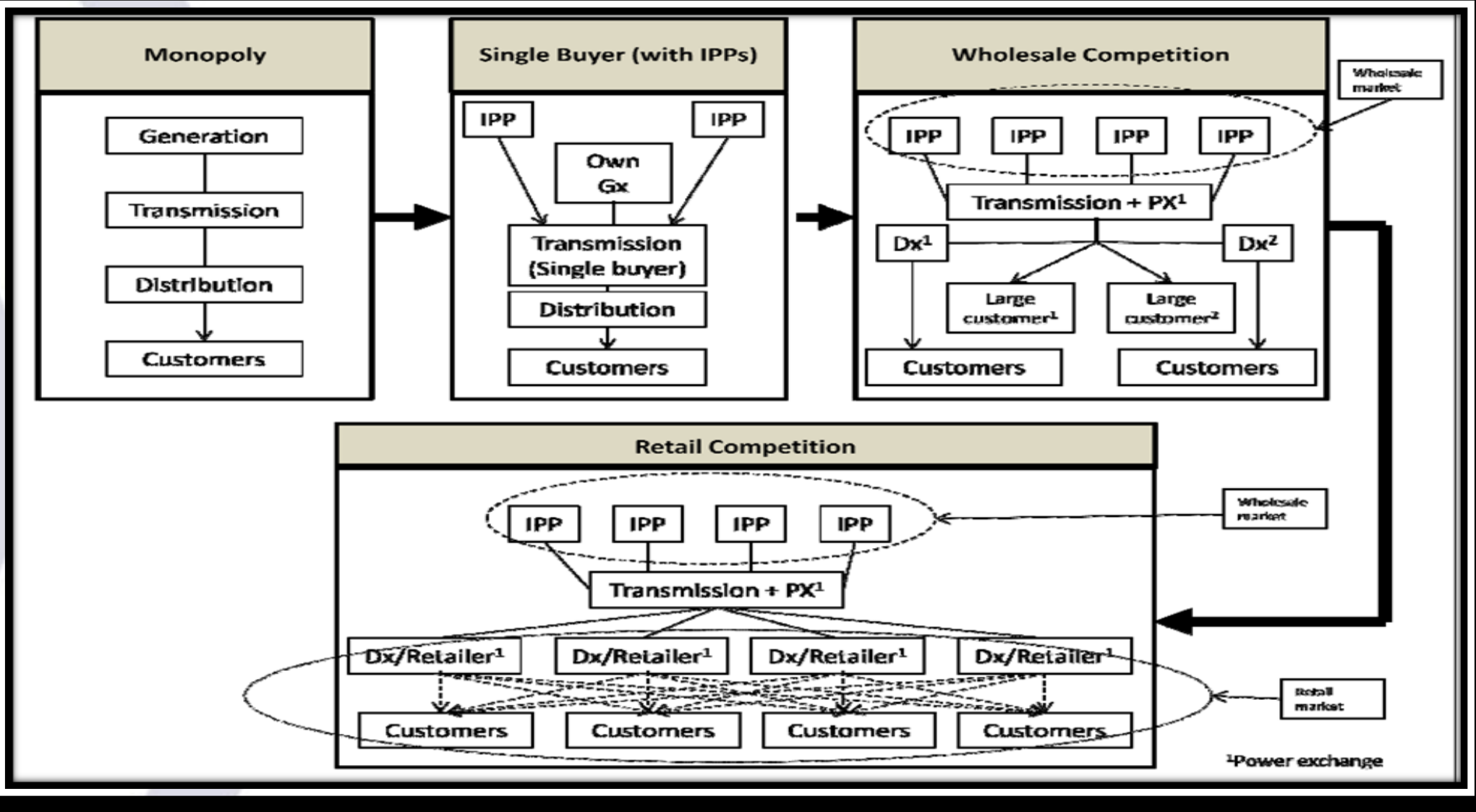




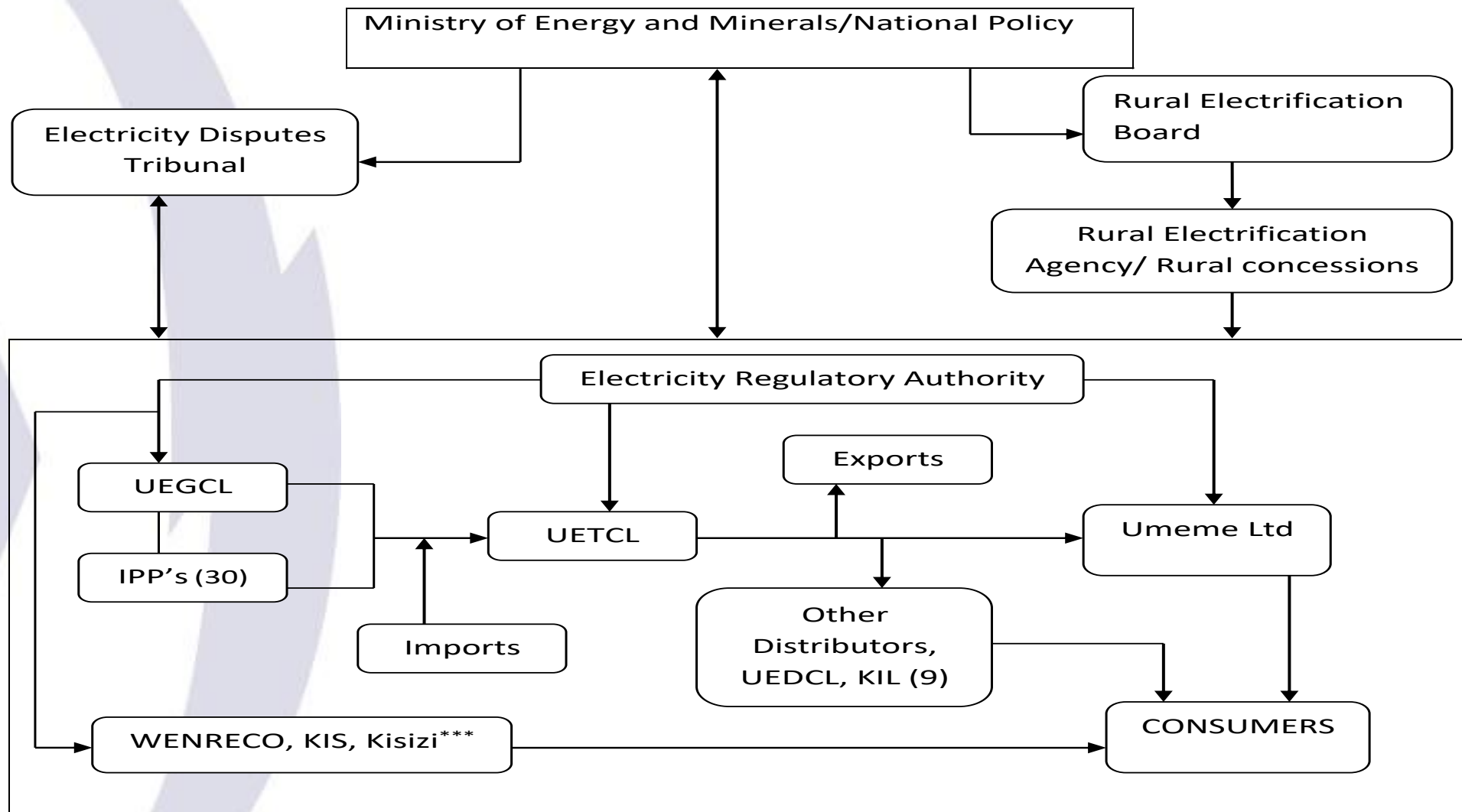
CASE STUDY: UGANDA – A SUCCESSFUL TRANSITION TOWARDS WHOLESALE MARKETS

ENG. ZIRIA TIBALWA WAAKO, CEO - ERA

Transition in Vertically Bundled Energy Sector



Uganda Power Market Structure



Source: Electricity Regulatory Authority

Uganda's Electricity Supply Reforms - Benefits



Pre-2000 structure

- Vertical integration
- Low generation capacity
- High energy losses
- Revenue Inadequacy
- Unsustainable subsidies
- Limited private participation
- Dilapidated network
- Limited access

