



UGANDA'S POLICY ON ENERGY AND POWER

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OUTLINE OF PRESENTATION

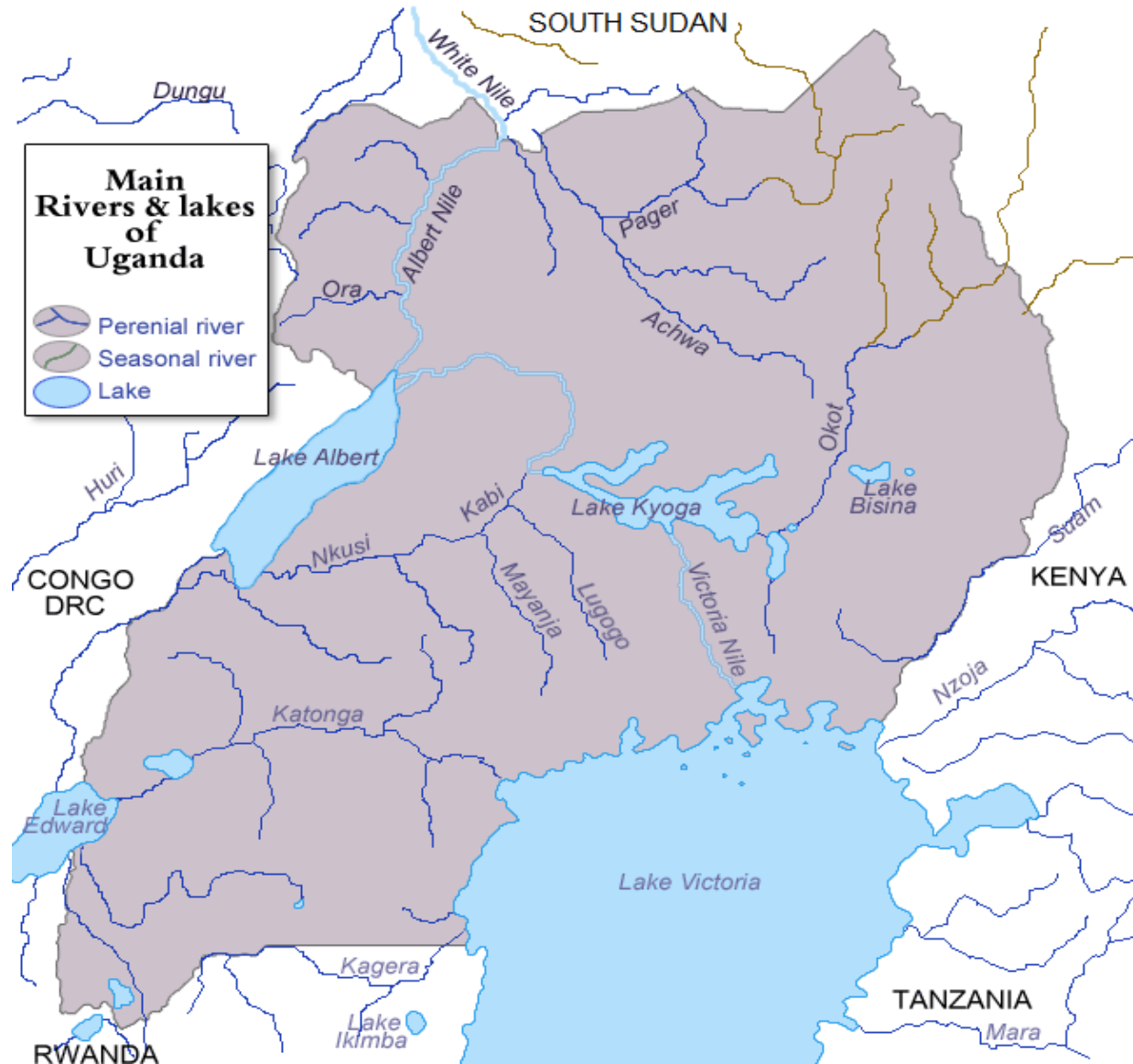


- 1) COUNTRY PROFILE
- 2) SCOPE OF THE ENERGY SECTOR IN UGANDA
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- 4) INSTITUTIONAL FRAMEWORK
- 5) THE ENERGY RESOURCE BASE
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- 7) STRATEGIES TO INCREASE POWER GENERATION
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- 9) TRAINING PRIORITIES

1. COUNTY PROFILE



COUNTRY PROFILE CON'T



2. COPE OF THE ENERGY SECTOR



- **Power Subsector**
 - Power Generation
 - Transmission
 - Distribution/ Rural Electrification
- **Renewable Energy**
 - Biomass (Wood & Charcoal, Cogeneration)
 - Small Hydro, Solar, Wind, Geothermal
- **Atomic Energy**
 - Nuclear for Power Production
- **Energy Efficiency**
 - This is cross cutting for all forms of Energy.
- **Petroleum sub sector**
 - Oil and Gas Exploration, Development and Production,
 - Crude oil refining, Gas processing and conversion and bulk transportation
 - Petroleum supply and distribution



3.POLICY FRAMEWORK

(a) Energy Policy for Uganda 2002

Policy Goal: The Policy goal is to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.

