

**The 1st African
Geothermal
Conference
ARGeoC1**

**Accelerating Geothermal
Energy Deployment in East
Africa
Through Public Private
Partnerships**

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Introduction

- ORMAT Experience
 - Constructed over 700 MW of geothermal plants worldwide
 - Experience with MFI and ECA in 250 MW of projects (Philippines, Guatemala, Nicaragua, Kenya)
 - Owns and operates 350 MW (230 MW in US, 120 MW in developing countries)
 - Raised over \$1.2 in project financing in the past 10 years

Barriers for Private Investments in the Geothermal Power

SECTOR'S STRUCTURAL WEAKNESS

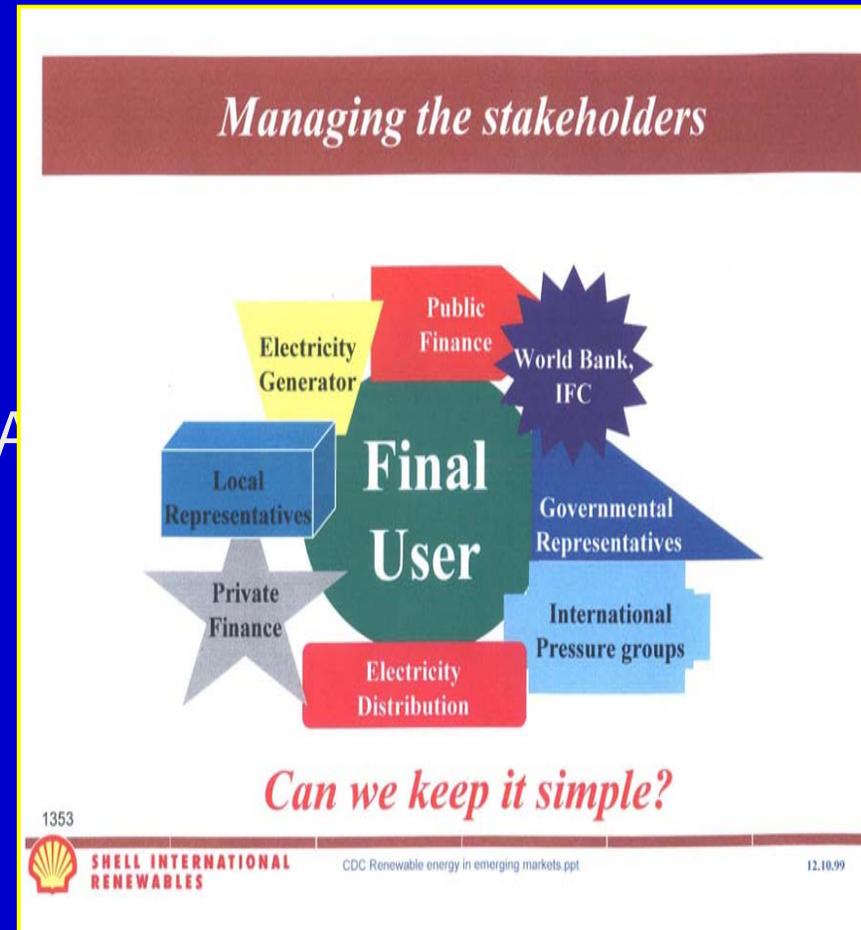
- Entitlement for tariffs below costs
- Non payment

“PRIVATIZATION” OF WELFARE

RISKS

- Political
- Off-takers
- Technical

Deficiencies of the Legal Infrastructure



Success Story of PPP in a Poor Country



- 1000 MW of renewable energy in ten years:
 - The Philippine Geothermal Program
- The right division of tasks in the right sequence
 - UNITAR / UNDP (exploration)
 - GEF / WBG (drilling of wells)
 - PRIVATE IPP's supported by EXIM (power plants)

Hurdle: Lack of Institutional will

- Local politicians and civil servants should have a thorough understanding of why their countries need private investment in infrastructure in general and Renewable Energy (RE) in particular
- Must also have a firm will to implement policies and measures needed for private infrastructure and RE development
 - regulatory
 - technical capacity – building
 - financial incentives, especially for RE
 - enable financiability of projects
- Need to have the institutional ability & strength of purpose to focus on long-term solutions as the project development cycle, problems and benefits are also long term
- Relevant for both national governments agencies and multilateral institutions

Hurdle: Lack of Stability / Security

- Private investors will take calculated risks only if there is a clear road map
- Investment environment – rule of law
- Guaranteed off-take arrangements to enable market entry for Geothermal projects
- Payment security
- Stable policies and institutional framework that prevent changes in regulations or unilateral actions or renegotiation (avoid examples of Indonesia, Pakistan)

Hurdle: Lack of Recognition of Renewable Energy, especially Geothermal

- True price of RE power compared to conventional power must be recognized
 - Value to energy mix
 - Value of environmental externalities
 - Real cost of pass-through fossil fuel prices and fossil fuel subsidies in decision criteria and tariffs
 - Ability to be cost-effective even moderate scale, enabling incremental developments which may be suitable for developing countries

Hurdle: Lack of Recognition of Renewable Energy, especially Geothermal

- Investment profile necessitates market entry mechanisms (high up-front capital cost per kW power deliverable), particularly under deregulated structures, such as:
 - Renewable Portfolio Standard
 - Priority dispatching (RE are “MUST RUN” for investment pay back)
 - Financial & fiscal incentives

Hurdle: Lack of Recognition of Renewable Energy, especially Geothermal

- Value to national energy mix
 - RE serves as a virtually risk-free asset within the national energy portfolio: Price fixed over time
 - Indigenous energy provides energy security
 - Indigenous energy saves foreign currency
 - In case of geothermal; provides most dependable base load power

PUBLIC SECTOR - PRIVATE SECTOR HARMONIZATION

Need for Level Playing Field

- Between true costs of private vs. public projects
- Between private developers and state-owned developers in soft costs, financing costs , insurance & required return on investment
- Between renewables and fossil fuel power – true prices taking into account difference in project scales

AGENDA FOR ACTION

Public-Private Partnerships

Key Points for Success

● Risk Sharing

- Industry to underwrite risks in construction, performance, and operation
- Financing institutions and national agencies to underwrite other risks: country, payment
- Resource development risks: if borne by private sector leads to expensive power

● Financial institutions to seek innovative FAST TRACK solutions

- Streamline the review process – avoid micro management
- One stop financing - One lead agency to act as financing coordinator
- Innovative technologies should be welcomed (guaranteed by private sector)
- Resolve the internal competition in IFI's between public and private sector departments

● National Policy Legislation: level the playing field

- Price should reflect value of environmental value of energy mix, base load dependability, price stability (no oil imports)
- Educate the stake-holders (important role for IEA-GIA, and UNEP)
- Set asides for renewable energy technologies, e.g. RPS
- Adapt deregulation to renewables (merchant plant issue)