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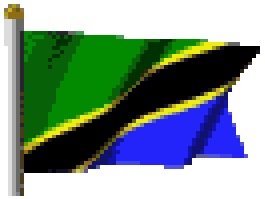

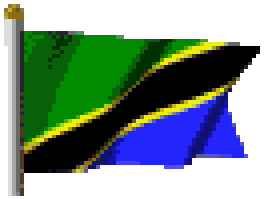

COUNTRY REPORT

To be Presented at the Knowledge Co-creation Program in Japan on "Energy Policy (B)", Tokyo 28th June – 29th July, 2017

By

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PRESENTATION OUTLINE

1. GENERAL INFORMATION
   - 1.1 COUNTRY PROFILE
   - 1.2 ECONOMIC INDICATORS
2. ENERGY RESERVES
3. CURRENT ENERGY POLICY AND MEASURES
4. PAST ENERGY DEMAND AND SUPPY
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8. SUBJECTS OF INTEREST FROM KCCP

GENERAL INFORMATION - LOCATION

Africa Continent

United Republic of Tanzania

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COUNTRY PFOFILE

i. **Population:** 50.1 million (2016), **growth rate** 2.7**%; Total area of 945,087 sq.km.**

ii. **Language**:(Swahili and English),

iii. **Dodoma** is the capital city and Dar es Salaam is the major commercial city

iv. **Natural resources:** tin, phosphates, iron ore, coal, diamonds, gemstones, gold, natural gas, nickel.

v. **Agriculture products:** Coffee, sisal, tea, cotton, pyrethrum (organic insecticide), cashew nuts, tobacco, cassava (tapioca), bananas, fruits, vegetables; livestock.

vi. **Industries:** Agricultural processing (sugar, beer, cigarettes, sisal twine); diamond, gold, and iron mining, oil refining.

vii. **Exports - commodities:** gold, coffee, cashew nuts, manufactures, cotton.
Exports partners: India, 21.4%, China 8.1%, Japan 5.1%, Kenya 4.6%, Belgium 4.3% (2015)

viii. **Imports - commodities:** consumer goods, machinery and transportation equipment, industrial raw materials, crude oil

ix. **Currency** : Tanzanian Shilling (TZS)

x. **Mt. Kilimanjaro** (*"Roof of Africa"*), which is highest **mountain** in Africa, (5,895m) is found in Tanzania

COUNTRY PFOFILE CONT'…

i. The installed capacity in the main grid is **1451MW**. Hydro: **567.11 MW (41.5%)** and Thermal (natural gas, diesel and Heavy Fuel Oil): **788.4 MW (57.7%)**

i. On- grid (**1,366 MW)** while Off-grid stations (**84,906** MW)

ii. Biomass **10.5** MW. (0.7%)

iii. Highest grid system demand is **1,051.27** MW. (Feb, 2017)

iv. Customer base (TANESCO) is **1,951,730** (December, 2016)

v. Access to electricity increased from **23% to 67.5%** and connectivity from **17% to 32.8%** from 2011 to 2016 respectively (Source: National Bureau of Statistics,-NBS December, 2016)

ECONOMIC INDICATORS

Gross Domestic Product at Market Price (TZS Billion)

	2010	2011	2012	2013	2014	2015
Tanzania Mainland						
At Current Prices	43,836	52,763	61,434	70,953	79,718	90,864
At 2007 Prices	31,676	34,179	35,936	38,547	41,231	44,101
GDP Growth Rate at 2007 Prices (Percent)	6.4	7.9	5.1	7.3	7.0	7.0
Tanzania Zanzibar						
GDP at Current Prices	1,051	1,344	1,565	1,850	2,134	2,308
GDP at Constant 2007 Prices	848	928	973	1,043	1,115	1,189
GDP Growth Rate at 2007 Prices (Percent)	4.3	9.3	4.9	7.2	7.0	6.6

Source: National Bureau of Statistics and Office of the Chief Government Statistician, Zanzibar

