

SPECIAL TARIFFS IN ZAMBIA

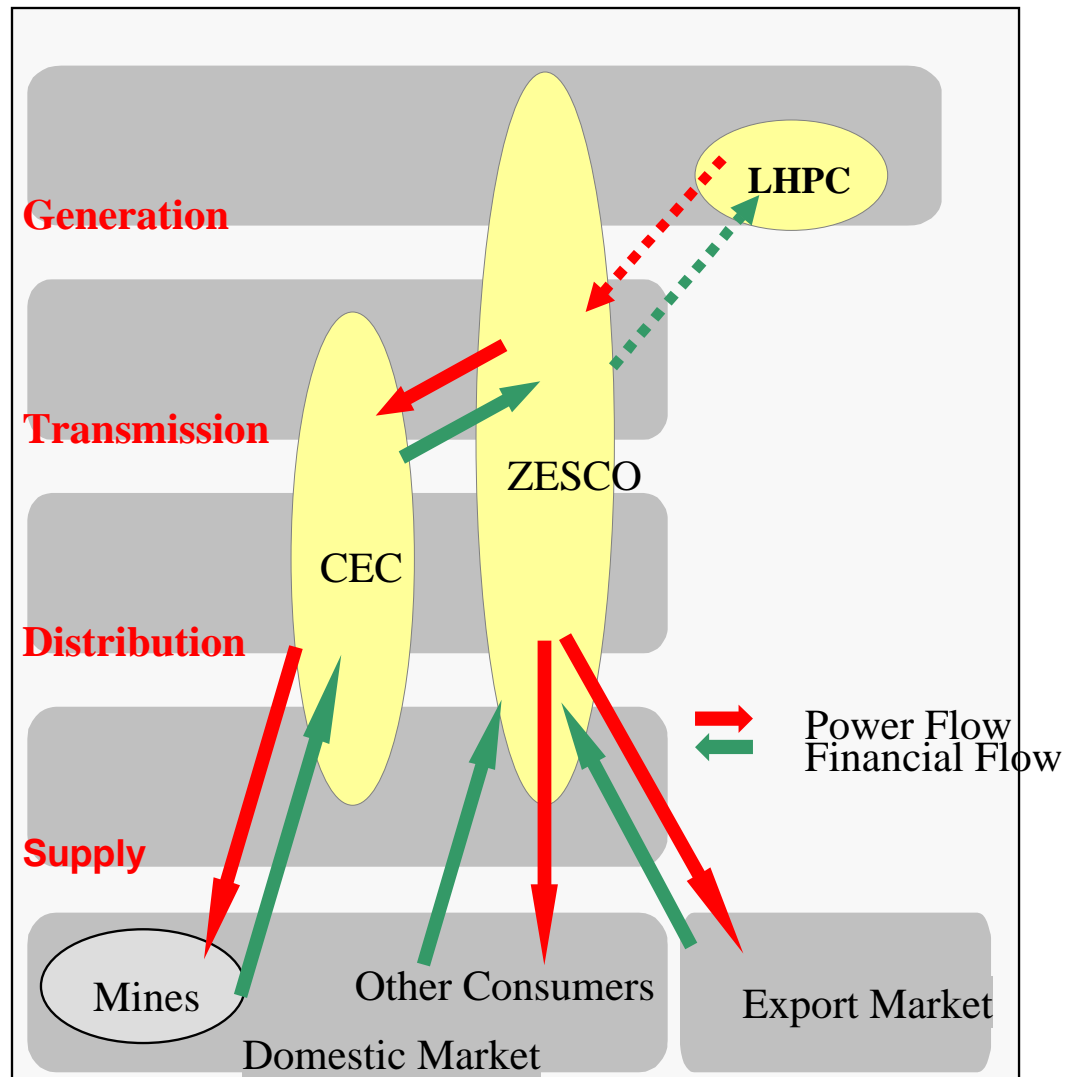
By James Manda

Head Engineer - Electricity

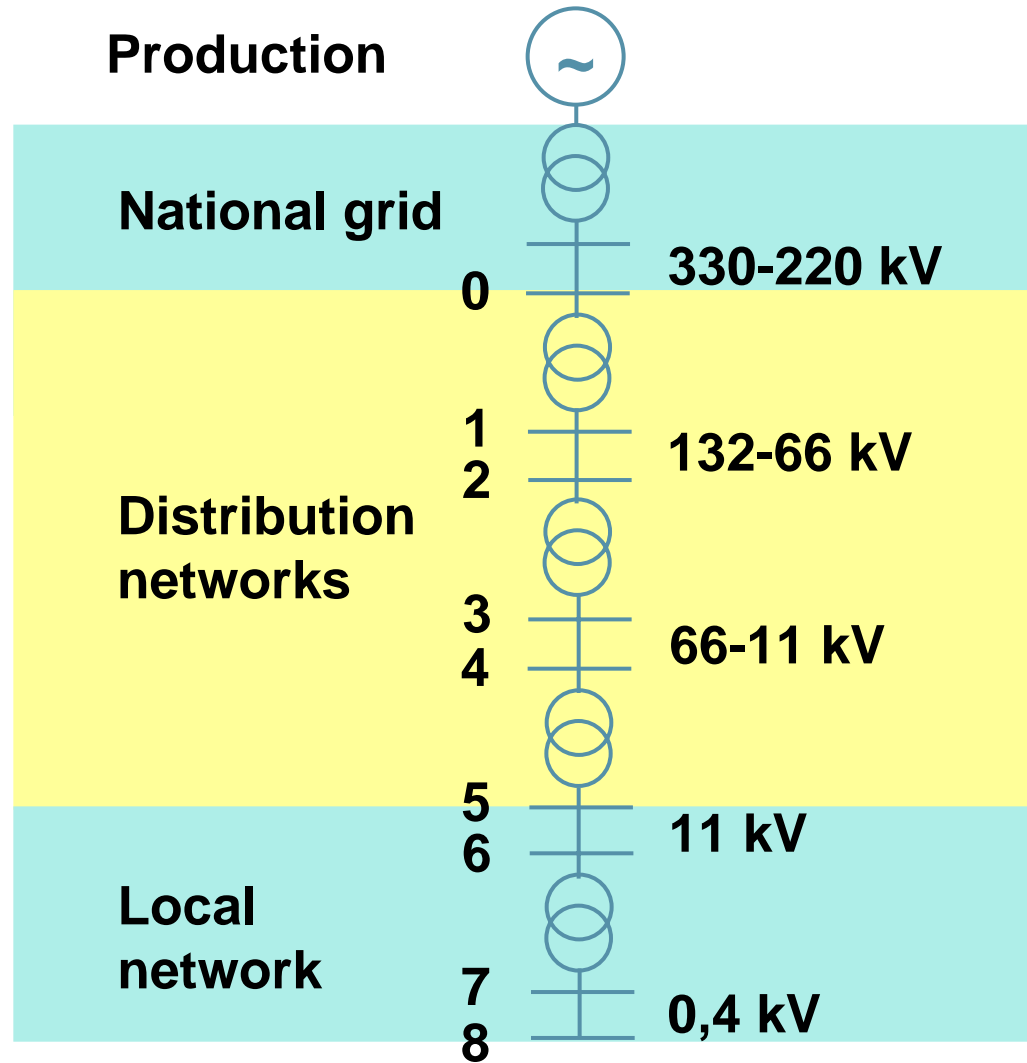
Introduction

- In Zambia electricity is mainly supplied by a vertically integrated state monopoly.
- Retail electricity prices are regulated to ensure that consumers are protected and the undertaking operates efficiently.

