



Energy Policy in Zambia

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**GRIPS
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Outline

- Country Profile
- Overview of Energy Sector in Zambia
- Energy Reforms
- Energy Policy
- Institutional Framework
- Energy Policy Formulation
- Implementation
- Challenges



Country Profile

- **Location:** Southern Africa,
- **Land Area:** 752,618 sq km
- **Population:** 13.8 million people
- **Languages:** 73 Ethnic groups. English official language
- **GDP:** US\$20.67 billion (2012)
- **Industries:** copper mining and processing, construction, foodstuffs, beverages, chemicals, textiles, fertilizer, horticulture, Tourism
- **Other Features**
 - 66.5 % of land is Forest and has abundant rivers and lakes
 - Life expectancy at birth: 52.57 years

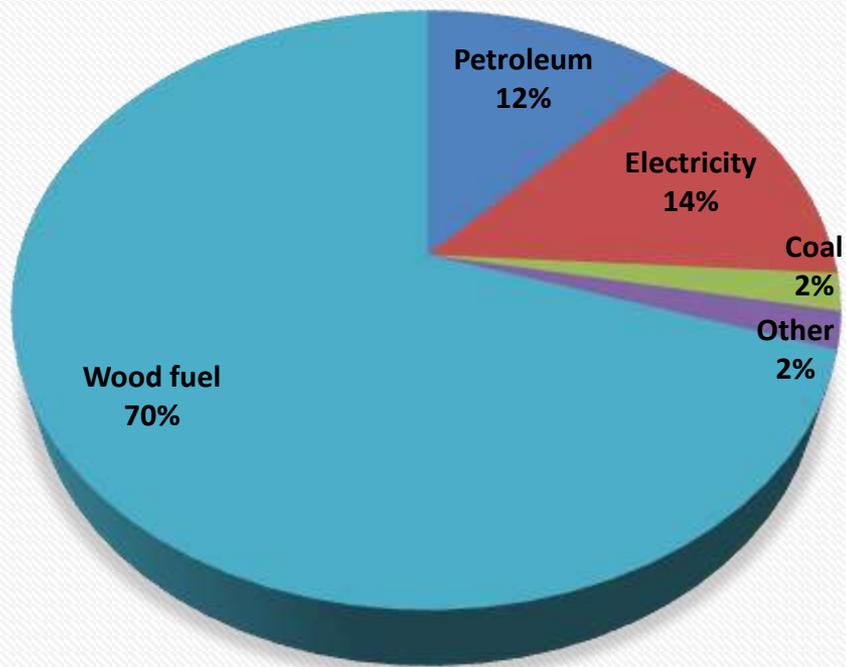