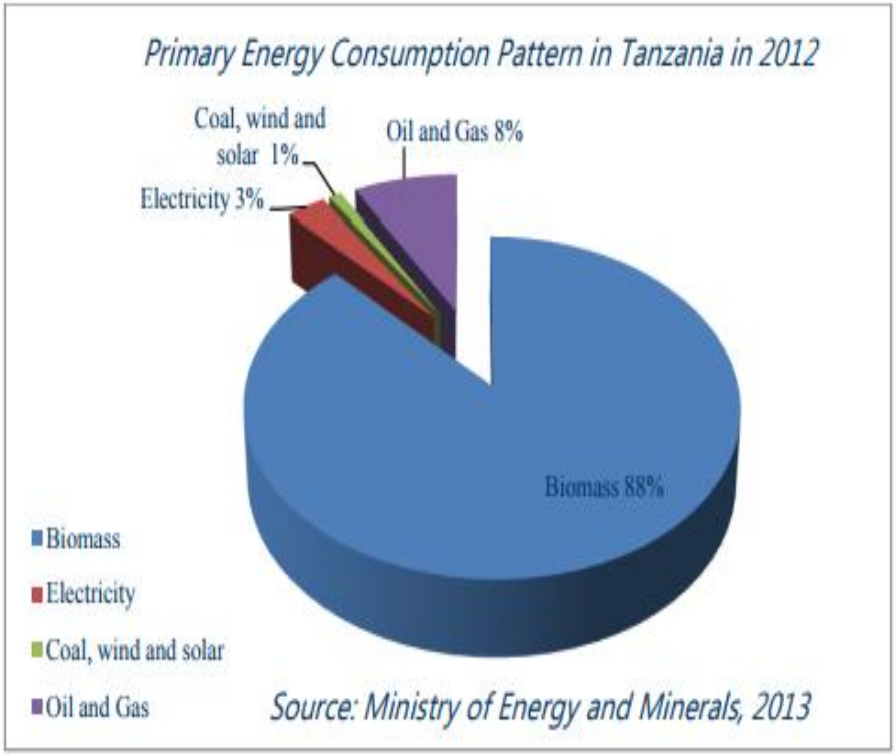
Per Capital GDP at Market Price (Current Prices)

	2010	2011	2012	2013	2014	2015
Tanzania Mainland						
In '000' TZS	1,087	1,274	1,408	1,583	1,725	1,918
In US$	771	818	896	991	1,044	967
Tanzania Zanzibar						
Per capital GDP at Current Prices(TZS '000')	856	1,065	1,205	1,384	1,552	1,632
Per Capital GDP at Current Prices In US$	613	683	767	866	939	817

Source: National Bureau of Statistics and Office of the Chief Government Statistician, Zanzibar

ENERGY CONSUMPTION AND RESERVES

Primary Energy consumption



Energy Potential

- **Hydro: 4.7 GW (only 12% developed)**
- **Gas: 43.1 Trillion Cubic Feet of proven reserves.**
- **Coal: 1.2 billion tones of which 304 million tones are proven.**
- **Geothermal: Estimated 650 MW, assessment is under way**
- **Others: Petroleum and Uranium: Prospecting activities on-going.**
- **Renewable energies is under study**

DISCOVERIES

Mkuranga 2007 (0.2 TCF)

Kiliwani 2008 (0.07 TCF)

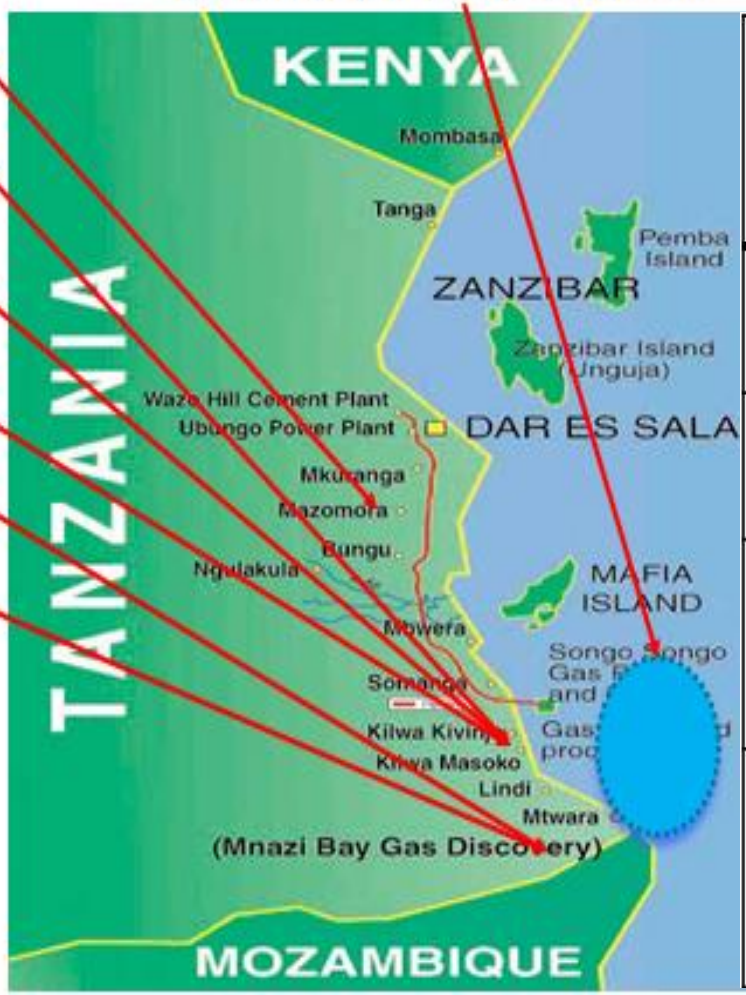
Songo Songo 1974 (2.5 TCF)

