

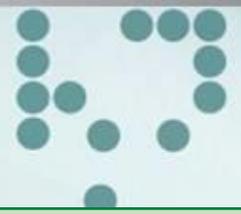


KENYA

By
Mungai Kihara

Ministry of Energy
Renewable Energy Directorate





COUNTRY OVERVIEW



Territory	582,646 Sq. Kilometres
Capital	Nairobi
Population (m, 2017)	46.3 with over 65% youth growth rate 2.1% Urban pop 24%
GDP Growth Rate (2017)	5.8% (Economic Survey 2017)
Official Languages	Kiswahili and English
Nominal GDP (2016)	US\$ 71.6 billion
GDP Per Capita	1,576(US\$, 2016)
Currency	Kenya Shilling ("KES")
Average Exchange Rate	USD/KES: 101.2 (through October 2017)
System of Government	Multi-party democracy with five (5) year election cycles since 1992
Borders	Uganda, Tanzania, Ethiopia, South Sudan, Somalia
No. Of Households	8.4 Million (Approximately)

ECONOMY:

Agriculture and Horticulture - products:

- Tea, coffee, cut flowers,
- maize, wheat, pulses, fruit, vegetables, sugarcane;
- dairy products, beef, fish, poultry, eggs etc.

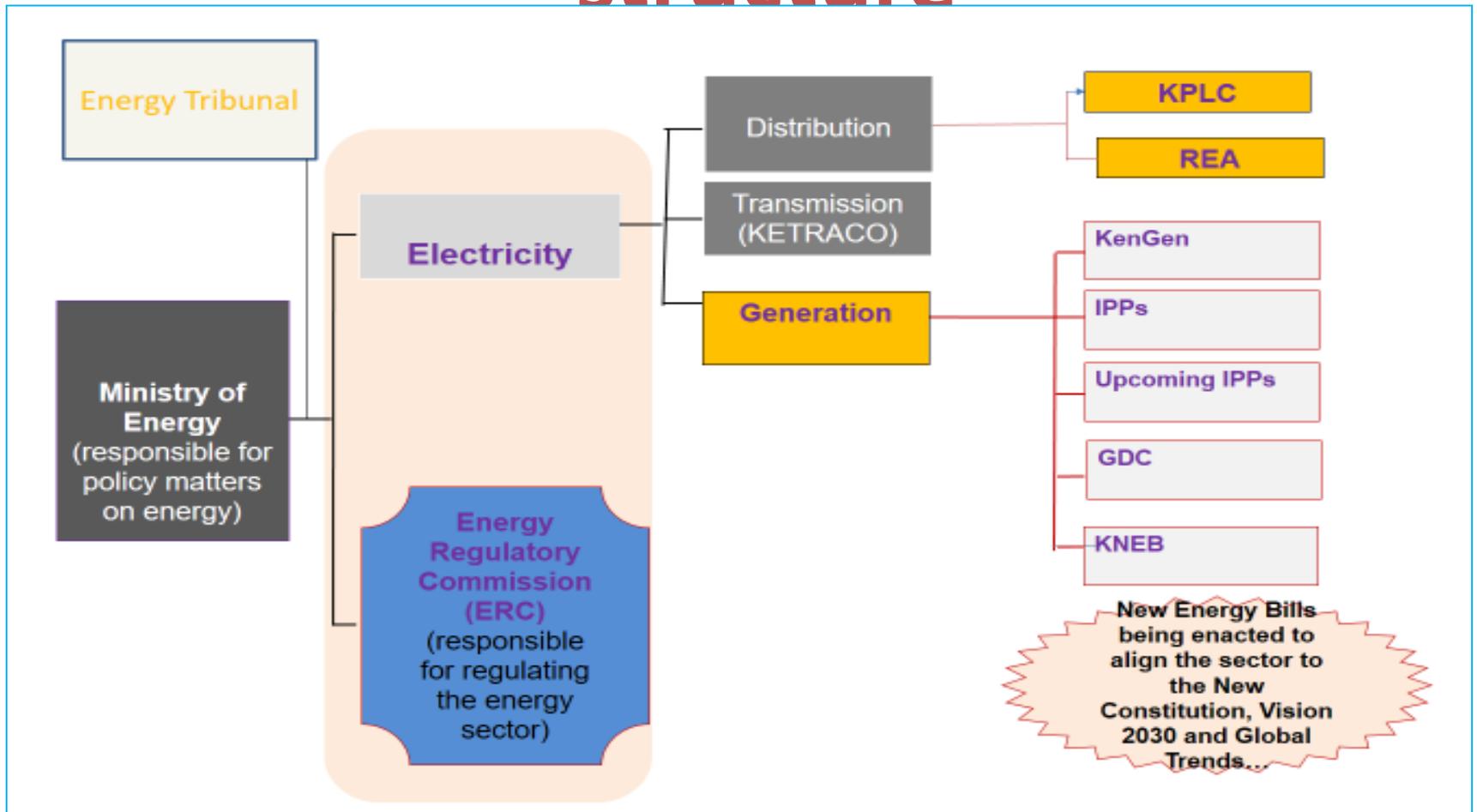
Industries:

- Small-scale consumer goods (plastic, furniture, batteries, textiles, clothing, soap, cigarettes, flour),
- agricultural products, oil refining; aluminum, steel, lead; cement, commercial ship repair, etc

Services:

- Tourism, financial, transportation, communication etc

Organisational structure



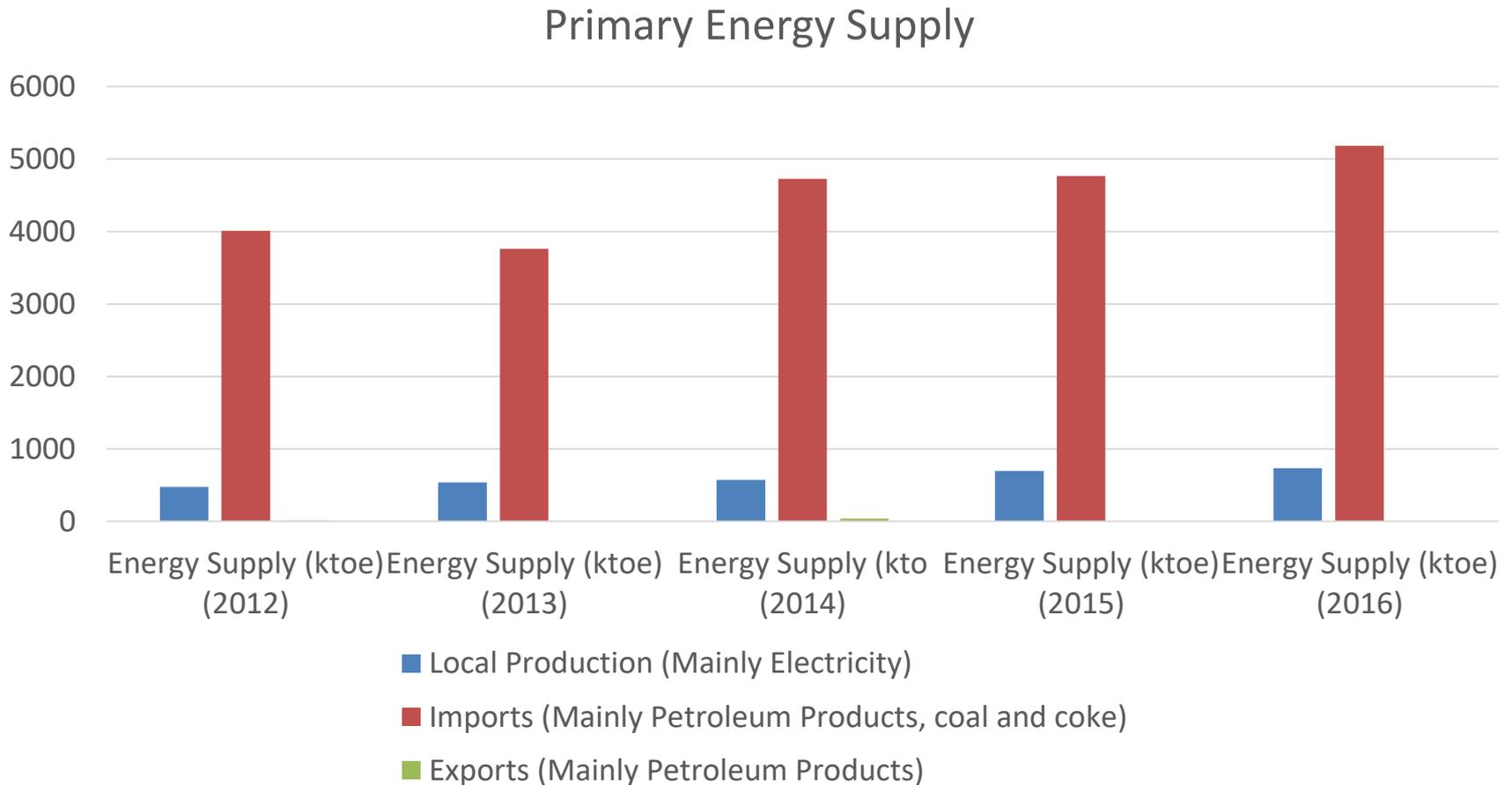
Reserves of energy and mineral resources

