Geothermal energy and development cooperation – New Zealand's experience

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(Te Puia Geothermal Reserve, Rotorua)

New Zealand's geothermal sector

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- Geothermal energy exploration began in the 1950's – first geothermal power plant operating from 1958
- Today – six geothermal fields, 18 geothermal power plants, total capacity of 985 megawatts, providing 17% of national grid electricity.
- New Zealand International Development Cooperation Programme – supporting geothermal energy development since the 1970s

(Nga Awa Purua geothermal plant)

Geothermal energy development

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- Geothermal development process
    1. Exploration
    2. Development
    3. Utilisation
- Completion of this process is approximately 8 -10 years
- New Zealand development programme focused on the provision of services (rather than technology)

Indonesia

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- Indonesia – Aotearoa New Zealand Geothermal Energy Programme – NZD 15.64m over 5 years
- Focus on
  - Geothermal energy policy, regulation and planning support
  - Technical support and capacity building
  - Increasing workforce skills and training

NZ Geothermal Institute training

Caribbean

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- Caribbean Renewable Energy Facility 2014 – Present
- Focus on Commonwealth Small Island Developing States – Dominica, St Lucia, St Vincent, Grenada, St Kitts and Nevis.
- Support for first geothermal power plant in Dominica for commercial development
- Design of GeoSmart Facility within the Caribbean Development Bank

Testing of a geothermal power plant in Dominica

Africa

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- Africa Geothermal Facility 2017 – 2024, in partnership with African Union Commission
- Eleven eligible countries
- Technical support across the development lifecycle
- Online and in person training
- Support (and success) with applications for finance

Lessons learned

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- Importance of community engagement
- Need for high level of technical expertise, long-term commitment and significant lead in times
- Private sector has limited interest until potential projects are quantified and de-risked (through exploration)
- Access to finance is crucial
- Training and scholarships

Unlocking the environmental and economic benefits of the green transition

- Community engagement is key
- Access to a broad-range of services
- Removing barriers to services maximises opportunities for progress

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