MnaziBay 1982 (5 TCF)

Ntorya 2012 (0.178 TCF)

Mambakofi 2015 (0.16 TCF)

Deep Sea (2010-14) : 47.8 TCF



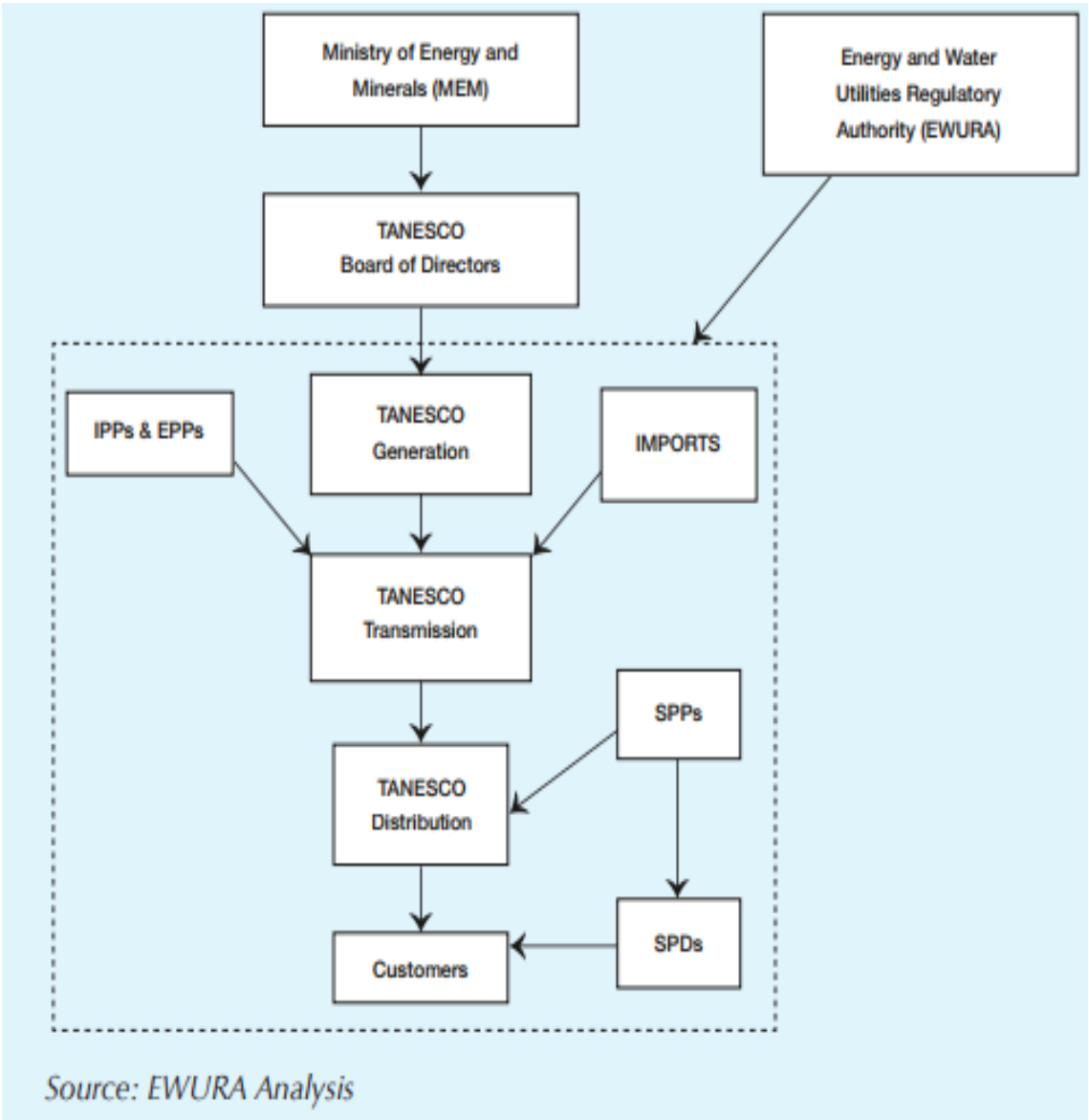
PSAs signed	26
Onshore Licenses	18
Offshore Licenses	8
Operating Companies	17
Development Licenses	3