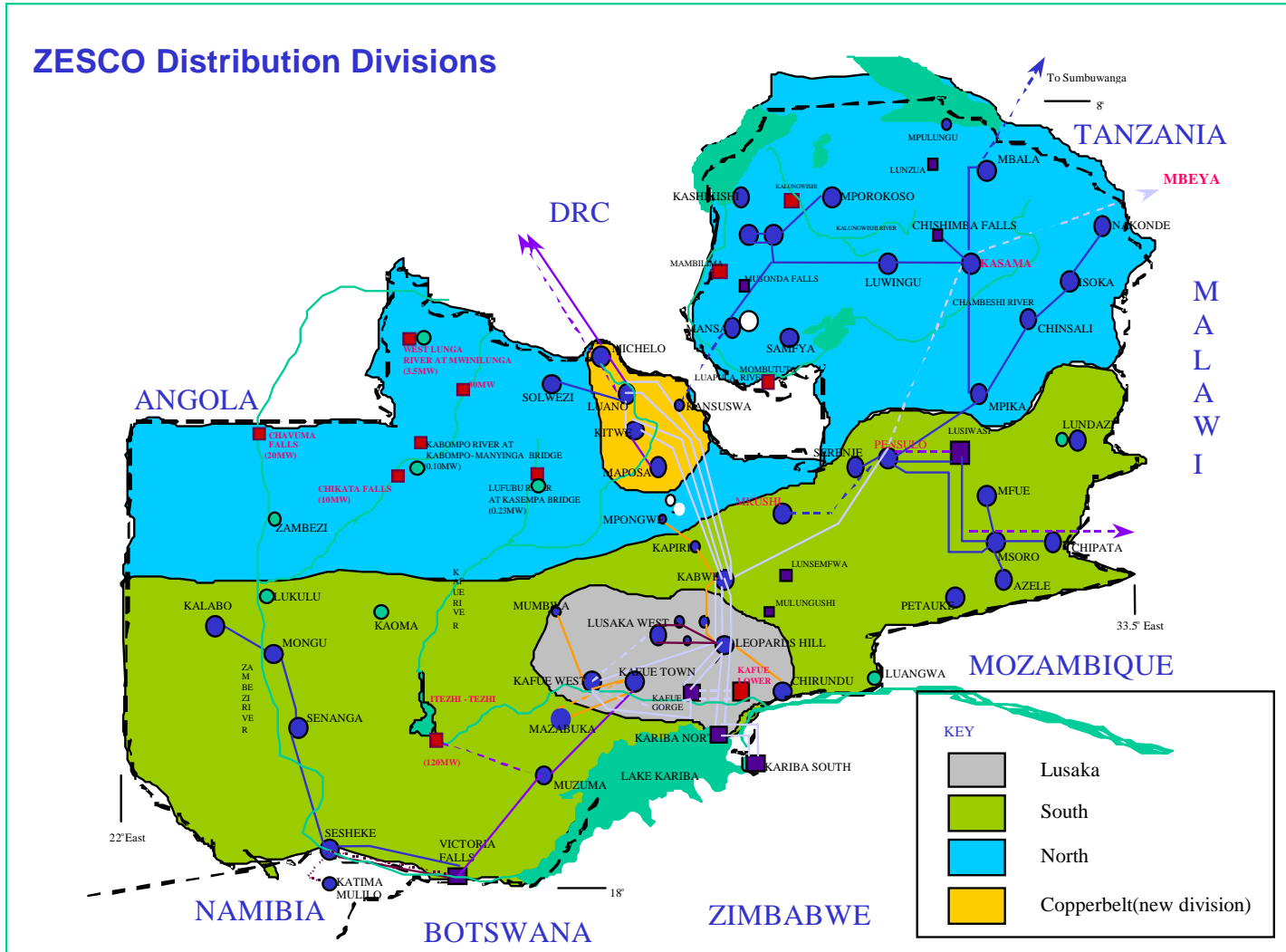
Electricity Structure in Zambia



Voltage Levels



ZESCO Distribution Divisions



Types Of Connections

There are broadly two categories.

i. Grid-connected systems

Electric systems that are already connected to the national electricity network.

ii. Off-grid decentralized systems.

These are typically decentralized and isolated and meet rural electricity demand at the individual household level or at the community or village level.

Types Of Demand Centers

1. Areas well away from the existing infrastructure and where electrification may be used primarily to improve the quality of life in households;
2. Areas that are more or less proximate to the existing network and will be electrified eventually. However, the total increase in economic activity is not expected to outweigh the costs of electrification; and
3. Areas where supplies of electricity could result in significant value added in agriculture and mining.

Role of Tariffs

- Any source of electricity must compete economically in the energy market, with delivery technologies designed to match the local demand characteristics and local conditions.
 - The role of tariffs is therefore to :
 - Inform customers about costs for new use of electricity
 - Contribute to the optimal use of existing facilities
 - Cover the costs of the power companies
 - Create balance between supply and demand
- Tariffs must be as simple as possible, so the customer understands



Role of Special Tariffs

- To deal with affordability issues
- To promote investment in targeted areas
- To promote efficient use of electricity



Types of Electricity Tariffs Existent in Zambia

1. Bulk supply tariffs – apply to large scale customers e.g. CEC
2. Export tariffs – apply to electricity sold outside Zambia
3. Retail Tariffs – Regulated Tariffs
 - The first two are negotiated between supplier and buyer and are governed by long term contracts. ERB intervenes where there is a dispute.