The Policy Objectives are:

- To establish the availability, potential and demand of the various energy resources in the country
- To increase access to modern affordable and reliable energy services as a contribution to poverty eradication
- To improve energy governance and administration
- To stimulate economic development
- To manage energy-related environmental impacts

POLICY FRAMEWORK CON'T



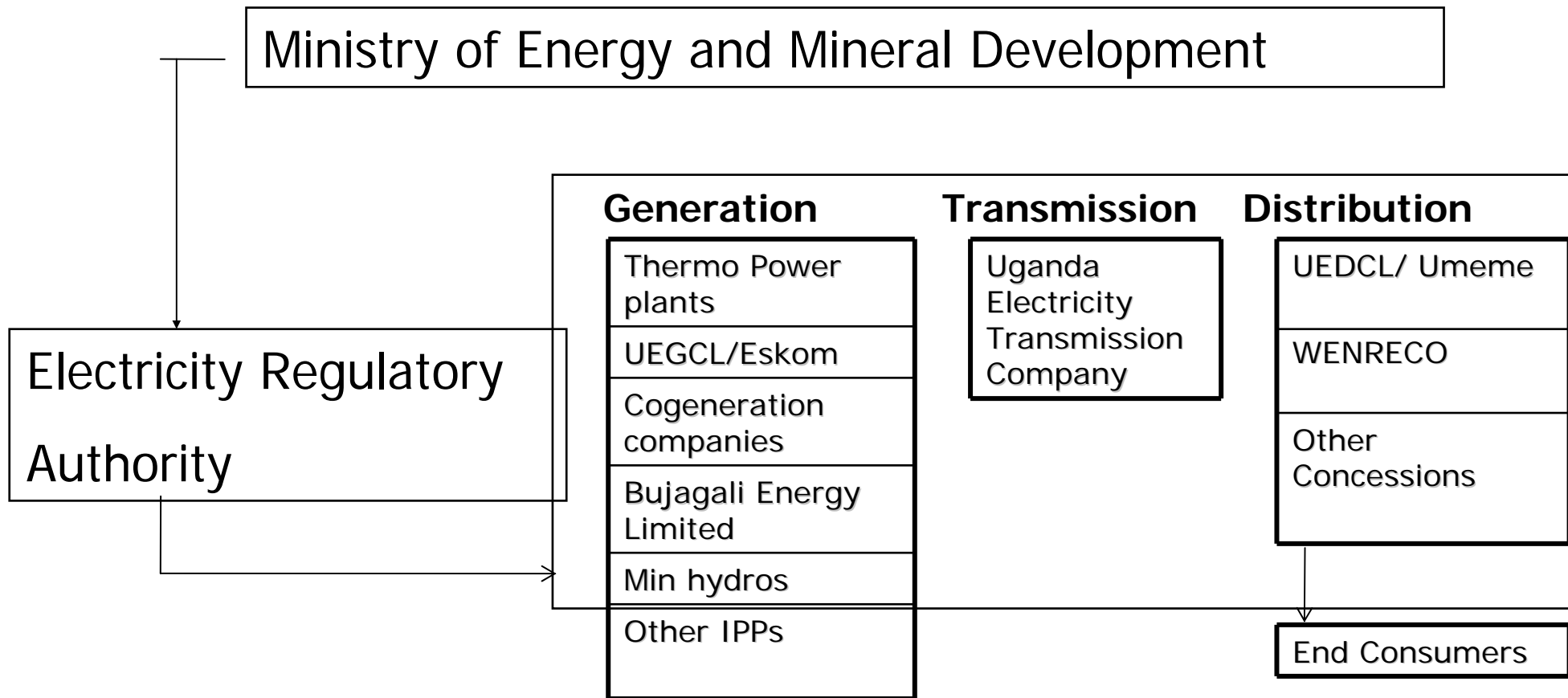
(b) Renewable Energy Policy 2007

The Policy aims to provide a framework to increase in significant proportions the contribution of renewable energy in the energy mix (from 4% in 2007 to 61% by 2017)

The main features of the policy are:

- Introduction of the feed in tariffs
- Standardized Power Purchase Agreements
- Obligation of fossil fuel companies to mix products with biofuels up to 20%.
- Tax incentives on renewable energy technologies.