Overview of Energy Sector in Zambia

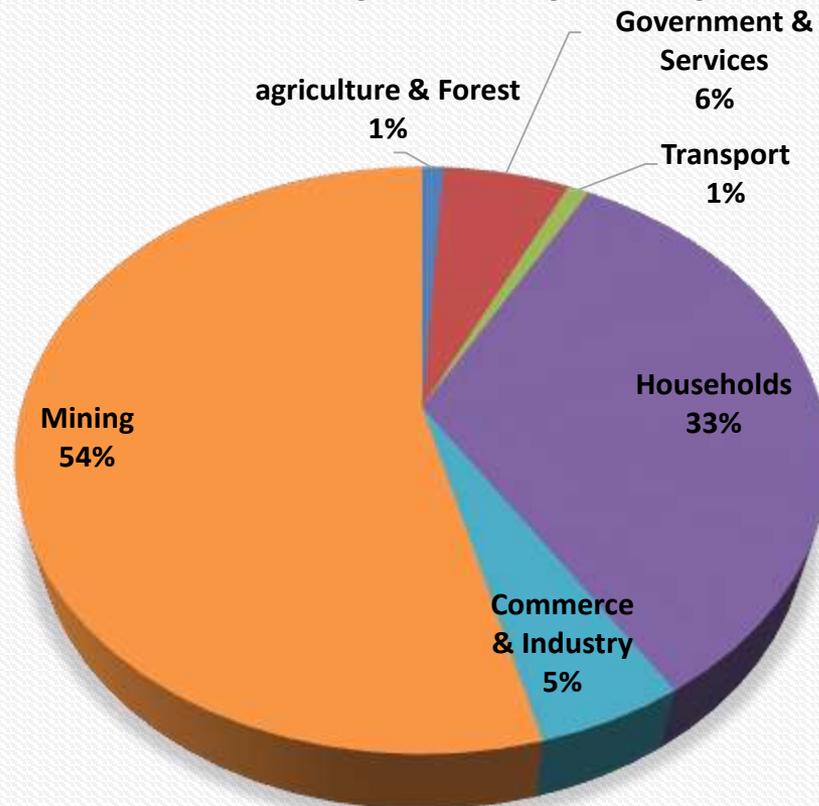


National Energy Demand by Source



Petroleum Electricity Coal Other Wood fuel

Electricity Consumption by Group





Overview of Energy Sector in Zambia



Hydropower

- Installed capacity 2,318MW
- Potential- more than 6000MW
- 29 small/mini hydro sites mainly in Northern & Luapula, (4 MW) and North Western provinces (13 MW)

Biomass-

- 2.15 million tonnes, which translates to 498MW
- Current capacity - 20MW by Zambia Sugar Company
- 1MW project under development by CEC
- Biofuels Industry

Geothermal

- 80 hot springs
- Kalahari undertaking some explorations
- 2MW project underway

Wind

- average speed of 2.5 m/s
- Wind Resource Mapping on-going

Solar

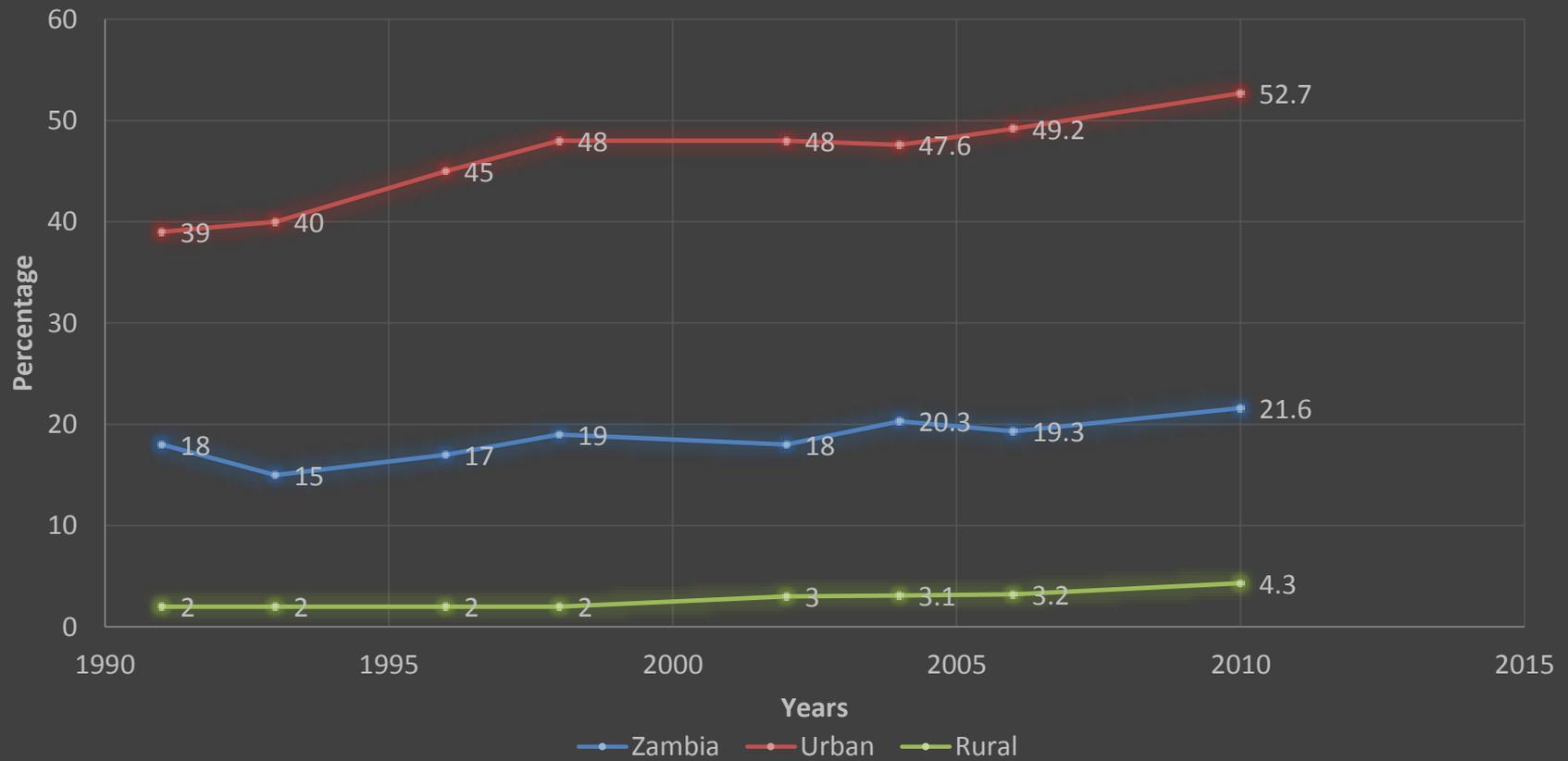
- average solar insolation of 5.5 kWh/m²/day
- 60kw mini-grid operational, 30MW project underway



