geothermal.

11.45 Seismic Monitoring of Alutu and Corbetti Volcanoes

Matt Wilks, University of Bristol

12.00 Small Group Discussion

Do you have examples of exploration and/or monitoring methods have improved productivity? Any unexpected surprises, good or bad?

1.00 Lunch

2.00 Eden EGS development plan and geological overview

Tony Bennet, Operations Manager, EGS Energy.

2.15

Daniel Koehn, University of Glasgow and Cluff Geothermal.

2.30 MT and ambient noise seismic interferometry, Tendaho , Ethiopia

Kathy Whaler, University of Edinburgh

2.45 Using deep geothermal technology to target new wells and recover old dry ones

Roy Baria, EGS Energy

3.00 High-precision gravity to understand the geothermal potential of Addis Ababa, Ethiopia

Dr. Elias Lewi, IGSSA, University of Addis Ababa.

3.15 Coffee

3.30 Small group discussions

Would could be done better? What information is missing? What is the most valuable next step in terms of increasing productivity?

5.00 *Feedback from small groups.*

5.30 Close

Day 2: Reducing Risk

9.30 Hazards Keynote

Prof Willy Aspinall, Cabot Professor in Natural Hazards and Risk Science.

10.00 Deforming Volcanoes in the East African Rift

Dr. Juliet Biggs, University of Bristol

10.15 University of Nairobi,

Gladys Kianji. University of Nairobi

10.30 Rosemanowes HDR project and hazard assessment for Eden

Andy Jupe. The Eden Project.

11.45 Coffee

11.00 Small Group Discussion

- *What is the most valuable next step in terms of reducing risks?*
- *Rank the hazards at geothermal sites in order of priority. How do these compare to fracking, hydroelectric dams etc?*
- *How are risk assessed for geothermal plants, how could we do this better?*

12.30 Lunch (including trip up Wills Tower)

2.15 Alutu Volcano: Eruptive history and current behaviour

William Hutchison, University of Oxford.

2.30 Reconstruction of the volcanic history of the Corbetti Caldera

Raffaella Fusilo, University of Bristol

2.45 Overview discussion and contribution to workshop documents.

- *To what extent is every site unique? Is it possible to produce generic 'best-practice advice'?*
- *What are the next steps?*
- *What finance is required and who is the most appropriate source: Research Councils; International Development; Geothermal Industry, Government Bodies.*

3.30 Coffee

3.45 Roundup of workshop results, actions and future plans.

4.00 Close

List of participants

University of Bristol:

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