Energy/Mineral	Reserves (Approximately)
Geothermal	10000 MW of Electricity
Wind	Average of above 8m/s wind speeds in the best areas
Solar	Average of 6kW/m ² Irradiance
Crude Oil	500 Million Barrels
Coal	1 Billion Metric Tonnes
Limestone	55000 Metric Tonnes
Carbon Dioxide Gas	20000 Metric Tonnes
Fluorspar	50000 Metric Tonnes
Soda Ash	470000 Metric Tonnes

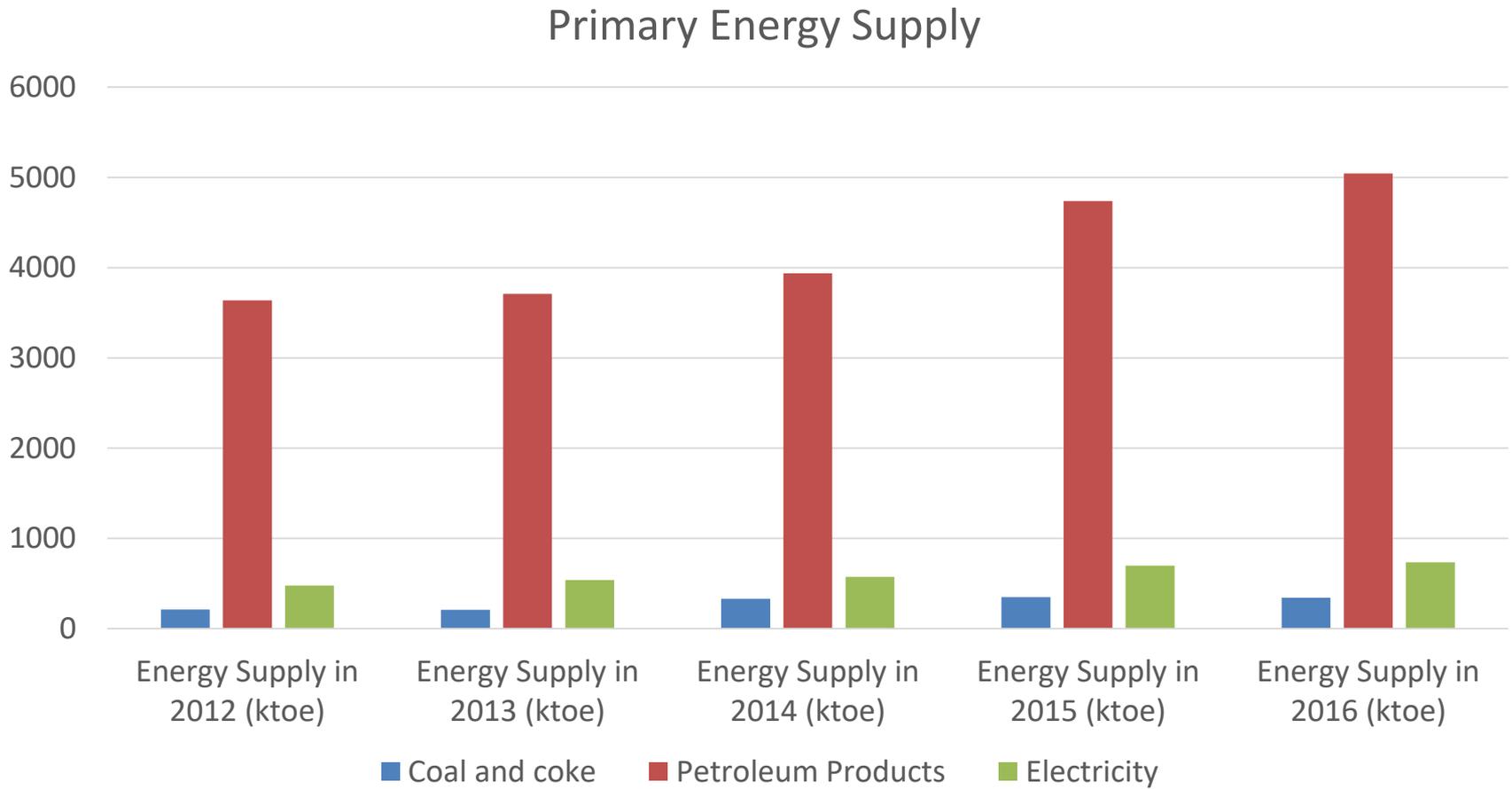
Current energy policy and measures

- The Energy Act 2006
- The Energy Policy (Sessional Paper No. 4 2004)
- The Energy Bill
- The Draft Energy Policy
- The Feed in Tariffs Policy
- The Geothermal Strategy and Policy (Under Preparation)
- The Draft Renewable Energy Auction Policy

Primary energy supply (Unit: ktoe)

