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COUNTRY REPORT FOR ENERGY POLICY TRAINING

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Presented
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PRESENTATION OUTLINE

1. General information about Malawi
2. Current energy policy and measures of Malawi
3. Energy sector legal instruments
4. Key strategies
5. Past energy demand and supply (statistics) of Malawi
6. Outlook of energy demand and supply for Malawi
7. Major difficulties and bottlenecks faced in formulating energy policies
8. Subjects of interest

GENERAL INFORMATION ABOUT MALAWI



General information

- Malawi is over 118,000 km² (45,560 sq mi) with an estimated population of 17,419,395 (2015 est.).
- Its capital is Lilongwe
- The official language for Malawi is English and vernacular language is Chichewa
- Malawi became independent on 6th July, 1964 and currently follows a multiparty democracy system of government.
- Local currency Malawi Kwacha (MK)
- The economy is heavily based on agriculture, Tobacco is the main foreign exchange earner



Malawi's Food



- Staple is nsima
- Other areas root crops



CURRENT ENERGY POLICY AND MEASURES OF MALAWI

National Energy Policy (2003)

- The Malawi energy policy (MEP) was formulated in 2003 to provide a transparent and dynamic operational framework for Malawi Energy Sector.
- It provides for private sector involvement in electricity generation either on Independent power producer (IPP) or build, operate and transfer (BOT) and Public private partnership through competitive bidding.
- MEP paved a way for MERA which is the country's regulator to regulate the activities of the energy industry in accordance with energy Laws.
- NB: the Malawi National Energy Policy is currently undergoing review of which the completion estimated to be October, 2015.

ENERGY SECTOR LEGAL INSTRUMENTS

➤ **Rural Electrification Act (2004)**

Provision for the promotion, funding, management and regulation of rural electrification

➤ **Liquid fuels and gases Act (2004)**

Provisions for production, blending, extraction, conversion, importing, transforming, transporting, storing, distributing and selling liquid fuels and gas

➤ **Energy Regulation Act (2004)**

Establish an Energy Regulatory Authority to regulate the energy sector, to define the functions and powers of the Energy Regulatory Authority, to provide for licensing of energy undertakings

➤ **Electricity Act (2004)**

provisions for the regulation of the generation, transmission, wheeling distribution, sale, importation and exportation, use and safety of electricity

KEY STRATEGIES

In order for the energy sector to achieve its aspirations, the following strategies are targeted for implementation in the 2011/2016 MGDS II period:

- ✓Develop additional power stations (hydro, coal and other renewable energy technologies)
- ✓Improve management of energy supply
- ✓Improve monitoring in energy sub sectors
- ✓Accelerate implementation of regional electricity interconnectivity;
- ✓Expand the Rural Electrification Programme through grid and off-grid options;
- ✓Increase fuel stock-holding capacity
- ✓Promote the use of biofuels
- ✓Promote public and private sector investment in energy generation and distribution.
- ✓Promote the use of energy efficient technologies at community level
- ✓Review and formulate an energy regulatory framework.

PAST ENERGY DEMAND AND SUPPLY (STATISTICS) OF MALAWI

- At 9%, Malawi currently has a remarkable low national electrification rate. While electricity has reached almost 25% of urban households, rural electrification lies only at 5%. Only 7% of the population has access to modern cooking fuel and more than 98% from rural areas (roughly 85% of country's total population) still use fuel wood for cooking.
- The installed capacity for Malawi system is currently at 351 MW

