Dominica Geothermal Risk Mitigation Project: A Potential Game Changer

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Dominica Geothermal Risk Mitigation Project

- Develop small geothermal power plant (SGPP - 7 MW) with public and donor financing:
  - Domestic tariffs stabilized - high economic return (IRR=38%)
  - Operational capability of the reservoir confirmed
  - Green field converted into far less risky brown field

- Establish contingent finance facility to provide insurance against potential residual resource risks:
  - Viability of overall geothermal program intact

- Comprehensive assessment to evaluate viability of LGPP and develop roadmap to move forward:
  - Improved knowledge about geothermal field
  - Informed decision on field expansion. Better positioned to evaluate market conditions/structure a transaction/ secure the right private partner
Geothermal = **GAME CHANGER** for Dominica

- **Reliable, clean, lower cost base load option**

- **7 MW SGPP** for supplying the domestic market: **up to 15% electricity tariff reduction; share of renewables in the energy mix doubling (from 25 to 51%)**

- Larger geothermal power plant (LGPP) of up to **100 MW** for exporting electricity to Martinique and Guadeloupe: royalties from electricity exports reaching above **10% of GDP**

- **Positive externalities regionally:** prove market viability
Results: Lessons:

• Geothermal power way LESS expensive than diesel but only if low-cost financing and insurance are available. With all equity, DGDC should need to charge > US$15/kWh, not much less than diesel cost (LCOE of diesel power in Dominica=19.6/kWh with oil price of US$80/BBL)

• Geothermal tariff maintained at an artificially low level to lower the retail price of electricity (RoE at 6.2%). Minimum DSCR for the period >3.1, and average DSCR > exceed 4.2. DGDC will remain financially healthy through the life of the Project

• All parties set to gain: DGDC viability protected; DOMLEC can buy cheap power; people & firm spend less on electricity

Lessons:

➢ Need to build the fundamentals of geothermal market
  • Capable & autonomous geothermal company
  • Geothermal law
  • Robust concession agreement for use of geothermal resource

➢ Use public money wisely
  • Secure top-notch technical expertise for project design - enforce highest industry standards
  • Recruit transaction capacity to negotiate PPA
  • Recruit support throughout preparation & implementation: need wise procurement choices (EPC/O&M contracts) & supervision capacity....the devil is in the details!