

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF ENERGY AND MINERALS



ENERGY SECTOR
QUARTERLY DIGEST



DAR ES SALAAM

ED. NO. 04



JUNE, 2016 ISSUE

THE ENERGY DEPARTMENT

MANDATE

To ensure secure and sustainable provision of energy for socio-economic transformation.

MISSION

To provide reliable, affordable, safe, efficient and environment friendly modern energy services to all while ensuring effective participation of Tanzanians in the sector.

VISION

A vibrant Energy Sector that contributes significantly to economic growth and improved quality of life of Tanzanians.



ABBREVIATIONS AND ACRONYMS

AU	African Union
BRN	Big Results Now
CAG	Controller and Auditor General
DPs	Development Partners
ESMAP	Energy Sector Management Assistance Program
EPPs	Emergency Power Producers
ESQD	Energy Sector Quarterly Digest
EWURA	Energy and Water Utilities Regulatory Authority
GIIP	Gas Initially in Place
GoT	Government of Tanzania
GW	Gigawatt
JBIC	Japan Bank for International Corporation
IPPs	Independent Power Producers
IOCs	International Oil Companies
MEM	Ministry of Energy and Minerals
MoFP	Ministry of Finance and Planning
OMCs	Oil Marketing Companies
MMscfd	Million standard cubic feet per day
MW	Megawatt
MWe	Megawatt Electrical
PBPA	Petroleum Bulk Procurement Agency
PURA	Petroleum Upstream Regulatory Authority

REA	Rural Energy Agency
REF	Rural Energy Fund
TANESCO	Tanzania Electric Supply Company
TCF	Trillion Standard Cubic feet
TGDC	Tanzania Geothermal Development Company
TPDC	Tanzania Petroleum Development Corporation
URT	United Republic of Tanzania
ZECO	Zanzibar Electricity Company

FOREWORD

This is the fourth issue of the Energy Sector Quarterly Digest. During the period under review, the sector saw various developments including; approval of the Ministry's budget for the Financial Year 2016/17, commencement of Kinyerezi – II (240MW) and Kinyerezi I – Extension (185 MW) gas fired power plants, completion of REA II Turnkey Project and commencement of the preparation for REA III Turnkey Project. Electrification and access levels recorded 41% and 58% respectively.

Regionally, Tanzania concluded the discussion with Uganda to build the crude oil pipeline from Hoima in Uganda to Tanga Port in Tanzania to transport crude oil to the international market. Tanzania being a net importer of petroleum products, the sharp drop in oil prices in the world market has reduced pressure on macroeconomic factors and consumers and producers' payment for products which in turn is likely to stimulate the country economic growth.

To effectively contribute towards achieving middle income country status by 2025, the Ministry of Energy and Minerals has continued to implement various national strategic projects as earmarked under BRN Initiatives. In addition, to shape the future direction of the energy sector and establish preconditions for attaining adequate, reliable and relatively affordable power supply and enhance private sector participation, the Ministry is implementing the Electricity Supply Industry Reform Strategy and Roadmap. It is my sincerely hope that the details provided herein will be informative and of value to both public and private sectors in decision making processes.

Prof. Justin. W. Ntalikwa
PERMANENT SECRETARY

TABLE OF CONTENTS

THE ENERGY DEPARTMENT	2
ABBREVIATIONS AND ACRONYMS	3
FOREWORD.....	5
TABLE OF CONTENTS	6
INTRODUCTION	7
THE ENERGY SECTOR GOVERNANCE	8
ENERGY POLICIES AND LEGISLATION	11
ENERGY SECTOR PROFILING	12
ENERGY DEMAND.....	14
KEY ENERGY SECTOR STATISTICS	17
KEY ENERGY SECTOR STATISTICS	17
KEY DEVELOPMENTS IN THE ENERGY SECTOR	19
THE ENERGY SECTOR GOVERNANCE.....	19
IMPLEMENTATION STATUS OF STRATEGIC PROJECTS.....	22
GLOBAL CHECKS.....	25
INVESTMENT OPPORTUNITIES	28
CHALLENGES	29
FUTURE OUTLOOK.....	30
IMPORTANT LINKS.....	31
APPENDICES	32
Appendix 1: ESI Reform Implementation Status (July, 2014 – June, 2016).....	32
Appendix 2. Summary of BRN Projects Implementation Status.....	37
Appendix 3: Energy Resources Potentials and Nation Grid.....	41

INTRODUCTION

The Energy Sector Quarterly Digest sets a platform for sharing information with stakeholders on key events that shapes the energy sector during a specific period. It aims at reducing information asymmetry among stakeholders by providing recent developments and statistics in a compact format.

