Management Contract for ELECTROGAZ

Utility Management Services
as part of
Restructuring, Privatisation and Institutional Reforms of the Electricity and Water Sectors

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Background

• Long term efforts have been undertaken by the Government of Rwanda towards the Energy and Water Sector Reform

• The Energy and Water Sector Reform is embedded in the privatisation efforts for infrastructure in Rwanda

• This is the first step of the Privatisation process of the state-owned company Electrogaz
Background
The Rwandan Electricity System

100% based on Hydropower
Lahmeyer International has a long standing history
- As a privately operated company
- Independent from any association or affiliation with manufacturers.
- Exercising its business successfully since 1966
- Lahmeyer International has successfully been providing engineering services and management advice to utility companies, funding agencies and private investors and operators.
Our understanding of Utility Management

- Any form of Privatisation can only be implemented with countries Government and population
- LI is a partner to develop ELECTROGAZ into a viable utility
- LI works with the people of ELECTROGAZ and with the people of Rwanda
- Reliable Management is a precondition to activate necessary investments in infrastructure
Objectives of the Contract in Rwanda

The major objective of the five years Management contract for the Rwandan Water and Electric Power Utility ELECTROGAZ is to achieve on the long run:

- Significant reduction in technical and commercial losses
- Extensive improvements in operational efficiency
- Increase access of the population to water and power services
- Financial self-sufficiency of ELECTROGAZ
Tasks of the Utility Management Contract

- Operational Improvement Plan
- Commercial Improvement Plan
- Tariff Policy Development Plan
- Technical Improvement (Power, Water)
- Training Program and Staff Development
- Financial Improvement Plan
Background
Overuse of Hydropower – Ntaruka, usage in MWh

![Graph showing monthly actual and design usage of Ntaruka hydropower from Jan-98 to Jul-04. The graph indicates significant fluctuations in usage with a comparison to the designed usage level.](image)
Background
Overuse of Hydropower - Lake Bulera (Ntaruka)

Overuse of Rwanda’s main power stations has led to a drawdown of Reservoirs (unsustainable production levels)
Background
Water level in Bulera Lake
Current Situation and Short Term Future

- Electricity production is not sustainable (depending on rainfall)
- Not sufficient rain despite rainy season
- Generation to be reduced by 80-130MWh per day
Current Situation and Short Term Future
Load shedding would need to be increased

Electrogaz Supply 15-21 March 2004

- Without load shedding
- With load shedding

Peak Mar 03 plus 9%
Ave. 15-21 Mar 04
Possible Future Implications

- Loss of income for Government (taxes)
- Loss of employment in the Rwanda industries
- Loss of reputation of Rwanda for Tourism and as a Conference destination
- Damage to investor confidence
- Decrease of Security
Facts:

- The average Energy Demand Growth Rate is 8% p.a.
- An extensive electricity generation expansion program is required.
Planned Structure of Rwanda’s Energy Supply System until 2020

- Less Load Shedding in 2005, full supply from 2006
- System Reserve according to International Standards:
  - Beginning in 2007: Adequate Back-Up-Capacity (in particular Fast Track Diesel Units)
- Electrification Rate higher than 20 per cent in 2020
- Diversified Energy Supply System
Vision for Rwanda's Electricity System in 20 years

- 32% Hydro Power Imports
- 39% Hydro Power Domestic
- 16% Methane Gas Power Domestic
- 13% Diesel Power Domestic
# Results (1) Commitment of Donors

<table>
<thead>
<tr>
<th>Organization</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>World Bank + Nordic Fund</td>
<td>25 Mio.$ + 6 Mio.€</td>
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<tr>
<td>Emergency Project Diesel Generators (Hybrid), T&amp;D</td>
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<tr>
<td>African Development Bank</td>
<td>20 Mio.$</td>
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<tr>
<td>Rehabilitation Power and Water Facilities, 10 Mio.$ each</td>
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<td>European Union</td>
<td>19 Mio.€</td>
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<tr>
<td>“Karengue” Water Treatment Rehab./Extension + Infrastructure</td>
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<tr>
<td>BADEA + OPEC Fund</td>
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<tr>
<td>Rehabilitation Hydro Power “Mukungwa”</td>
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<td>Netherlands</td>
<td>6 Mio.€</td>
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<td>Diesel Gen. Sets, Rural Electrification</td>
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<td>Belgium</td>
<td>4 Mio.€</td>
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<td>Substations, Rehabilitation of Micro Hydro Power</td>
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<td>Germany</td>
<td>???</td>
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**Discussed:**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Amount</th>
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<tr>
<td>Mid/long term Energy Projects, Methane Gas Energy</td>
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Results (2)

- The Management Contract is the means to activate and steer large infrastructure investments needed
- Tax exemptions for Diesel Fuel could be achieved
- The Electricity Tariff has successfully been adjusted (from 42 FRW to 81 FRW, still flat) without major riots
- A new Tariff Structure is being prepared and discussed
- Power Purchase Agreements are being revisited
Thank you for your attention