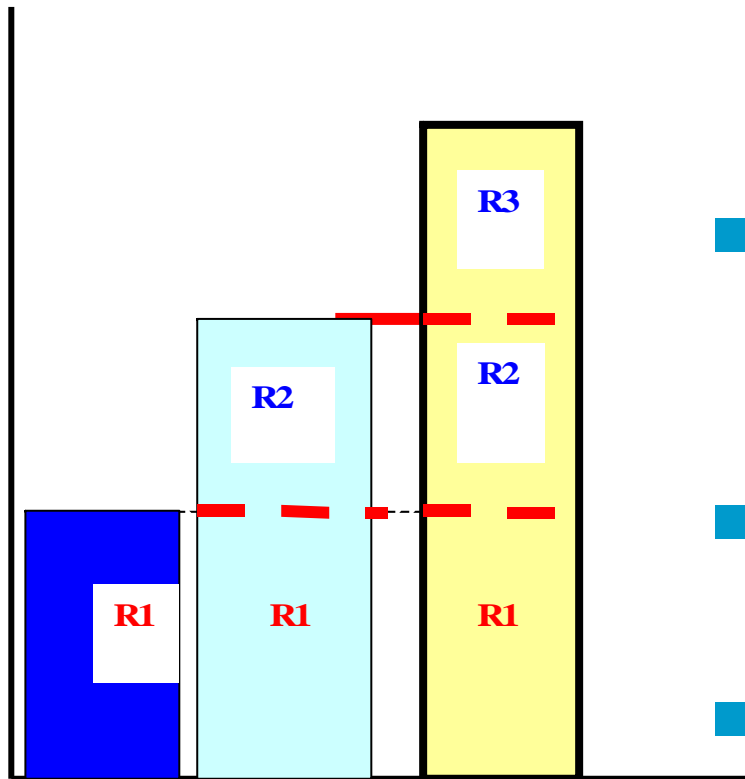


Retail Tariffs

- i. Residential Tariffs – metered & un-metered - households
- ii. Commercial Tariffs – commercial sector
- iii. Social Services Tariffs – e.g.hospitals
- iv. Maximum Demand Tariffs (MD, energy & Fixed charge) – e.g. industrial and mining sector

“Lifeline Tariff”

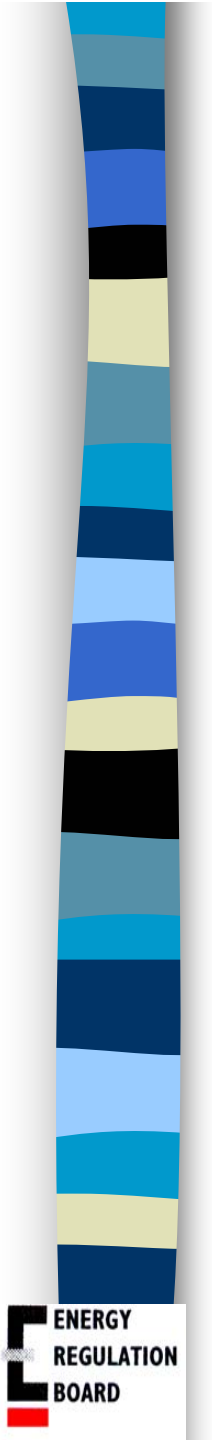
- Consumption up to 300KWh.(R1 category)
- This system does not necessarily assist those in most need
- It ‘rewards’ all residential customers categories
- R1: Up to 300,
R2: 301 to 700,
R3: Above 700KWh



Farmers Tariff

- In July 2002, Farmers were given a special tariff to encourage growth in the agriculture sector.
- These were meant to encourage mainly crop production through irrigation.
- 50% of MD (Capacity charge) and 20% of Energy Charge
- These tariffs are not representative of the costs imposed by the customers on the system

Future Considerations





1. Real Lifeline Tariffs

- To design an actual Lifeline Tariff based on:
 - Social considerations
 - Affordability issues
 - Baseline consumption data



2. Differential Tariffs

- For non-ZESCO entities to provide grid-based electricity distribution services
- These will purchase power from the nearest ZESCO supply point
- These bulk supply tariffs shall be regulated by ERB



3. Differential Tariffs (Cont'd)

- Shall be consistent with the transfer prices that are applied by ZESCO to its own distribution business units.
- Possible to introduce capital subsidies
 - However, lower customer densities in rural & peri-urban areas likely to give rise to higher unit costs for electricity distribution service
 - Acceptability



4. Energy Service Companies

- These are companies (ESCOS) that supply solar power to rural based customers.
- Presently subsidized by government
- Limited in coverage



5. Time of Use Tariffs

- **Farmers:** A time-of-use rate available for those farmers who may be able to shift a significant portion of their daily electrical use to off-peak hours in exchange for a lower rate per kWh.
- **Industrial users time-of-use:** A time-of-use rate available to large commercial and industrial customers whose kW demand exceeds a certain threshold, and who may be able to shift a significant portion of their daily electrical use to off-peak hours in exchange for a lower rate per kWh.

Conclusion

- The ERB's commitment and mandate is to regulate the energy sector in a transparent, effective and efficient manner that safeguards the interests of stakeholders.



Thank You Very Much

ZIKOMO (KWAMBILI)!!