The data used is drawn from the Ministry of Energy and Minerals (MEM), the Tanzania Electric Supply Company (TANESCO), the Tanzania Petroleum Development Corporation (TPDC), the Rural Energy Agency (REA), the Energy and Water Utilities Regulatory Authority (EWURA), the Petroleum Bulk Procurement Agency (PBPA), the Petroleum Upstream Regulatory Authority (PURA) and other Government Departments. The ESQD contains the following:-

- The Energy Sector Governance;
- The Energy Sector Situation Analysis;
- Key Developments in the Energy Sector;
- Energy Sector Statistics Update;
- Opportunities and Challenges in the Energy Sector; and
- Future Outlook.

Figures are used to highlight the main features of each topic at a quick glance. This report is for the period ended **30th June, 2016**.

THE ENERGY SECTOR GOVERNANCE

Key players in Tanzanian Energy Sector include: the Ministry of Energy and Minerals (MEM), the Ministry of Finance (MoF), the Tanzania Electric Supply Company (TANESCO), the Rural Energy Agency (REA), the Tanzania Petroleum Development Corporation (TPDC), the Energy and Water Utilities Regulatory Authority (EWURA), the Petroleum Upstream Regulatory Authority (PURA), the Tanzania Geothermal Development Company (TGDC), the Petroleum Bulk Procurement Agency (PBPA), International Oil Companies (IOCs), Oil Marketing Companies (OMCs), Financiers, Development Partners (DPs) and Private Sector.

MINISTRY OF ENERGY AND MINERALS

Responsibilities:

- Policy formulation
- Secure energy supply
 - Energy infrastructure improvement

EWURA

Responsibilities:

- Energy Regulator
- Technical and Economic regulation
 - Investment promotion
 - Advisor to Government

TANESCO

Responsibilities:

- Power Generation
- Power Transmission
- Power Distribution and Supply

Duties of these institutions are as follows:

- MEM provides overall policies, laws and strategies that guides the development and performance of the Energy Sector.

- MoFP is responsible for resource mobilization for implementation of projects in the Energy Sector.
- TANESCO is responsible for electricity generation, transmission, distribution and supply in Tanzania mainland and bulk supply to Zanzibar Electricity Company (ZECO).
- REA promotes and facilitates access to modern energy services in rural areas of Mainland Tanzania.
- TPDC is responsible for all activities related to exploration, development, production and distribution of oil and gas.
- EWURA is a regulatory authority responsible for electricity, water and mid-downstream petroleum and natural gas sectors.
- PBPA is responsible for coordination of importation of the petroleum products in the country.
- TGDC is responsible for geothermal exploration and development in the country.
- PURA is a regulatory authority responsible for upstream petroleum sector in the country.

THE DEPARTMENT OF ENERGY

The Department of Energy was established in 1985 to spearhead attainment of energy supply security in the country through prudent management of the Energy Sector and the resource. The Department therefore, seeks to:

- Ensure access to affordable and reliable energy supply by Tanzanians and promote environmentally friendly energy use;

- Ensure energy supply security by creating and maintaining a proper balance between demand and supply of energy in the country;
- Regulate the Energy Sector by developing effective policies, legislation and guidelines; encourage investment in the Energy Sector and ensure compliance with legislation;
- Promote effective and efficient energy service delivery by understanding stakeholder needs and improving strategies to meet such needs;
- Promote optimal use of the energy resources by developing sound policies, plans, technologies and legislation;
- Ensure that the use of energy resources is prudently done for the benefit of the present and future generations;
- Promotes access to modern energies by improving connectivity levels and providing affordable energy services and
- Promote local participation in the Energy Sector.