Total GIIP onshore = 8 TCF

TOTAL GIIP (June 2015): **55.08TCF**

Source: TPDC, 2015 http://www.tpdc-tz.com

CURRENT ELECTRICITY INDUSTRY STRUCTURE



The electricity supply industry in is dominated by TANESCO, which is a vertically integrated state owned utility. TANESCO owns and carries out generation, transmission and distribution of electricity up to the final consumers, and sells electricity in bulk to Zanzibar Electric Company (ZECO) through submarine cables 132kV and 33kV to Zanzibar and Pemba Islands respectively. On the generation side there are other players which include Independent Power Producers (IPPs), Small Power Producers (SPPs) and Emergency Power Producers (EPPs

Electricity price: 2016: **Adopted Pan-territorial tariff setting**

Customer Category	Component	Unit	Current Tariff	Proposed Tariff 2016	Approved Tariff 2016	% Change
D1	Service Charge	TZS/Month			-	
	Energy Charge (0 - 75 kWh)	TZS/kWh	100	100	100	0.0%
	Above 75 kWh	TZS/kWh	350	350	350	0.0%
T1	Service Charge	TZS/Month	5,520	-	-	-100.0%
	Energy Charge	TZS/kWh	298	295	292	-2.0%
	Maximum Demand Charge	TZS/kVA/Month	-	-	-	
T2	Service Charge	TZS/Month	14,233	14,233	14,233	
	Energy Charge	TZS/kWh	200	198	195	-2.3%
	Maximum Demand Charge	TZS/kVA/Month	15,004	15,004	15,004	
T3 - MV	Service Charge	TZS/Month	16,769	16,769	16,769	
	Energy Charge	TZS/kWh	159	157	157	-1.5%
	Maximum Demand Charge	TZS/kVA/Month	13,200	13,200	13,200	
T3 - HV	Service Charge	TZS/Month			-	
	Energy Charge	TZS/kWh	156	154	152	-2.4%
	Maximum Demand Charge	TZS/kVA/Month	16,550	16,550	16,550	

Key

D1: Low Usage Tariff for Domestic customers who on average consume less than 75 kWh per month. Any unit exceeding 75 kWh is charged a higher rate of TZS 350 per kWh. Under this category, power is supplied at a low voltage, single phase (230V).

