



# **ESTABLISHMENT OF THE INDEPENDENT SYSTEM OPERATOR FOR ENHANCED COMPETITION: ZAMBIA'S CASE**

**Presented at the**

**THIRD ACER CONFERENCE-DAR-ES-SALAAM, TANZANIA  
(15<sup>TH</sup> JULY 2017)**

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1. OVERVIEW OF ELECTRICITY INDUSTRY IN ZAMBIA
2. EVOLUTION OF THE ELECTRICITY INDUSTRY IN ZAMBIA
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7. CONCLUSION

## 1. OVERVIEW OF ELECTRICITY INDUSTRY IN ZAMBIA

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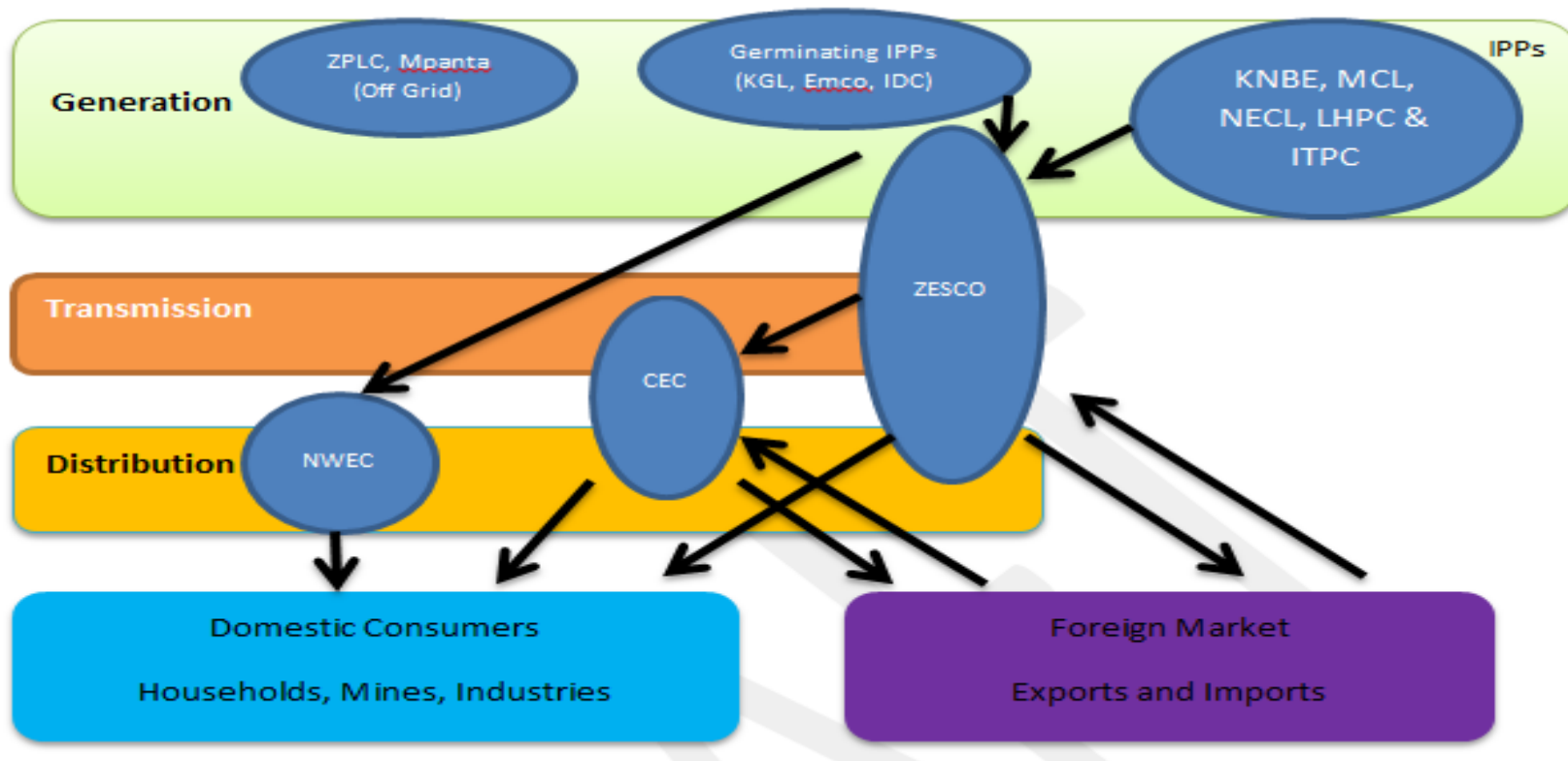
- ❑ National electricity access rate estimated at 22% and rural electrification rate estimated at 5%
  - ❑ Installed power generation capacity of 2,830MW
  - ❑ 85% hydro, 10% thermal (coal) and 5% HFO
  - ❑ About 2,370MW power generated by ZESCO (70%)
  - ❑ IPPs generate only about 460MW (30%)
  - ❑ Industry dominated by ZESCO Limited a vertically integrated state utility ( Generation, Transmission and Distribution)
  - ❑ Second biggest power company is Copperbelt Energy Corporation (CEC) – Transmission Company
  - ❑ Energy Regulation Board (ERB) regulates the industry
  - ❑ Rural Electrification Authority (REA) is responsible for rural electrification
  - ❑ The Ministry of Energy provides policy direction
  - ❑ Pieces of Legislation: [Electricity Act](#), [Energy Regulation Act](#) and [Rural Electrification Act](#)
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## 2. EVOLUTION OF ELECTRICITY INDUSTRY IN ZAMBIA