Reform

- Regulator in place
- Unbundling: Generation, Transmission, Distribution and supply
- PPP frameworks enabled-concessions

Benefits

- Attraction of investment
- Incentive based regulation
- Adequate supply
- Increased participation
- Increased access
- Reduced losses (transmission and distribution)

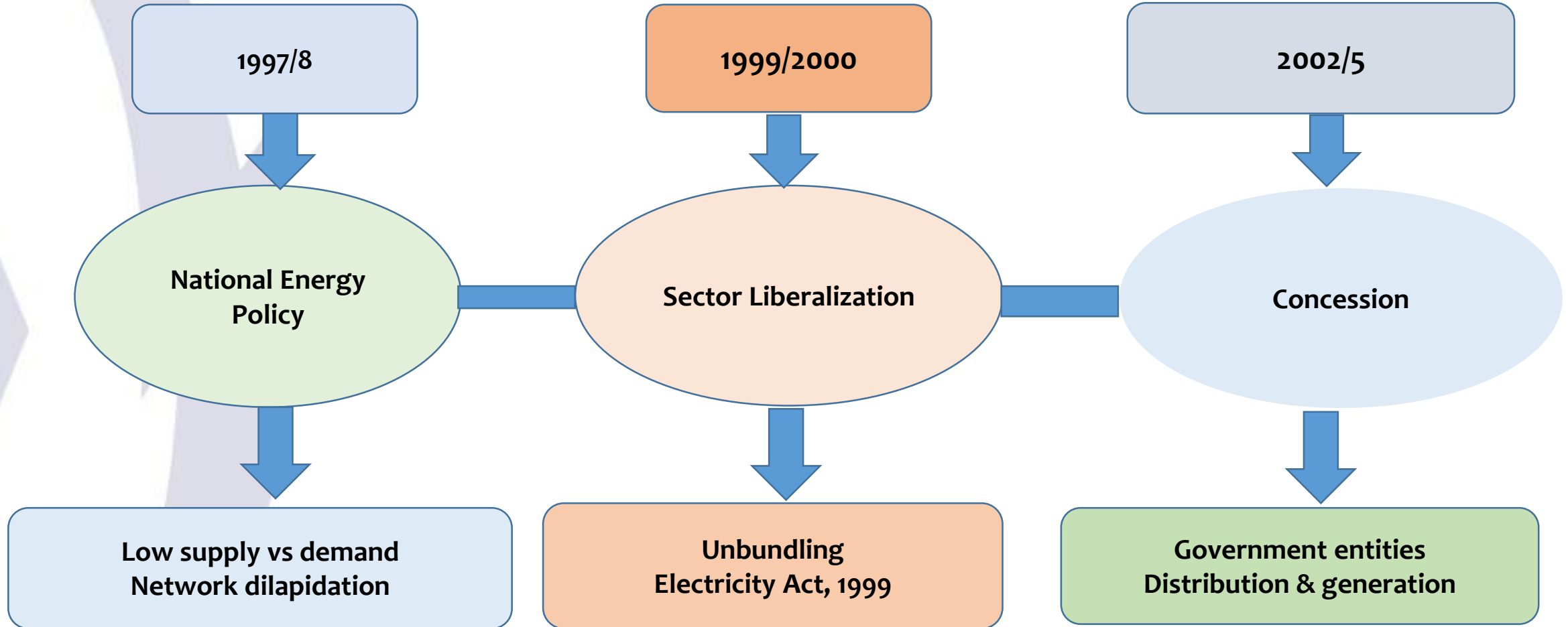
SECTOR OUTLOOK



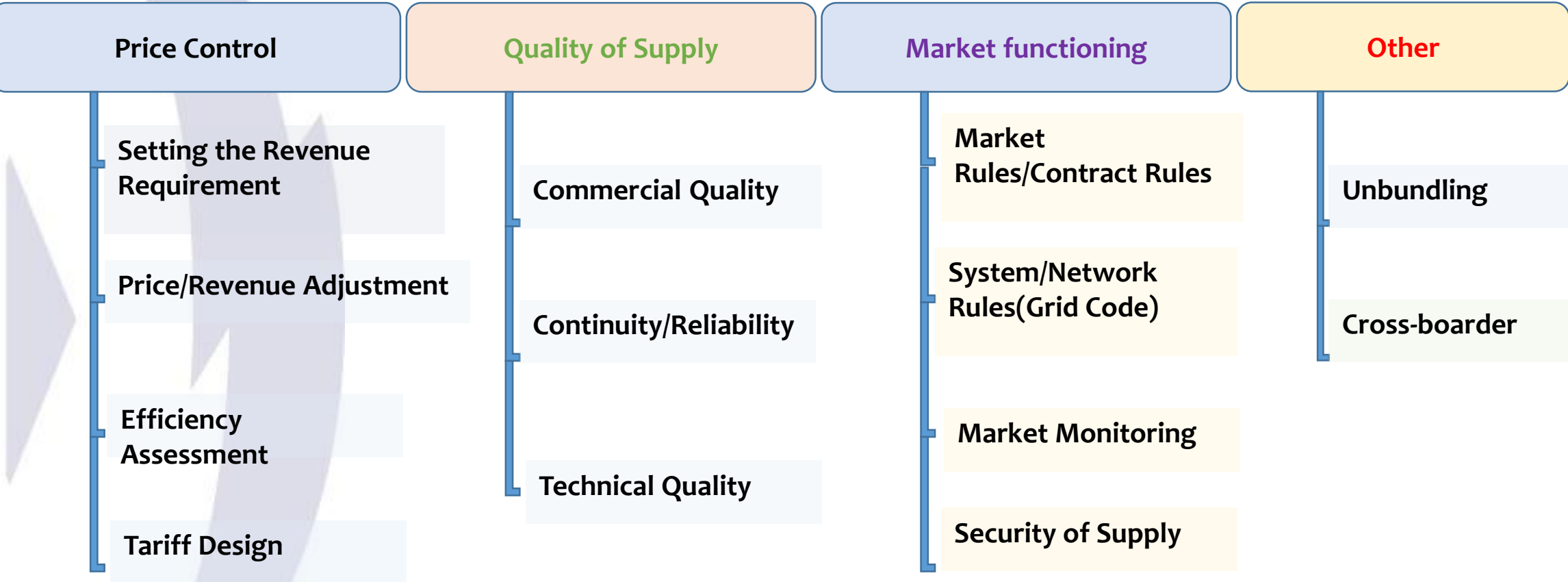
INDICATOR	2000	End of March 2022	Estimate 2025
Rural Electrification Rate	1.9%	49.5% (Grid= 5.2%, Solar Home systems/kits=44.3%)*	40%
Urban Electrification Rate	36.1%	73.5% (Grid= 51.0%, Solar Home systems/kits=22.5%)*	100%
Total Generation Capacity	181MW	1,377.0 MW (Grid=1,256.5 MW, off grid=14.0MW)	3,000MW
Actual Generation	60MW	1,377.0 MW (Grid=1,256.5 MW, off grid=14.0MW)	3,000MW
per capita consumption	41 Kwh	110kWh	280kWh
Distribution Losses	35.4%	Umeme=17.0% Grid =17.7%	11.5%
No. of Customers	127,000	Grid=1,780,014; Off grid=21,749	4,000,000
No. of Operational Generators	3	45	40
No. of Distributors	1	8	8

*UNHS 2019/20; <https://www.era.go.ug/index.php/stats>

Uganda's Electricity Supply Reforms – Movement to Wholesale Market



THE ELECTRICITY REGULATORY AUTHORITY - REGULATORY FUNCTION



Legislative Framework

❖ **Primary Law:** The Electricity Act 1999 (Cap 145 Laws of Uganda 2000)

- Mandate of ERA
- Functions [S.10]
 - Licensing [Section 29 – 50] [Section 51 -60]
 - Approve tariffs [Section 75]
 - Monitoring and compliance
 - Approve investments
 - Establishment of code of conducts and performance standards
 - Issue Regulations

Legislative Framework Cont..