Overview of Energy Sector in Zambia



Electricity for Lighting





Energy Reforms





Energy Reforms

President Kaunda (1964-1991)



- Infrastructure Development
 - Power stations (i.e. Victoria Falls, Kariba Dam & Kafue Gorge)
 - Tazama Pipeline (Tanzania Zambia Mafuta Pipeline)-1968
 - State control - Nationalisation of Mines, power infrastructure (e.g. ZESCO 1970)
 - Central Africa Power Corporation (CAPCO)-Joint Company Zambia & Zimbabwe



Energy Reforms

President Chiluba 1991-2002



- Energy Policy – 1994
- Rural Electrification Fund – 1994
- Liberalisation of Energy sector
 - ❖ Electricity Act 1995
 - ❖ Energy Regulation Act 1995 which established Energy Regulation Board in 1997
 - ❖ Commercialisation of ZESCO Ltd
 - ❖ Privatisation of Zambia National Oil Company (ZNOC)
- Power Rehabilitation Programme



Energy Reforms

President Mwanawasa 2002-2008



- Enactment of Rural Electrification Act in 2003 which facilitated establishment of Rural Electrification Authority in 2003
- Amendment of
 - ❖ Electricity Act 1995 in 2003
 - ❖ Energy Regulation Act 1995 in 2003
- Vision 2030 formulated in 2006
- Electricity Grid Code development process – 2006
- Revision of Energy Policy– 2008
- Rural Electrification Master Plan (2008)
- Fight against Corruption attracted more investments in energy



Energy Reforms

President Banda 2008 - 2011



- Development of Power Systems Development Master Plan (2008-2030)
- Biofuels Industry



Energy Policy



- National Energy Policy (NEP) formulated in 1994

- Revised NEP in 2008
 - ✓ Diversification of the country's energy mix through use of Renewable Energy
 - ✓ create conditions that ensure availability of adequate supply of energy from various sources which are dependable at lowest economic, financial, social and environmental costs consistent with national development goals