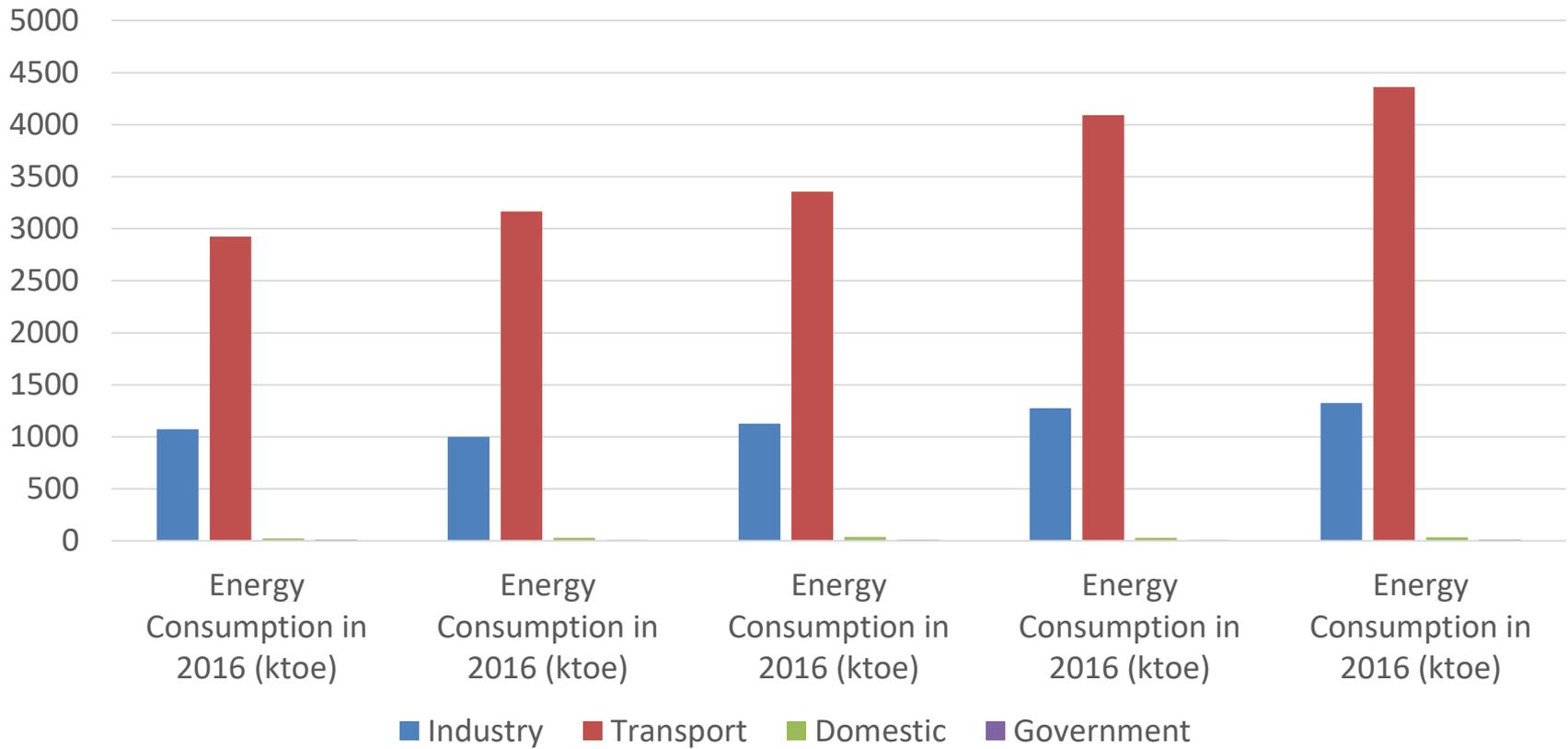


Primary energy supply (Unit: ktoe)



