

COUNTRY REPORT FOR MALAWI

JICA KNOWLEDGE CO-CREATION PROGRAM – ENERGY POLICY

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1. General information

Country Profile:

Situated in Southern Central Africa, Covers 184 Square Kilometers

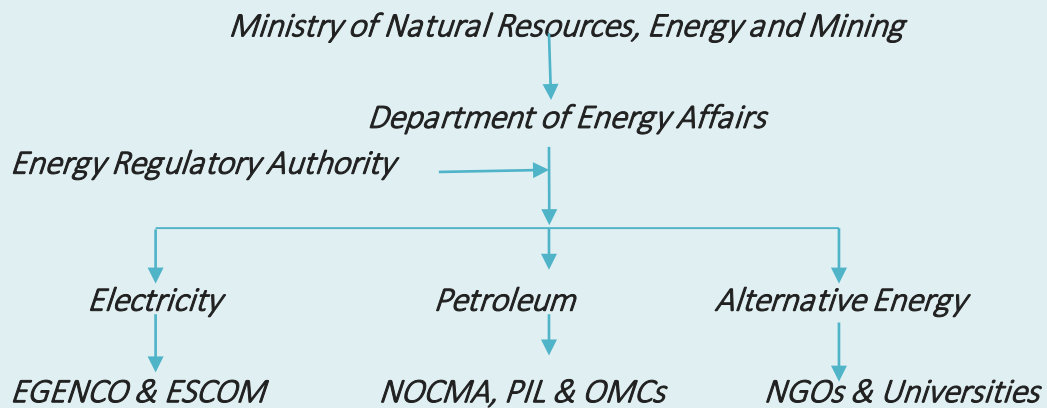
Agricultural Based Economy, Power Generation is Hydro Based

Imports All Refined Petroleum Products

Economic Indicators

GDP – USD6.4billion, Population – 17,500,000, Households – 3,984,000

Energy Organizational Structure



Energy Reserves

Hydropower

- Potential – about 1200MW
- Installed – 351MW

Coal

Probable Reserves – 1 Billion tonnes
Current Production – 50,000 tons/yr

Biomass

Current Reserves – Not known
Challenge – Unsustainable Use

Current Energy Policy and Measures

Current Energy Policy – Objectives

- To strengthen the Electricity Supply Industry (ESI) and make it more efficient to support industrialization, rural transformation, sustainable economic development and wealth creation, as well as to facilitate regional electricity trading;
- To ensure adequate production and supply of petroleum and biofuels at affordable prices;
- To ensure availability of LPG, biogas and natural gas in sufficient quantities at affordable prices for industrial and domestic use;
- To promote a coal supply industry that is more efficient and competitive, and harnesses clean technologies that eliminate or greatly reduce harmful emissions;
- To ensure that biomass is sustainably used and carbon emissions are reduced through the use of energy efficient technologies;
- To establish a vibrant, reliable, incentivized and sustainable private sector-driven Renewable Energy Technology industry; and
- To promote energy programming, budgeting and monitoring that routinely address all aspects of social and economic development in energy programmes and services.

Measures

- Diversification of Energy Sources
- Implementation of Sector Reforms
- Increasing Investment in the Sector