Energy Policy



Focus of the 2008 NEP

■ Biomass

- ✓ Promotion of modern use of Biomass for, Electricity generation, LPG and biofuels
- ✓ Biofuels Framework in Place and blending ratios defined i.e. Ethanol 10% and Bio-diesel 5%

■ Electricity

- ✓ Expand generation and transmission capacity
 - Power Systems Development Master Plan (PSDMP) generate 4,337 megawatts by 2030
- ✓ Increase access to electricity
 - (REMP) 66% national wide level, 91% in Urban and 51% in rural by 2030 which in line with Vision 2030



Energy Policy



Focus of the NEP

■ Petroleum

- ✓ adequate, reliable and affordable supply of petroleum products at competitive and fair prices and also the reduction in importation costs.
- ✓ Uniform Petroleum Pricing (UPP) implemented
- ✓ 4 Strategic Petroleum Depots under development

■ Coal

- ✓ To increase the contribution of coal as energy source in the national energy mix.
- ✓ 300MW Maamba Coal Fired Power plant under development



Energy Policy



Focus of the NEP

- Renewable Energy Sources (RES)
 - ✓ To increase the utilization of RES by addressing the barriers to their wider dissemination
 - ✓ Renewable Energy Strategy developed - MMEWD & UNDP
 - ✓ MMEWD, World Bank & Icelandic International Development Agency (ICEIDA) geothermal development support program for Zambia.
 - ✓ Solar & Wind resource map on-going

- Rural Energy Provision
 - ✓ To increase access to affordable energy in rural areas to reduce poverty and promote economic growth.



Energy Policy



Focus of the NEP

■ Energy Management

- ✓ Promotion of efficient energy use through energy conservation and substitution.
- ✓ Committee on lighting standards in place
- ✓ SI No. 32 & 33 Tax waiver offered on energy efficient equipment

■ Household Energy

- ✓ To reduce dependence on wood fuel and ensure sustainable provision of affordable, reliable modern energy services to rural and urban households as a means of raising productivity and standards of living.