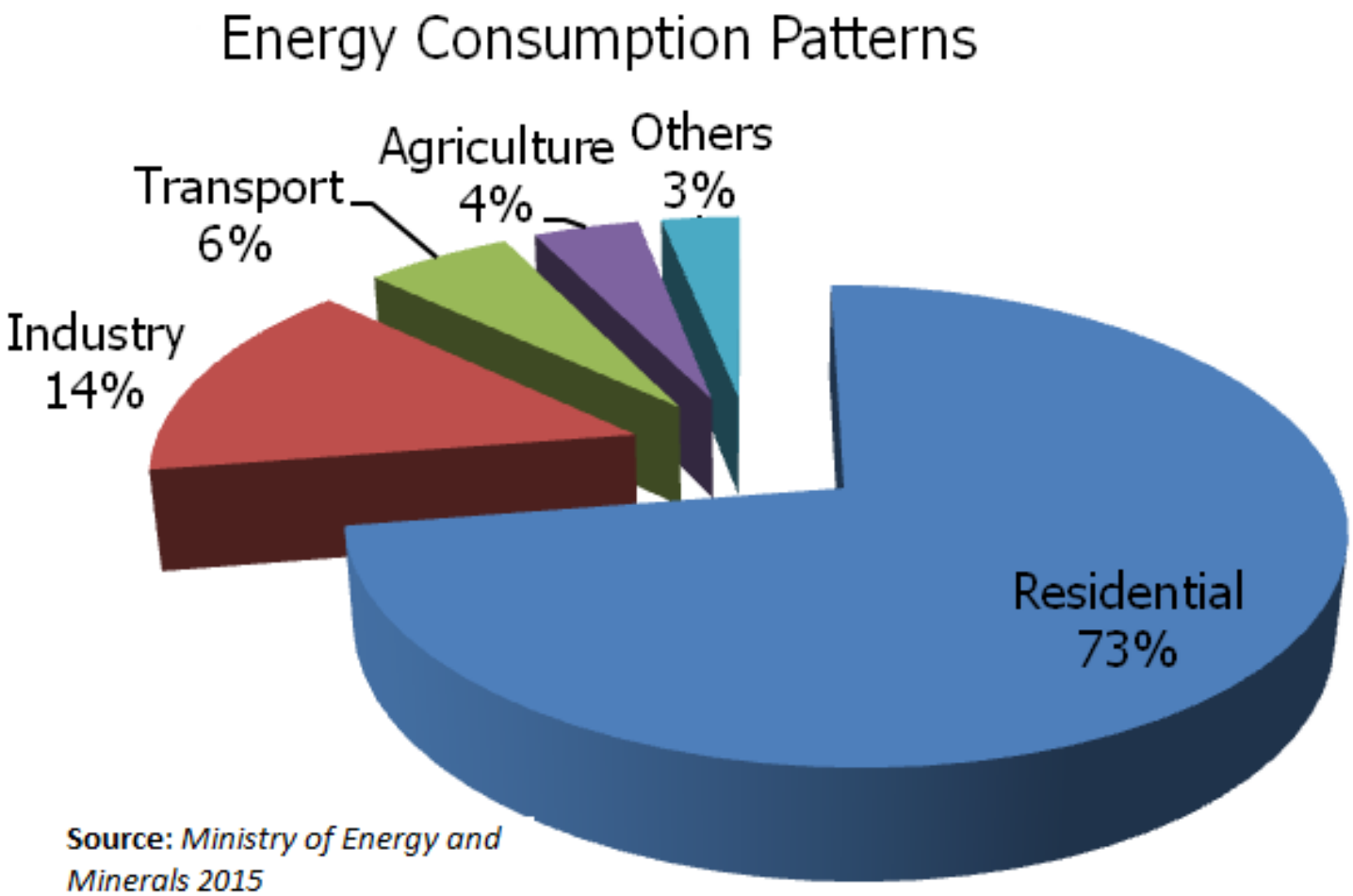
T1: General Usage Tariff for customers including residential, small commercial and light industrial use, public lighting and billboards. Power is supplied at low voltage single phase (230V) as well as three phase (400V).

T2: Applicable to general use customers where power is metered at 400V and average consumption is more than 7,500 kWh per meter reading period and demand does not exceed 500kVA per meter reading period.

T3-MV: Applicable customers connected to medium voltage.

T3 - HV: Applicable to customers connected to High Voltage including ZECO, Bulyanhulu and Twiga Cement.

ENERGY CONSUMPTION BY SECTOR



Source: *Ministry of Energy and Minerals 2015*

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CURRENT ENERGY POLICY AND MEASURES

i. **The National Energy Policy, 2015 to guide the sustainable development of the Energy Sector;** This policy resulted from merging of several policies: the Petroleum Policy, the Local Content Policy, the Subsidy Policy, the Natural Gas Policy, the Renewable Energy Policy, the Bio-energy Policy and the Revised 2003 National Energy Policy to simplify its administrations.

