Djibouti geothermal development
Dr. Saida Omar
Djibouti is located on the East Coast of Africa between Ethiopia and Somalia, the entrance of the Red Sea in the extreme West of the Aden Gulf.

The Geologic characteristics of the territory of the Republic of Djibouti are exceptionally favorable for the development of Geothermal Energy.

Djibouti includes the Afar depression, which is part of the East African Rift, located at the intersection of three important tectonic structures.
INVESTMENT SECTOR

- Economic activity
  The strategic location on major international shipping routes, the Republic of Djibouti is a regional transport hub. The transport sector remains the mainstay of the national economy: port services and transit and road services are the main activities of the trade sector, which contributes over 70% to the creation of wealth.

  Djibouti has benefited in recent years from foreign direct investment in harbors, tourism and construction. In addition, Djibouti has efficient telecommunication networks. The only US base in Africa is located in Djibouti.
Created in January 1960, EDD «Electricity of Djibouti» as a public utility owned by the government under the Ministry of Energy.

The Main duty of EDD is:
- Generation
- Transmission
- Distribution

Thermal plants: 120 MW installed capacity
- Mainly heavy fuel and diesel.

Hydro-electricity (Imported): 400 GWh per year
- Dependant on the capability of the grid.

Solar pilot plant: 300 kWp installed capacity
- 522 MWh Energy production in 2012.
- Mainly solar photovoltaic cells.
POWER SECTOR ENVIRONMENT

Subsidized Tariff
- 15¢ per kWh

Residential Tariff
- 22¢ to 27¢ per kWh

Small and medium companies
- 28¢ per kWh

Industry
- 18¢ per kWh
- 20¢ to 23¢ per kWh

Planned Project for the near Future
1. Seawater Desalination Plant
2. Container terminal Expansion
3. Livestock Port of Damerjog
4. Cement plant
5. Ghoubhet Mining port
6. Tadjourah Port
7. New Airport
8. Djibouti-Gallileh Railway

Additional new capacities
236 MW

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The peak annual demand is expected to increase from:

- 2014: 90 MW
- 2020: 298 MW
- 2032: 404 MW

Growth rate of 4.5% per year.
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<td>South-Ghoubet</td>
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**1000 MW Potential**
The role of Private Sector for geothermic development in Djibouti

- The law liberalizing and regulating the activities of independent power producers is set up.
- It aims to promote private sector participation and competition in the production of electrical energy.
A structured approach to the geothermal investment is a key factor to:
(i) control risks, (ii) ensure cost and time effective development and implementation, (iii) ensure competitive contest for supply of equipment, (iv) present a credible project framework to possible lenders.

Key areas:
- Geothermal resource, reservoir characteristics
- Wells drilling short and long term plan
- Geothermal fluid treatment/transport architecture
- Power plant architecture
- Interface ‘field/plant’, overall optimization
- Procurement strategy, contracts
- Construction supervision
The purpose of this initiative is to encourage public and private investors.

Develop the prospects for geothermal eligible countries such as Burundi, Eritrea, Ethiopia, Comoros, the Democratic Republic of Congo, Djibouti, Kenya, Rwanda, Tanzania, Uganda and Zambia.

The Republic of Djibouti submitted two geothermal site:
- Arta and North Ghoubbet for surface studies
Centre of Excellence for geothermal development in Africa

• Djibouti participates through the ODDEG for the establishment of this center
This will help African countries:
  – Facilitate and accelerate geothermal developments through: enhanced access to geothermal information; educational and training opportunities; internships and access to state of the art field and laboratory equipment; and, facilities for geotechnical, geochemical, geophysical and petrographic studies, surveys and analysis/interpretation.
  – Exchange experiences
INVESTMENT OPPORTUNITY AND INCENTIVES

Insurance, funding and protection facilities

- Business and investment projects are set up on the Republic of Djibouti territory are eligible to the preferential rate insurance prime of the Multilateral Investment Guarantee Agency (MIGA) of the World Bank.

- Intellectual and industrial properties right.

- One Stop Shop

- Multilateral donors and stakeholders: IFC, WB, AfDB, Islamic Bank etc..

- National Investment Promotion Agency (NIPA).
INVESTMENT OPPORTUNITY
AND INCENTIVES

Incentives to foreign Investment

*Completely Duty Free Environment during a significant period*

- **100 % Foreign ownership**
- **No import duties on equipment, machinery and materiel's**
- **100 % repatriation of capital and profits**
- **No currency restrictions**
- **Tied to US $**
CONCLUSIONS

- The government of Djibouti is committed to develop geothermal energy to overcome the growing energy demand and to support economic development.

- ODDEG has been created to strengthen and to oversee development of geothermal energy.

- Capacity Building of Djiboutian government on management and technical staff.

- Achieve energy independence through geothermal energy as base load power.

- Promote independent power producers (IPPs) for geothermal development.

- Develop a new geothermal energy law.
MANY THANKS FOR YOUR ATTENTION