4. INSTITUTIONAL FRAMEWORK





5. THE ENERGY RESOURCE BASE

1 Biomass

- **Constitute 93% of energy consumption,**
- **mainly in traditional form**

2. Hydropower

- **Installed capacity 683 MW (Nalubale 180MW, Kiira 200MW, Bujagali 250 MW and Min hydros combined 53MW)**
- **Current generation 300 - 350MW**
- **Potential sites**
 - Isimba 180MW
 - Kalagala 450MW
 - Karuma 600MW
 - Ayago 600MW
 - Murchison Falls 600MW
 - Oriang 400 MW
 - Kiba 300 MW
- **Total Over 3000MW**

The Energy Resource Base Cont'd



3. Peat 800 MW

4. Renewable/Alternative Sources of Energy

• Solar

- Uganda is endowed with favourable solar radiation of between 5 and 6.8 kWh/m² per day.
- A lot of potential to generate electricity from solar
- Over 30,000 solar PV system installed

• Geothermal

- Estimated potential of 450MW concentrated in Western Uganda:-
Katwe-Kikorongo, Buranga and Kibiro

• Small Hydros

- There are over 50 potential sites identified on small rivers in the country.
- These have potential of generating over 164MW of electricity

• Wind

- Wind speeds are high on mountain tops in places like Karamoja
- This can be used for water pumping and generation of electricity.

6. GENERATION STATISTICS



- Installed Generation capacity – 820.5 MW
- Available Generation Capacity- 558.5 MW
- Peak Demand – 487 MW
- Annual average load growth –over 10%
- Population – 34 million (mid 2012)
- Current Generation Mix
 - Large Hydro - 82%
 - Thermal – 10%
 - Mini Hydro - 5%
 - Co-generation - 3%

7. STRATEGIES TO INCREASE POWER PRODUCTION



(a) Hydropower Projects Being Developed

There are a number of projects being developed inline with the national Development Plan. The major ones are:

- Karuma Hydropower project – 600 MW
- Isimba Hydropower Project - 180 MW
- Ayago Hydropower Project – 600 MW



STRATEGIES CON'T

Ayago Hydropower Project (600 MW)

- With the support of the Japanese Government, a consortium of Japanese power companies, J Power and Nippon Koei carried out the pre – feasibility study
- Full feasibility study of the Ayago project is under way with support from Japanese Govt.
- Ayago will be developed by Government in Partnership with the Private Sector.

STRATEGIES CON'T



(b) Access To Rural Electrification

- A vigorous program to increase access to modern energy services through rural electrification has been implemented since 2001.
- The main targets for rural electrification are district headquarters, production areas and communities which create nuclei for rural social and economic transformation.
- The delivery mode includes grid extensions, decentralised grids and solar PV for schools, health centres and households.

STRATEGIES CON'T



(c) Renewable Energy And Energy Efficiency

- 50 small hydropower sites so far identified with an estimated power potential of 164MW.
- Co-generation capacity expansion through joint partnership with sugar factories.
- Dissemination of Solar Photovoltaic Systems in rural areas not connected to the main grid.
- Supply of energy saving equipment such as Efficient lighting technologies, efficient motors, efficient cook stoves, ovens, soft starters and capacitor banks



(d) Nuclear Energy

- With increasing demand for power, it is envisaged that nuclear energy will play a major role in the power generation in the long-term.
- The Atomic Energy Act, 2008 entered into force on 18th February 2009.
- The law establishes:
 - The Atomic Energy Council as the regulatory authority for atomic energy application and
 - The Nuclear Energy Unit under MEMD to promote nuclear power programme and other peaceful applications of atomic energy.

Plans for Nuclear Power Development



Short term

- Graduates were recruited in the Nuclear Energy Unit. They undertook training in a number of fields related to power production from nuclear energy.
- Development of Nuclear Power Roadmap.

Medium – Long term

- Implementation of the roadmap.

8. CHALLENGES IN THE ENERGY SECTOR AND GOV'T PLANS



- Energy Investments are capital intensive, high tech and have long payback periods.
- Government has now prioritized Energy Development as a high level issue for the country and as a result it is taking the lead in energy development and investment.



9. TRAINING PRIORITIES

- **Nuclear Energy-** Uganda is planning a nuclear energy program and that is my day today activity
- **Energy Planning-** Uganda is reviewing the *Power Sector Investment Plan 2010*. which has energy forecasts. The new plan is to include nuclear power



You are welcome to Uganda!!

THANK YOU