- i. The Electricity (Installation Permits) Regulations, 2003
- ii. The Electricity (License Fees) Regulations, 2003
- iii. The Electricity (Primary Grid Code) Regulations, 2003
- iv. The Electricity (Quality of Service Code) Regulations, 2003
- v. The Electricity (Safety Code) Regulations, 2003
- vi. The Electricity (Tariff Code) Regulations, 2003
- vii. 2007 No 39: License Exemption; Isolated Grid Systems Order
- viii. 2007 No 60: Application for Permit, License and Tariff Review

Additional Legislation

Regulations Under development.

- The Electricity Investment Approval and Verification Regulations
- The Electricity (Corporate Governance) Regulations
- The Electricity (Filing) Rules
- Uniform Systems of Accounts
- Reporting and record keeping

Guidelines.

- Guidelines for fixing the quantum of royalties payable by Hydro Generation licensees in Uganda, 2012
- Bulk Metering Guidelines
- Prepayment Metering Guidelines
- Decommissioning Guidelines
- Supplier of Last Resort Guidelines
- Dispute resolution Guidelines

Institutional Framework

- ❖ Uganda National Bureau of Standards [UNBS]
 - Establishment in 1989
 - Enforcement of standards
- ❖ Environment [NEMA]
 - NEMA Certificate/ Approval of EIA
- ❖ Water [Directorate of Water Resource Mgt & DWD]
 - Water abstraction permit
- ❖ Dispute resolution [EDT]
 - EDT Procedure Rules, 2012

Supporting Framework at Generation

- a) Development of Interconnection Code
- b) Tax Exemption for Hydro and Solar PV Equipment
- c) Wheeling Framework For Power Evacuation
- d) Government Financial Provision for Power Evacuation
- e) Provision for off-grid Licensing
- f) License Exemptions

Supporting Framework at Generation Cont....

In the Electricity Supply Industry, ERA has licensed generation plants from the following sources;

- a) Large Hydro power plants
- b) Mini-hydro power plants
- c) Bagasse co-generation
- d) Solar
- e) Heavy Fuel Oil

Supporting Framework at Transmission

- i. Provision of Independent System Operator
- ii. Wheeling Framework For Power Evacuation
- iii. Opportunity for more than one licensee to transmit electricity (Approved Elect. Bill)
- iv. Equal Legal rights to access transmission network
- v. Regional interconnection with Kenya, Rwanda and TZ Complete (Connection to DRC and South Sudan in progress)
- vi. Cost reflective tariff a deliberate guiding principle by the Regulator

CHALLENGES

- a) Combination of Distribution and Supply in Umeme Concession (Largest DISCO);
- b) Government Subsidy on selected Generation plants and Transmission lines development limiting Competition;
- c) Long Generation Licenses with Take or Pay contracts to Government;
- d) Relatively Low level of electricity access
- e) Network Constraints due Infrastructure limitation

Opportunities

- a) Regional markets growing with demand from all Neighboring Countries;
- b) Independent Power Transmission framework in the offing;
- c) Eastern Africa Power Pool in progress for both supply and demand;
- d) Concession for Umeme to end by 2025 for natural termination or change in terms.
- e) Promotion of renewable energy technologies
- f) **Electricity (Amendment) Bill, 2022** to remove monopolies and create more flexibility in the market



THANK YOU

Plot 15 Shimoni Road, Nakasero | P.O. Box 103322, Kampala - Uganda

Tel: +256 414 341 852 | Fax: +256 414 341 624  +256 776 188188

 Electricity Regulatory Authority  @ERA_Uganda  www.era.or.ug