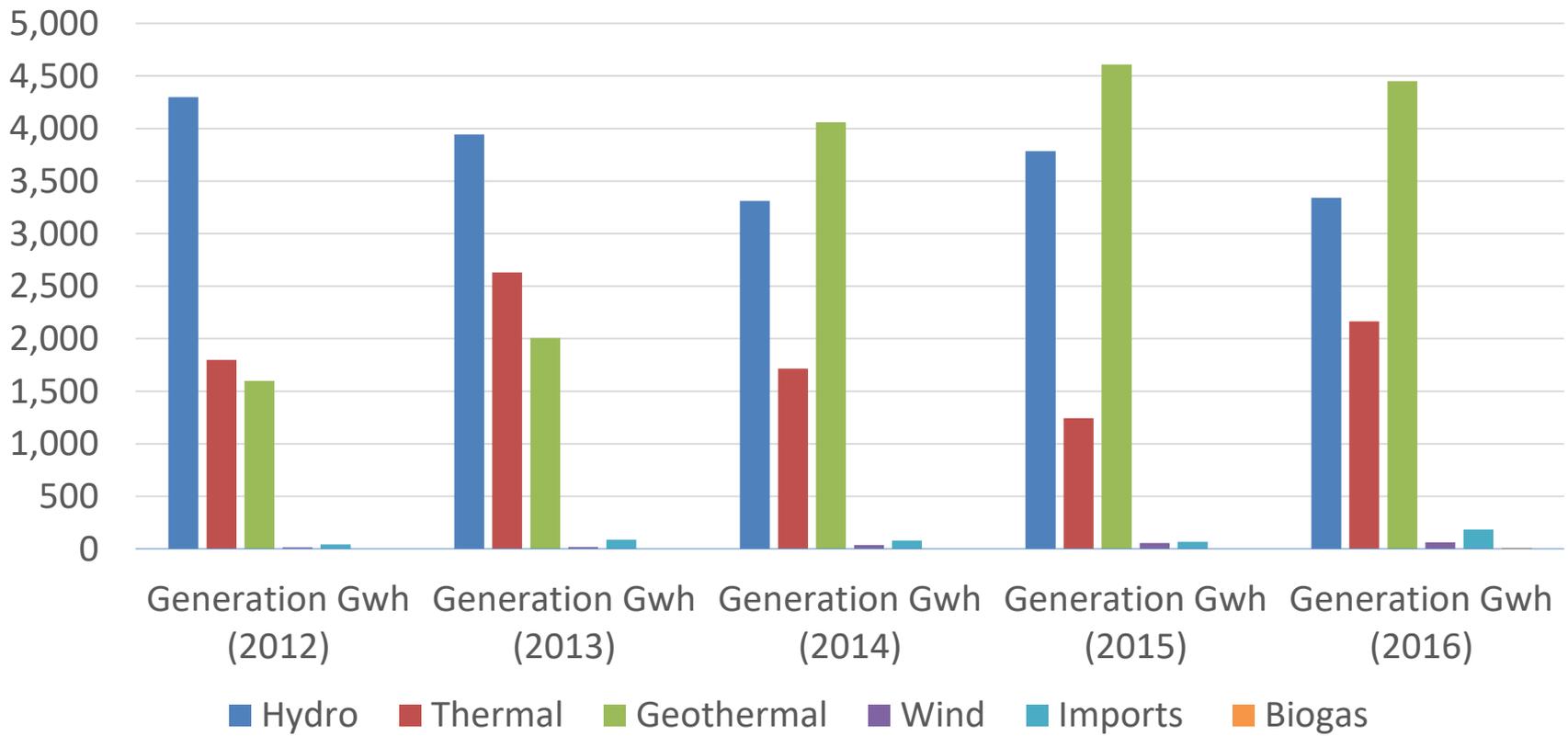
Final energy consumption (Unit: ktoe)