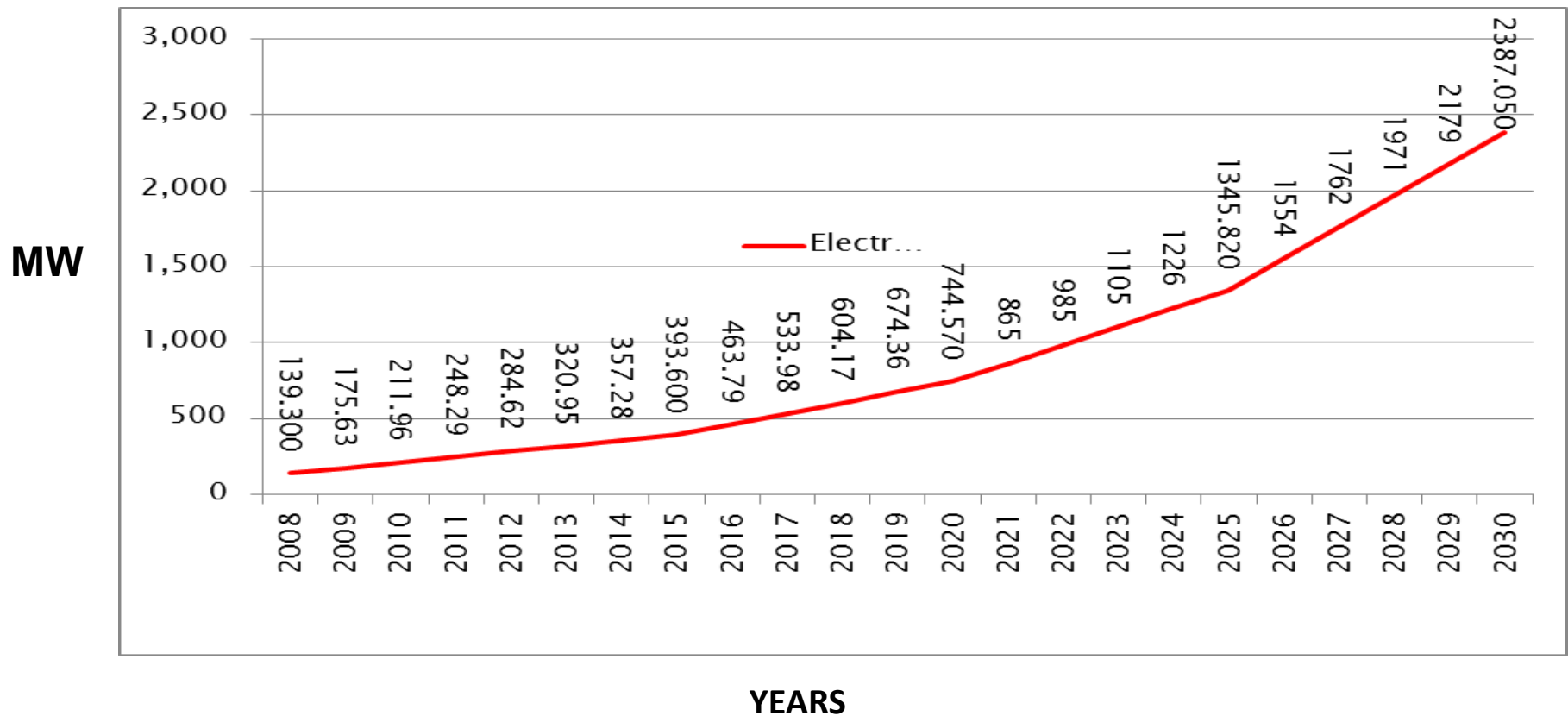
ELECTRICITY GENERATION AND CONSUMPTION (2004-2014)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Installed Hydro Capacity (MW)	245.85	245.85	245.85	265.85	285.85	285.85	285.85	285.85	285.85	285.85	351
Maximum (Peak) Demand (MW)	212.5	231.69	241.7	251.03	241.88	259.67	273.01	277.75	277.88	279.73	323.91
Energy generation (GWh)	1,179.30	1,368.83	1,390.81	1,453.06	1,543.00	1,642.02	1,809.17	1,871.88	1,911.51	1,828.2	1,906.51
Number of Consumers	128,396	155,589	163,147	164,795	175,157	189,166	194,459	205,045	218,164	238,211	269,469
Consumption Domestic (GWh)	308	389.91	418.60	434.63	461.56	502.08	571.56	593.85	596.10	577.65	614.20
General (GWh)	149	182.54	183.78	197.55	213.73	226.16	253.70	250.43	244.47	214.96	183.26
Power Demand (GWh)	483.4	490.24	502.76	512.17	527.08	577.84	580.76	612.23	604.88	613.82	639.27
Export (GWh)	6.5	8.6	10.2	11.85	17.17	15.94	20.66	19.08	21.1	23.82	23.62
Total Consumption (GWh)	946.9	1071.29	1115.34	1156.2	1219.54	1322.02	1426.68	1475.59	1,466.52	1,429.68	1460.35

OUTLOOK OF ENERGY DEMAND AND SUPPLY FOR MALAWI

ENERGY DEMAND SITUATION

- Malawi's current suppressed demand is around 400 MW with current total generation capacity at 351 MW. The deficit in power supply is around 49 MW.



Demand projections MAED analysis 2010 (DOE)

Petroleum Situation in Malawi

- According to Malawi Energy Regulatory Authority, Malawi consumes about 1,000,000 million litres of petroleum products per day.
- The fuels are mainly used in transport sector and also for power generation.

ENERGY SUPPLY SITUATION

- Malawi's energy supply is dominated by biomass (firewood, charcoal, agricultural and industrial wastes) accounting for 84% of the total primary energy supply.
- Reliance on Wood and charcoal has highly contributed to destruction of natural forests; and also siltation on the shire river thereby affecting power generation.



- Total installed electricity capacity is currently at 351 MW with around 98% Hydro on the shire river.
- Plans to diversify its energy source to other sources of energy.



Nkula Hydro Power Station



Renewables (RETs)

Solar PV, Wind, Geothermal, mini and micro-hydro

➤ Malawi has great solar potential with an average of 3,000 hours of sunshine per year.



There are six Solar/Wind hybrid systems with a capacity of 21kW each benefiting a combined total of 900 households



831kW Grid-connected Solar Power Plant at KIA
–Commissioned in August, 2013.

Liquid fuels supply

- Importation of petroleum products through Mozambique and Tanzania.



- There are also efforts to promote utilization of biofuels in order to reduce importation of petroleum products.



MAJOR DIFFICULTIES AND BOTTLENECKS FACED IN FORMULATING ENERGY POLICIES

Non-availability of relevant data to suit energy model

Data quality is affected due to inadequate methods of data collection, analysis and interpretation. Most of the data sets are quite old as data collection is mostly at the discretion of the institution collecting the data on their routine schedules.

Inadequacies in the National Statistic System

The national statistic system which is based on the provisions of the National Statistical Act, 1967, does not adequately cover energy data.

Inadequate Financial and Human resources

The annual budgets of the government to the Ministry and Department are not enough to enable them carry out data collection exercises and policy review. Also, the Ministry has been understaffed and most officers are not trained in policy formulation.

SUBJECTS OF INTEREST

Planning, Policy formulation and Implementation

Currently Malawi is undertaking review of the National Energy Policy (2003)

Demand and Supply Analysis

In order to come up with relevant policies that would improve energy supply there by meet the energy demand.

Data Collection and Management

Crucial for Malawi to be able to monitor the energy markets; analyse energy security; analyse economic opportunities from new technologies i.e.: energy efficiency and Energy planning and policy formulation.

Production of Energy Balance Table

Provide a simple way of publishing energy data; reveals the degree of dependency of a country to each kind of energy and the relative importance of different fuel supplies in their contribution to the economy.



THANK YOU!
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