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- ❑ Zambia Electricity Supply of 1969 gave monopoly to Zambia Electricity Supply Corporation (ZESCO)
- ❑ Energy Policy of 1995 promulgated to develop unexploited hydro power generation potential and end ZESCO's monopoly
- ❑ 1995- Electricity Act enacted to replace the Zambia Electricity supply of 1969 and legally ended ZESCO's monopoly
- ❑ 1995-Energy Regulation Act giving birth to ERB
- ❑ 1997 Power Division of Zambia Consolidated Copper Mines (ZCCM) privatised. CEC is born
- ❑ 2003-Rural Electrification Act giving birth to REA
- ❑ IPPs born following the new Electricity Act which ended ZESCO's monopoly

### 3. ELECTRICITY MARKET STRUCTURE



- ❑ Single buyer model by default
- ❑ Over 50% is sold to the copper mines through a Bulk Supply Agreement (BSA)

## 4. SYSTEM OPERATOR IN ZAMBIA

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- ❑ Main transmission network owned by ZESCO has part of its vertically integrated system
- ❑ CEC also own the transmission lines ( 66kV and 220kV)
- ❑ Interconnected with Botswana, Namibia, Tanzania and Zimbabwe
- ❑ **No National System Operator** - Each transmitter owns a control center for operating its own system
- ❑ The electricity Act and Regulations, Grid Code, SAPP guidelines are followed
- ❑ ZESCO has been issued with System Operator's licence for 5 years
- ❑ ZESCO reserve the right to grant third-party access to the network. **This enhances ZESCO's dominance and is a barrier to entry into the market. It hinders competition.**
- ❑ Stakeholders have therefore called for an establishment of the Independent System Operator (ISO) to foster competition.

- ❑ The Electricity Act gives power to the Minister of Energy to declare transmission line as a Common Carrier
  - ❑ ERB has since drafted a Statutory Instrument to declare the Transmission Lines as Common Carrier to allow for non-discriminatory third party access. This is expected to enhance trade and attract investment
  - ❑ The open access regime strengthens the case for establishment of an ISO
  - ❑ To operationalise the open access regime the ERB should determine the transmission tariff
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## 6. ESTABLISHMENT OF ISO WITH CURRENT MARKET STRUCTURE

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- ❑ Why an ISO? To facilitate fair competition among generators through economic power dispatch.
- ❑ Is this possible with vertically integrated ZESCO?  
Yes
- ❑ How? Through separation of ownership and control of the transmission network. i.e the National Control Center of ZESCO should be separated from ZESCO to establish an ISO. The ISO will undertake economic dispatch and grant third-party access to the network in fair manner. This will reduce ZESCO's dominance and enhance competition



## 6. CONCLUSION

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- ❑ ISO Will guarantee third-party access in fair manner
- ❑ ISO will establish and enhance fair competition
- ❑ Establishment of an ISO will reduce ZESCO's dominance – a barrier to entry/attract private investment
- ❑ Increased private investment will improve security of supply
- ❑ Competition brings efficiency
- ❑ End-users can benefit from efficiency gains through reduced tariffs.
- ❑ Closest reachable bait for attracting private investment



**THANK YOU FOR YOUR  
ATTENTION**