Final Energy Consumption



Electricity generation (Unit: GWh)

Electricity Generation

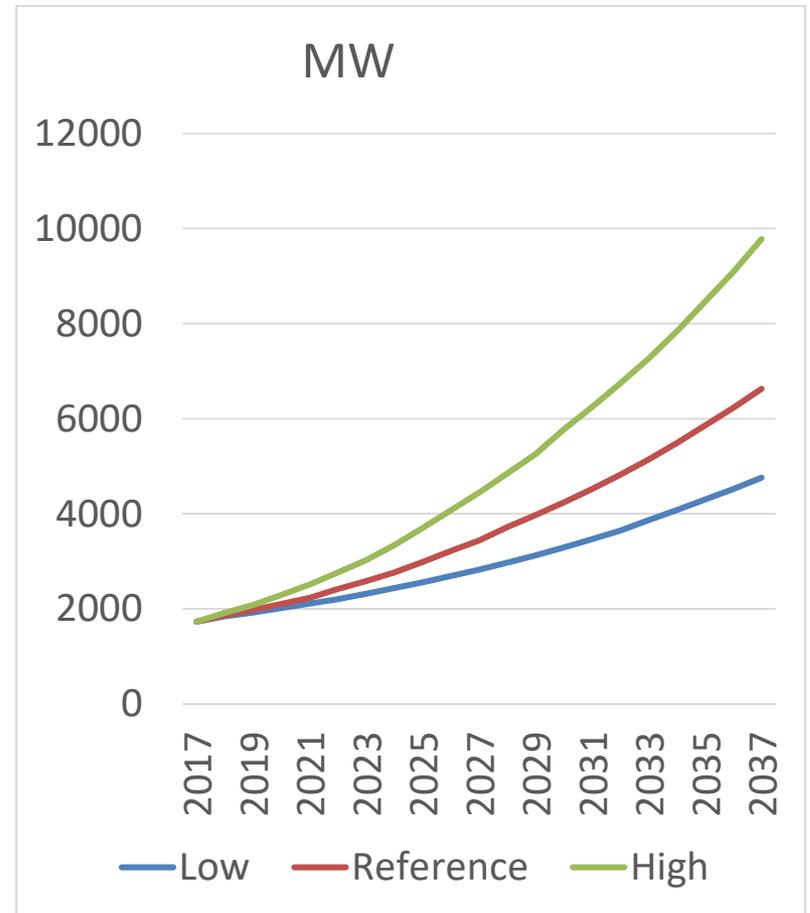
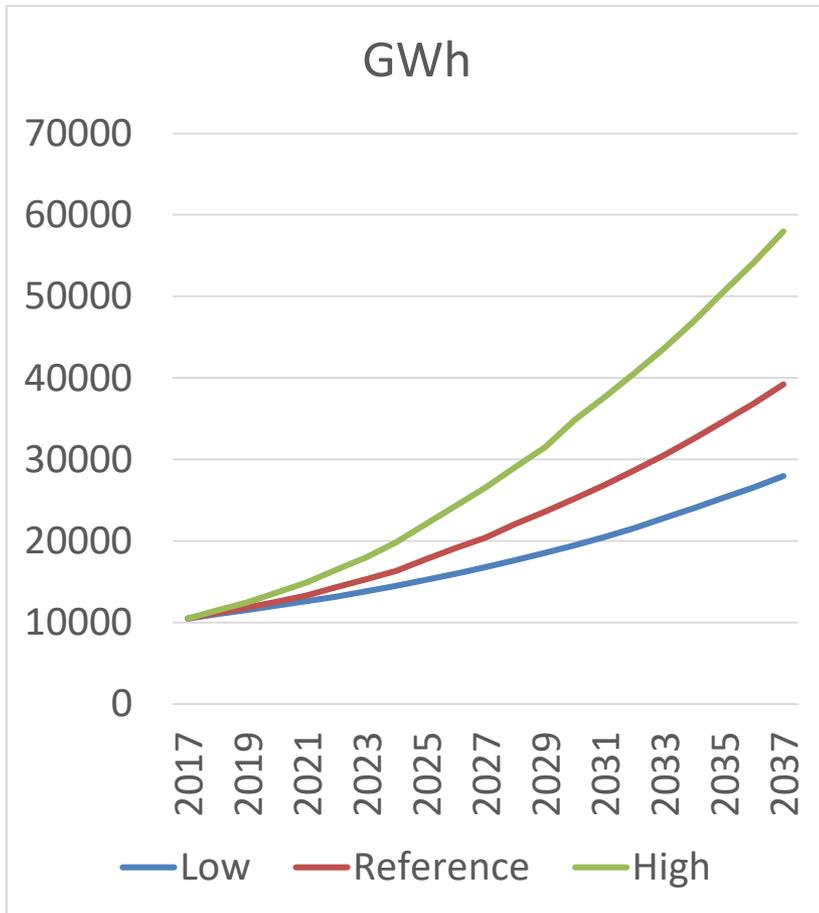


Data fro Kenya Power Annual Report
2016-17

Energy Prices (Electricity Generation)

Technology Type	Plant Capacity (MW)	Energy Tariff (\$/kWh) at the Interconnection Point	
Geothermal	35– 70	0.088	
Wind	0.5 – 50	0.10	
Biomass	0.5 – 50	0.10	
Small Hydro	0.5 – 5	Firm	-
		Non-Firm	0.75
	5.1 – 10	Firm	0.10
		Non-firm	0.75
Biogas	0.1 – 40	0.10	
Solar	Grid	0.5-50	0.12
	Off-grid	0.5 –10	0.20

Electricity Generation up to 2037



Energy-related investment for domestic and overseas

- Transmission
 - Interconnectors
 - Ethiopia Kenya 500kVDC
 - Kenya Tanzania 400kV
 - Kenya Uganda 400kV
- Generation
 - Geothermal
 - Coal – 981MW

Major difficulties and bottlenecks

- Lack of Reliable Data
- Disjointed Data
- Lack of Capacity

Subjects you would like to study

- Energy forecast
- Energy supply and demand balancing
- Energy and power economics



THANK YOU



ASANTENI