Energy Policy



Focus of the NEP

■ Energy Pricing

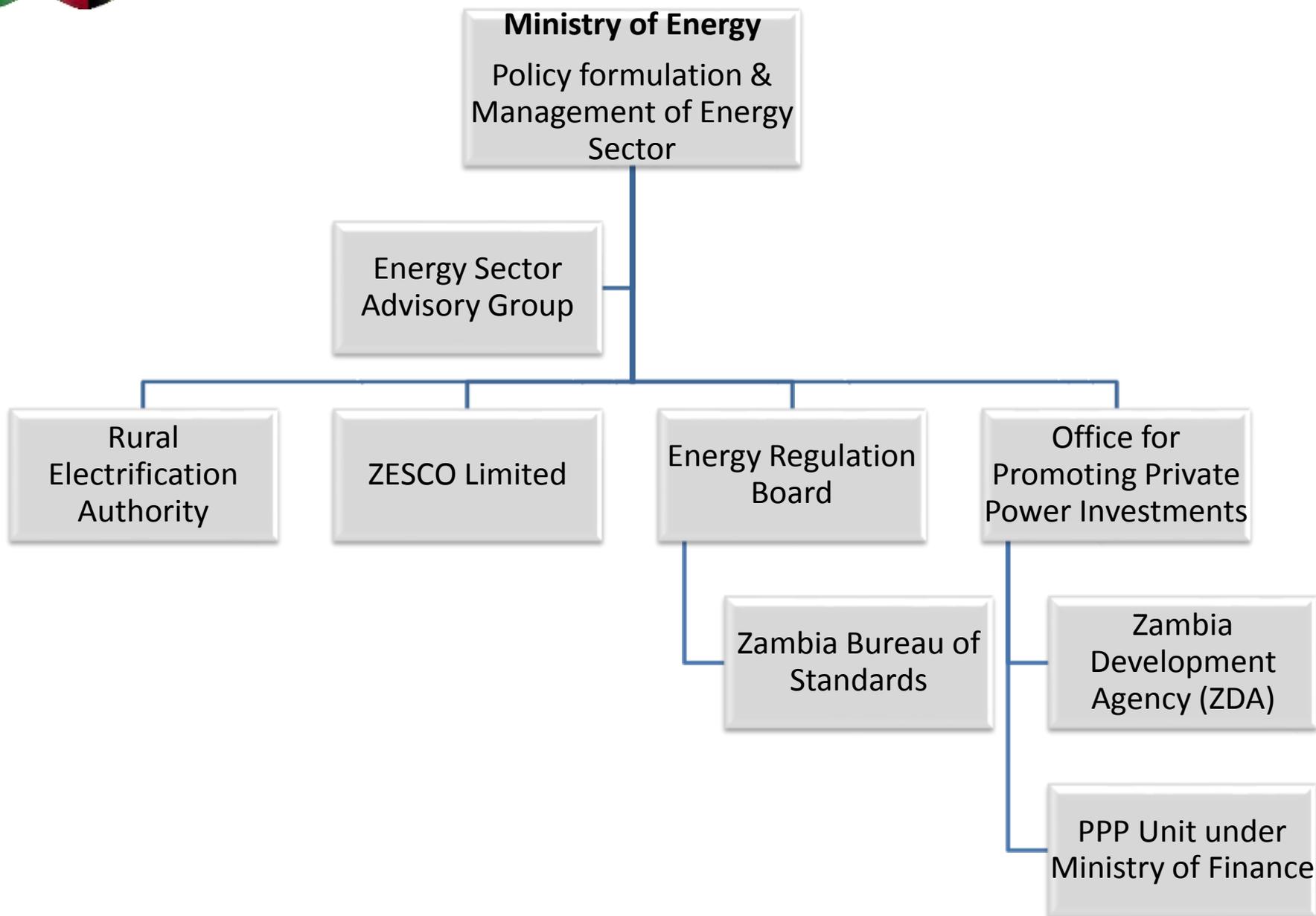
- ✓ Promotion of cost reflective tariffs
- ✓ Renewable Energy Feed-in Tariff Policy under development

■ Legal & Institutional Framework

- ✓ Development of effective legislative and regulatory framework that provide guidance to energy stakeholders
- ✓ Electricity Act & Energy Regulation Act of 2003 currently under review
- ✓ Grid Code-(Statutory Instrument No. 79 of 2013 enacted) - legally establishes technical requirements for the connection to, and use of an electrical transmission system by parties other than the owning electricity utility