ii. **Electricity Supply Industry Reform Strategy and Roadmap 2014-2025;**

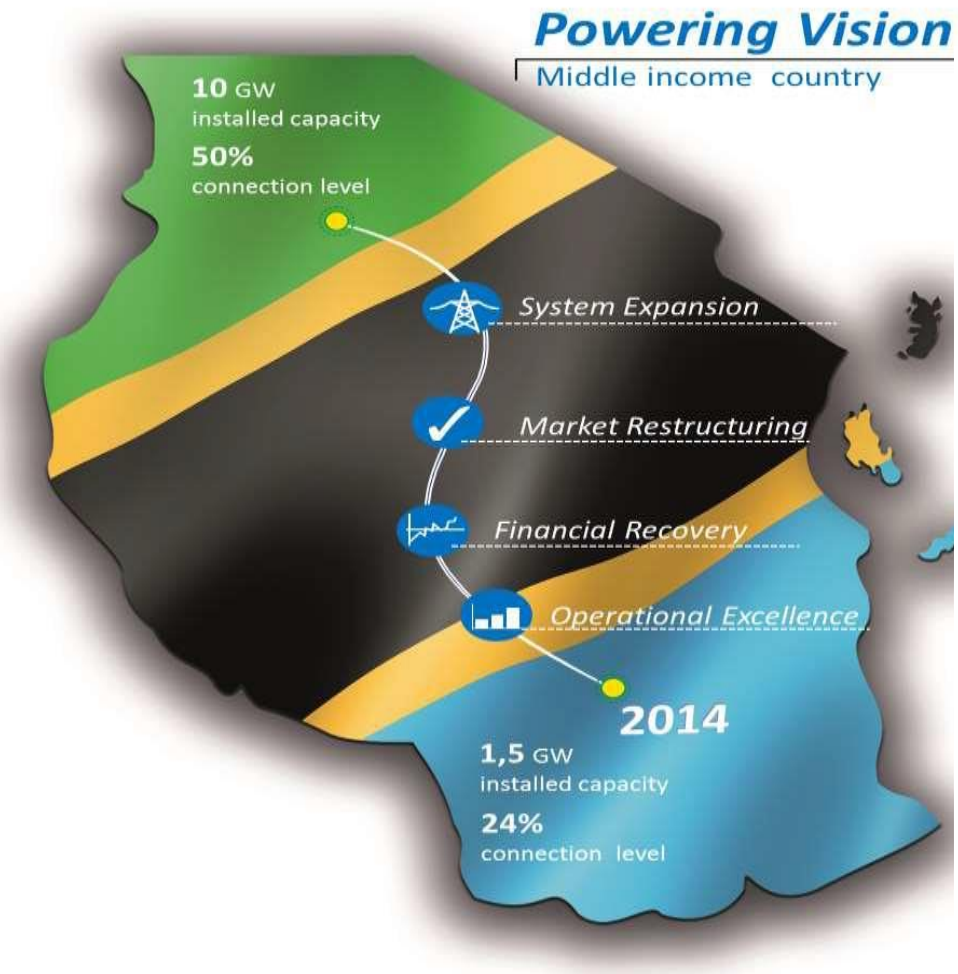
iii. **Electricity Act, 2008 to attract substantial private sector participation in the development of the electricity subsector;**

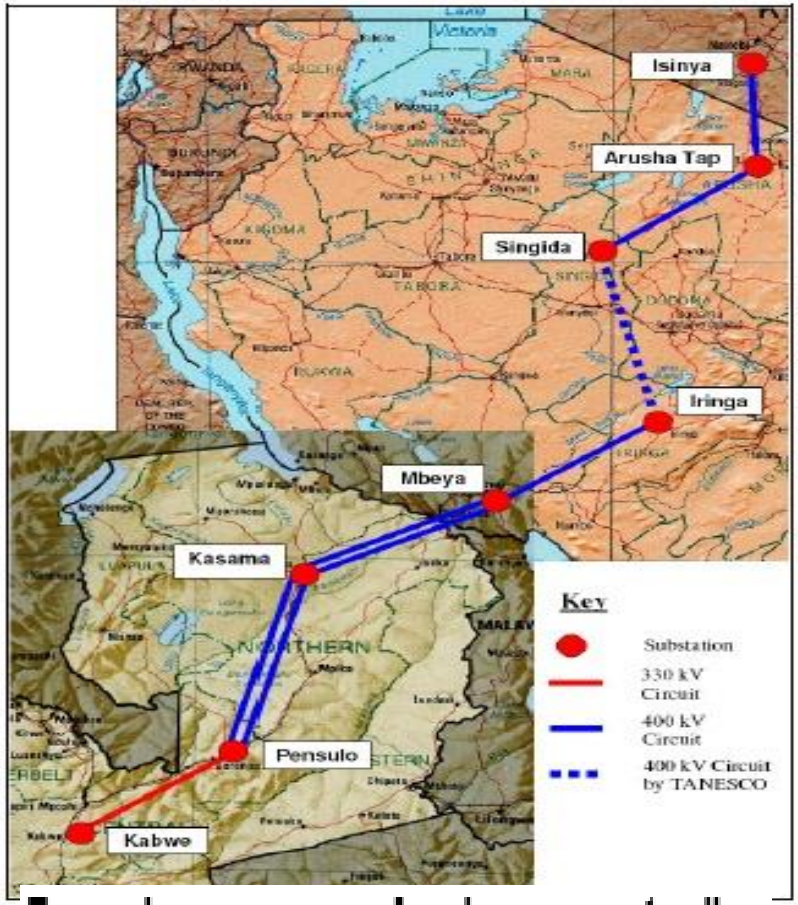
iv. **Petroleum Act, 2015 to guide the development of the petroleum sub-sector;**