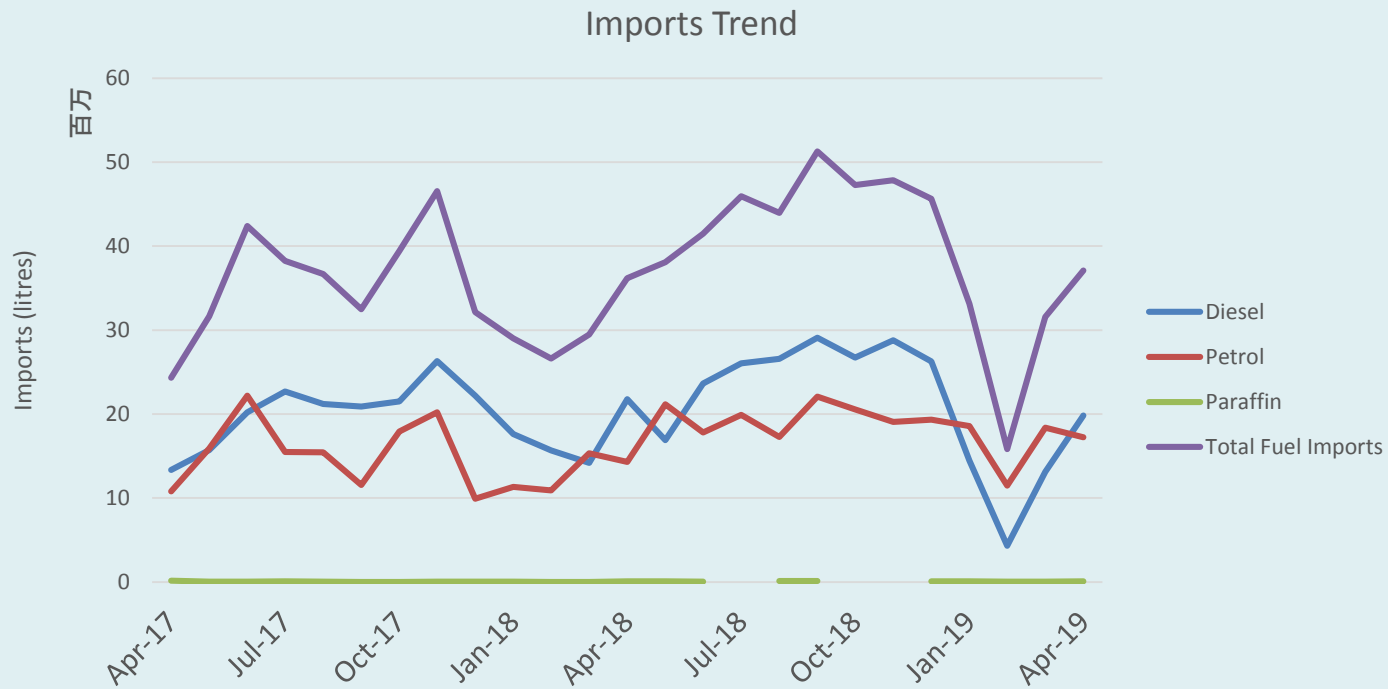
Past Energy Supply and Demand

Electricity

YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Installed Hydro Capacity (MW)	286	286	286	286	286	351	351	351	351	445
Maximum (Peak) Demand (MW)	260	273	278	278	280	324	335	328	371	317
Energy generation (GWh)	1,642	1,809	1,872	1,912	1,828	1,907	1,975	1,977	1,793	1,306
Number of Consumers	189,166	194,459	205,045	218,164	238,211	269,469	312,857	344,953	413,816	409,425
Consumption Domestic (GWh)	502	572	594	596	578	614	699	766	643	615
General (GWh)	226	254	250	244	215	183	150	117	157	155
Power Demand (GWh)	578	581	612	605	614	639	620	620	659	661
Export (GWh)	16	21	19	21	24	24	22	24	19	82
Total Consumption GWh)	1,322	1,427	1,476	1,467	1,430	1,460	1,491	1,855	1,477	1,489

Past Energy Demand and Supply

Refined Petroleum Products



Future Energy Demand and Supply

Demand (MW)

Year	Low	Base	High
2020	567	719	982
2030	1,236	1,873	2,591
2037	2,245	3,566	5,217
2040	2,841	4,620	6,946

Supply (MW)

Year	Total Capacity	Firm Capacity	Peak Load
2018	448	403	526
2020	879	791	709
2025	1313	1171	1155
2030	2109	1910	1859
2035	3232	3013	2972
2036	3505	3286	3251

Energy-related Investment for Domestic and Overseas

Power Transmission

- Constructed and commissioned a 170km 400kV power line
- Constructed and commissioned a 400/66kV Substation
- Constructed and commissioned two 66/33kV Substations
- Construction and rehabilitation of a number of 132/66/33kV Substations

Power Generation

- Awarded contracts for the construction of three Solar Power Plants with total Capacity of about 102MW
- Currently in the process of developing Mpatamanga Hydropower Power Plant with expected total capacity of 258MW
- Kammwamba Coal Fired Power Plant with total capacity of 300MW

Difficulties and Bottlenecks currently faced in formulating Energy Policies

- **Lack of Resources**

2003 NEP took more than TEN Years to review

- **Dependence on Consultants**

Sometimes it is difficult for Consultants (International) to understand the National Context

- **Emerging Global and Regional Development Agenda/Policies**

Some of the Nations cannot cope up with the Global and Regional Policies. A certain level has to be achieved before implementing these

Subjects I would like to study in the order of Priority and the Reason

Subjects

- Energy Demand Forecasting
- Energy Statistics and Balance Table
- Energy Policy (Conservation)
- Evolution of Energy Policy in Japan

Reasons

- To know the future Energy Demand for Malawi
- To know the available energy sources and their contribution to the energy mix
- Energy conservation makes more energy available from limited resources
- To understand the global transition in moving from traditional energy to modern energy.