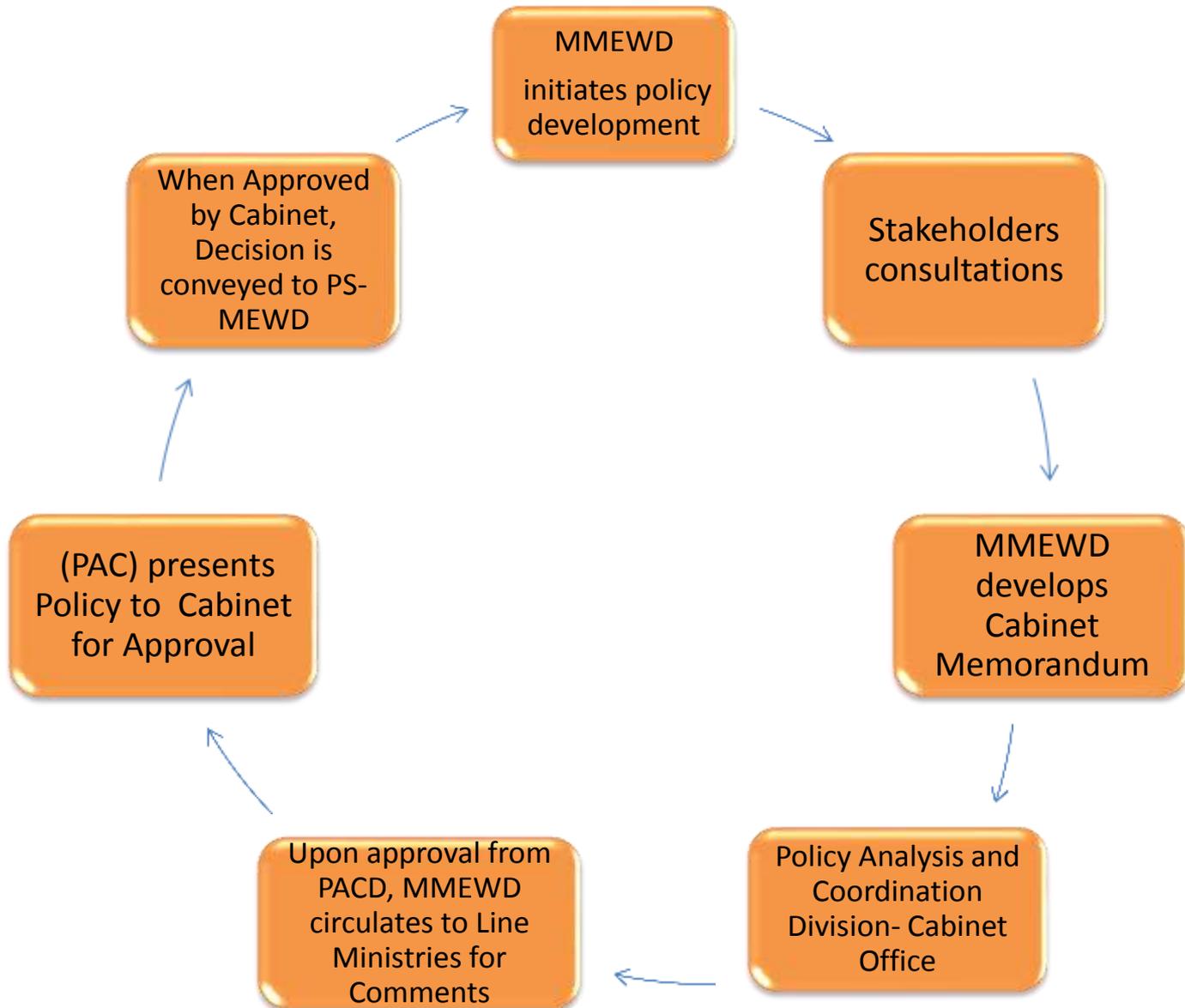


Institutional Framework





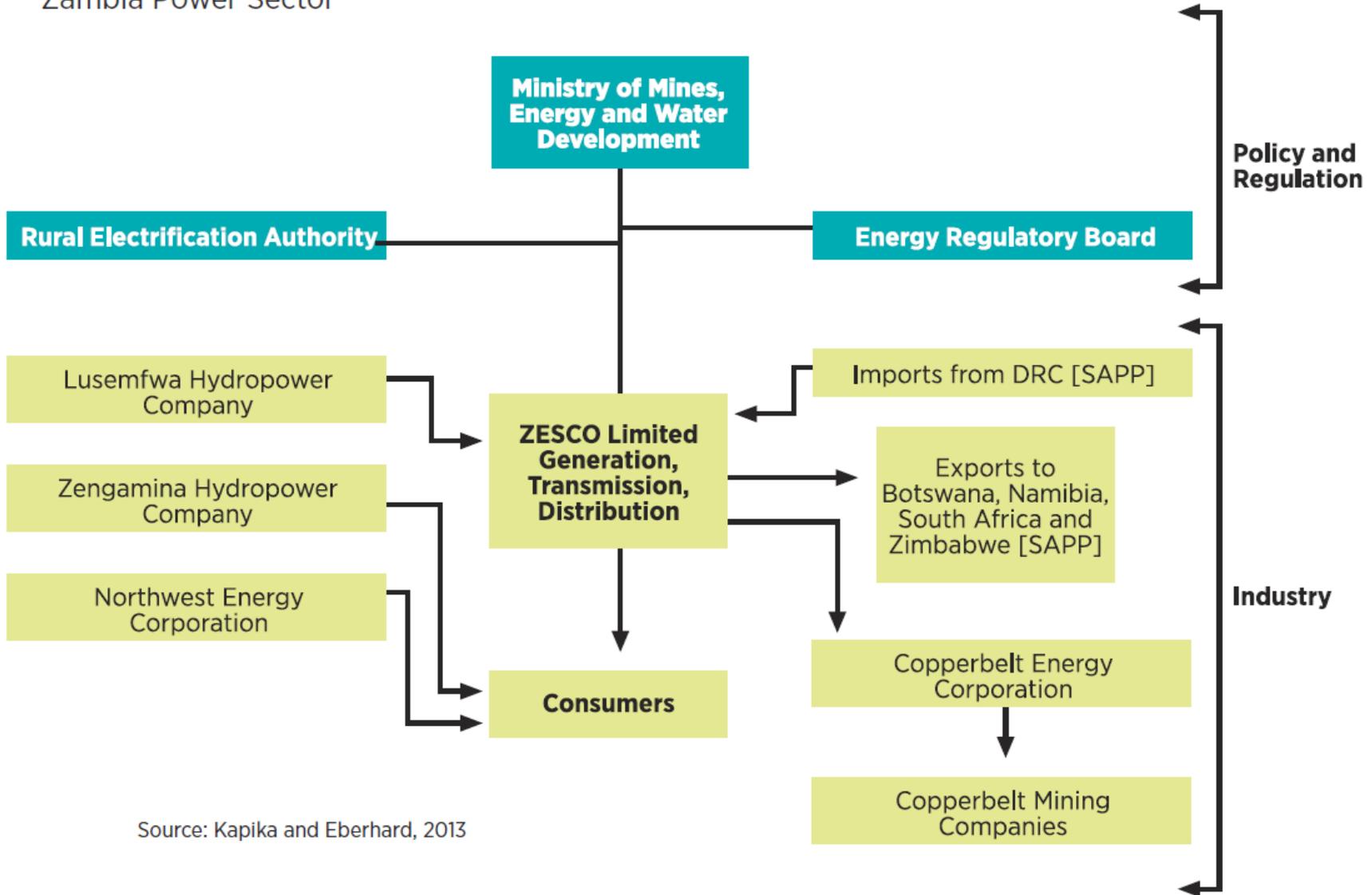
Energy Policy Development





Implementation

Zambia Power Sector



Source: Kapika and Eberhard, 2013



Implementation



- MMEWD (DOE)
 - ✓ Policy guidance & energy resource management
 - ✓ Liaison with lines Ministries & coordination with Donors, statutory bodies & other Agencies
 - ✓ Procurement of Petroleum

- ZESCO – implements part of PSDMP
 - ✓ Others IPPs also participate

- REA – Manages REF & REMP (Implements projects 10MW and below)

- OPPPI – handles projects 10MW and above
 - ✓ Feasibility studies and project packaging

- ERB-energy pricing & regulation
 - ✓ Implementation of Grid Code



Challenges

- Non-cost reflective tariffs
- inadequate power infrastructure development
 - Load shedding
 - Fuel shortages
- Inadequate coordination among stakeholders (duplication of efforts)
- Weak Political will towards implementation of NEP
- Lack of energy strategic plan
- Inadequate local financing Institutions



Thank you for your attention!!

*Questions, Suggestions, and Comments are
Welcome*