v. **REA Act, 2005 became in operational in 2007 purposely for furthering rural electrification;**

vi. **Ruling Party, Chama cha Mapinduzi (CCM) Manifesto 2015 -2025.**

FUTURE OUTLOOK





Toward power cross border power trading.

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FUTURE OUTLOOK CONT'

i. To have at least generation capacity of 10,000MW by 2025 through system expansion, market restructuring and operation excellency

ii. Increased contribution of Renewable Energies to energy mix to a tune of 5% in 2040. Power System Master Plan (PSMP) 2016 Updates recommended: **Natural gas = 40%; Coal = 35%; Hydro = 20%; and Renewable = 5%**

iii. Human capital development for oil and gas industry parallel with strengthening of Tanzanian high learning institution to carry out the task

iv. Developing gas-based industries

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ENERGY RELATED INVESTMENT FOR DOMESTIC AND OVERSEAS

i. **Electricity Sub-sector:** Investment in generation, transmission and distribution networks is promoted under private investment or through PPP. Focus is on improving generation mix by increasing renewable energies and coal fired power plants contributions.

ii. **Petroleum Sub-sector:** Exploration activities for oil and gas are being promoted. In addition, infrastructure development such a transportation pipeline from Dar es Salaam to Central, Southern and Northern Corridors; Mtwara, Lindi, Pwani and Dar es Salaam regions gas distribution infrastructures and LNG and Petrochemical facilities

iii. **Renewable Energy Sub-sector:** Development of Renewable energies mainly from solar, geothermal, wind and biomass is promoted as well as Investment in the manufacturing of renewable energies equipment.

DIFFICULT OR BOTTLENECK OF FORMULATING ENERGY POLICIES

i. Rapid growth of energy sector which provide challenge in reviewing /formulation of energy policies in time

ii. Lack of proper information/ statistical data to justly the need of policies review/formulation

iii. Political interference (political interest)

iv. Inadequate fund to implement Energy Sector reforms

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FORMULATING ENERGY POLICIES CONT'…

v. Inadequate and untimely financing of priority energy projects from government budget

vi. Limited involvement of local communities and other stakeholders in policies reviewing/ formulation process

vii. Managing expectations and reconciling conflicting views of stakeholders within the overall national interest

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SUBJECTS OF INTEREST FROM KCCP

i. Energy Supply and Demand Forecasting techniques

ii. Knowledge of formulation of Energy Database (Energy Balance Table)

iii. Quantifying energy policies information to facilitate monitoring and evaluation of results

FOR FURTHER INFORMATION

For further information, PLEASE VISIT:

1. National Bureau of Statistics, (NBS), www.nbs.go.tz

2. Tanzania Investment Centre (TIC), www.tic.co.tz

3. Ministry of Energy and Minerals, (MEM) www.mem.go.tz

4. Energy and Water Utilities Regulatory Authority (EWURA), www.ewura.go.tz

5. Tanzania Electric Supply Company Ltd (TANESCO), www.tanesco.co.tz

6. Tanzania Petroleum Development Corporation (TPDC), www.tpdc-tz.com

7. Rural Energy Agency, (REA), www.rea.go.tz

Contact :report@tky.ieej.or.jp