State of Rural Electrification in Zambia
25 November 2013

Presentation Made by Mr. Geoffrey Musonda
Chief Executive Officer, Rural Electrification Authority (REA)
Outline of Presentation

- Introduction
- Background of the Rural Electrification Authority (REA)
- Purpose and Functions of the Authority
- Institutional and regulatory framework
- REA Renewable Energy projects
- Rural Power systems
- Financing framework
- Conclusion
Introduction

Zambia’s total population stands at 13.1 million (of which 65% or 8.5 million people constitute the rural population) (Census 2010).

Ratios on the electrification status:

- National Electricity Access Rate as at 2010 was 22% (i.e. Urban-53%; Rural-4.5%)
  - National electricity access rate in 2000 stood at 16.7% (i.e. Urban 44%; Rural 2.2%)
  - Objective for 2030 is to increase the national electricity access rate to 66% (i.e. Urban 90%; Rural 51%).
In 1994 Government identified rural electrification as an urgent priority and introduced the Rural Electrification Fund (REF) by committing a portion of the sales tax on electricity to this fund through an administrative arrangement;

In December 2003, the Rural Electrification Act No. 20 was enacted to establish Rural Electrification Authority (REA) and the Rural Electrification Fund (REF);
The main purpose of establishing the REA was to promote and facilitate access to electricity by the rural population through:

1. Administering and managing the rural electrification fund.
2. Developing and implementing the Rural Electrification Master Plan (REMP).
3. Promoting utilisation of available rural electrification technological options to enhance the contribution of energy to the development of agriculture, industry, mining and other economic activities in rural areas;
4. Mobilising funds to support rural electrification.
5. Encouraging private sector participation in rural electrification through provision of smart subsidies; competitive bidding and community mobilisation.
6. Financing project preparation studies for rural electrification
7. Recommending to government suitable policies aimed at enhancing access to electricity by rural populations.
Institutional and regulatory framework

There are various organisations set up to play complimentary roles in the electrification programme, namely;

- **REA** - Mandated to provide electricity infrastructure in the rural areas of Zambia.
- **ZESCO** - National utility involved in the generation, transmission and distribution of electricity.
- **Energy Regulation Board** - Regulate the energy sector.
- **Ministry of Mines, Energy & Water Development** - Provide policy direction.
There are several rural electrification policies and national electrification plans that guide the delivery of electricity services to rural areas such as:

- The Rural Electrification Act No. 20 of 2003;
- National Energy Policy;
- Power Systems Master Plan and
- Rural Electrification Master Plan.
## Targets for rural electrification

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<tr>
<th></th>
<th>2006</th>
<th>2030</th>
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<tbody>
<tr>
<td></td>
<td>No. of households</td>
<td>No. of electrified household</td>
</tr>
<tr>
<td>Urban</td>
<td>896 234</td>
<td>426 608</td>
</tr>
<tr>
<td>Rural</td>
<td>1 403 408</td>
<td>43 506</td>
</tr>
<tr>
<td>Total</td>
<td>2 299 642</td>
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REA Renewable Energy Projects

REA is undertaking the following Renewable Energy Projects:

- Solar Mini Grid Projects
- Solar Home Systems Projects
- Mini Hydro Power Projects
REA has implemented a 60kW solar mini grid project in Mpanta Village, Samfya District of Luapula Province.

The area comprises a cluster of fishing villages on the shores of Lake Bangweulu with a total population of 6,000 people and 480 identified beneficiaries located within a radius of 1.5km.

Direct Beneficiaries under project include the following facilities:

- Mpanta Basic School
- Mpanta Rural Health Centre
- Mpanta Nursery School
- Market, Shops and businesses (Fishing)
- Churches and
- Households
The Authority has also been implementing a programme to install solar PV systems in remote rural public and social institutions such as schools and rural health centres as well as chief’s palaces throughout the country over the years.

Measures are taken to ensure coordination with the line Ministries responsible for these facilities to avoid duplication of Government efforts with respect to rural electrification during implementation of the solar programme.
Mini Hydro Power Projects

In Zambia, Mini Hydro power sites are located in remote areas far from existing ZESCO’s Distribution lines, and can be operated by local cooperatives for supplying electricity to local hospital, clinics, Schools, farms, etc.

The Technology is a mature and proven technology which can be controlled and monitored by local communities. It provides investment and manufacturing opportunities for the rural communities.

However, not many Mini Hydropower projects to serve Rural Electrification needs have been developed so far.
REA Mini Hydro Project Sites
Rural power systems

- Country’s hydropower resource potential is estimated 6,000 MW while the installed capacity is only 1,786 MW.

**Consumption:**
- Number of subscribers – Total # of Domestic Customers stands at 548,000 (Urban: 476,000 Vs Rural: 72,000)
- Peak load stands at 1800 MW

**Number of operators:**
- **Within production**
  *ZESCO Ltd – National Utility & major player in electricity sub-sector.
  *Lunsemfwa Power Company (private operator)
  *Zengamina Power Company (private operator)
- **Within distribution**
  *ZESCO Ltd – National Utility & major player in electricity sub-sector.
  *Lunsemfwa Power Company (private operator)
  *Zengamina Power Company (private operator)
  *North Western Power Company (private operator)
Financing Framework

In line with the RE Act No. 20 of 2003, REA administers and manages the REF.

The REF consists of:

- Such monies as may be appropriated by Parliament for the purpose of the Fund;
- All electricity levies collected and;
- Such monies as may be paid to the Fund by way of loans, grants or donations.
## Financing Mechanism of the Rural Electrification programme

### RURAL ELECTRIFICATION FUND

<table>
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<tr>
<th>SOURCE</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td><strong>SOURCE</strong></td>
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<td><strong>2012</strong></td>
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<tr>
<td>GRZ</td>
<td>16 153 474.91</td>
<td>9 976 264.97</td>
<td>27 272 727.27</td>
<td>27 272 727.27</td>
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<td>WORLD BANK</td>
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<td>19 052 804.71</td>
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<td><strong>27 567 174.07</strong></td>
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<td><strong>57 481 090.91</strong></td>
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Thank You For listening