ENERGY POLICIES AND LEGISLATION

Policy Framework:

- The National Energy Policy, 2015;
- The Public Private Partnership Policy, 2009;
- The Standardized Power Purchase Agreement and Tariffs (<10MW) (2008);
- The Model Production Sharing Agreement, 2013; and
- The Model Power Purchase Agreement, 2015.

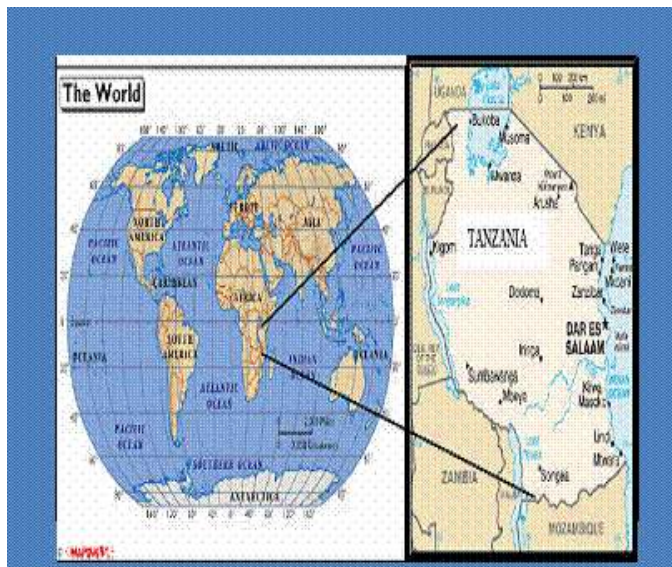
Legal and Regulatory Framework:

- The EWURA Act, 2001;
- The Public Private Partnership Act, 2010;
- The Petroleum Act, 2015;
- The Electricity Act, 2008;
- The Rural Energy Act, 2005;
- The Value Added tax, 1997 (As amended);
- The Income Tax Act, 2004
- The Occupational Safety and Health Act, 2003 and
- The Environmental Management Act, 2004.

ENERGY SECTOR PROFILING

ENERGY SUPPLY

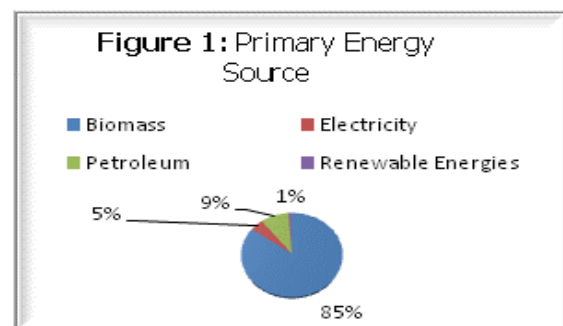
Tanzania has abundant indigenous energy resources composed of hydro, coal, natural gas; uranium, biomass, geothermal, tidal wave, wind and Solar.



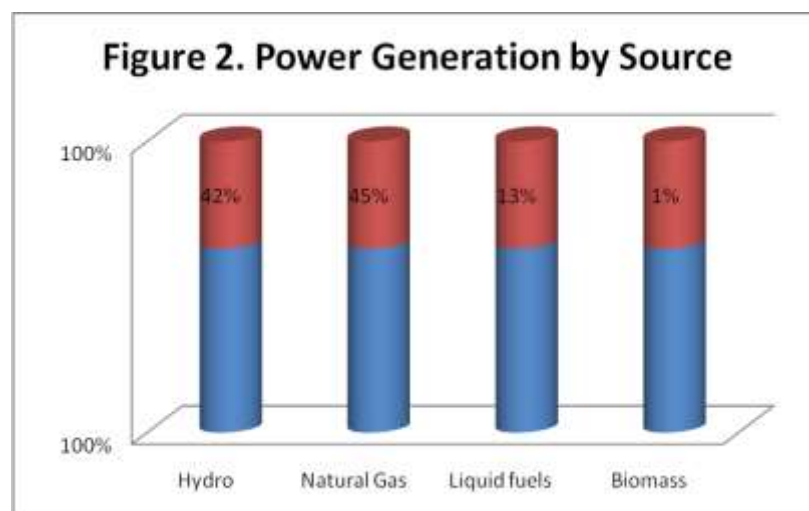
SOURCES:

- Natural Gas (GIIP): 57.27 TCF
- Coal Resource: est. 1.9 billion tons, 25% proven
- Hydro potential: 4.7 GW, 12% exploited
- Uranium deposits: est. 200 million pounds
- Wind sites speed measures: between 5 to 10m/s
- Geothermal potential: est. 5,000MW
- Solar insolation averages 200wp/m².

Figure 1 shows that, the national energy balance is dominated by biomass by about 85%. Other sources include: the petroleum (9%); electricity (5%) and renewable energies (1%). Figure 2 shows that, by June, 2016 total grid installed capacity¹ was 1,357.69 MW composed of hydro 566.79 MW (or 42%), natural gas 607 MW (or 45%) and liquid fuel 173.40MW (or 13%).



¹Exclude Isolated grids such as Somanga Fungu (7.5MW), Mtwara (18MW) and Others. It also exclude Mwenga Hydro (4MW)



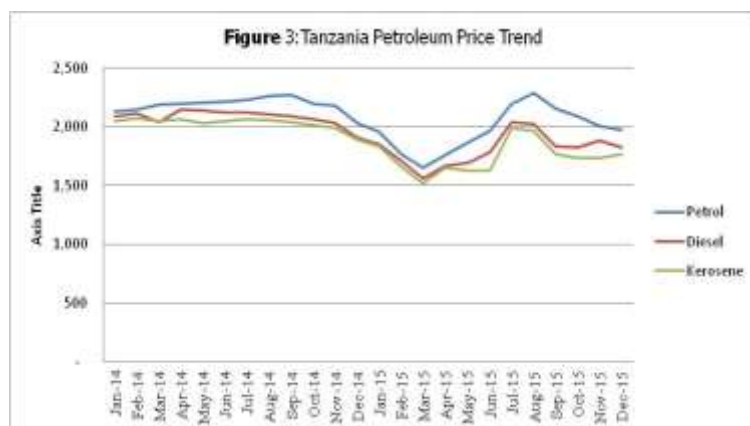
Power System Installed Capacity			Available at 30/6/2016
Station	No. of Unit	Installed Capacity	
Kidatu	4	204	100.00
Kihansi	3	180	145.10
Mtera	2	80	67.00
N/P Falls	2	68	38.59
Hale	2	21	7.94
Nyumba ya Mungu	2	8	2.85
Uwemba	3	0.84	-
Mwenga	1	4	-
Yovi	1	0.95	-
TOTAL HYDRO		566.79	361.48
Songas	UGT1-UGT6	189	183.44
UGP 1	12	102	85.30
TGP	5	45	41.00
UGP2	3	121	84.00
Kinyerezi 1	4	150	149.36
TOTAL GAS PLANTS		607	543.10
IPTL	10	103	-
DIESEL (TANESCO)	3	7.4	-
Nyakato Plant	10	63	-
TOTAL LIQUID FUEL PLANTS		173.4	-
TANWAT		1.5	-
TPC		9	-
TOTAL BIOMASS		10.5	-
SYSTEM TOTAL		1357.69	904.58

Table 1: Total Grid Installed Capacity

Small Independent Power Producers own two power plants namely TANWAT (1.5 MW) and TPC (9 MW) which are equivalent to 1% of total installed capacity in the grid. TANESCO also imports power from Uganda (8MW), Zambia (5MW) and Kenya (1 MW). TANESCO also owns and operates interconnected grid transmission line of the 220kV, 132kV and 66kV voltage connecting the major load centers.

In the quarter ending June 2016, the total installed capacity reduced by 10.4% (1,516 to 1,357.69 MW) due to retirement of Emergency

Power Producers (EPPs) such as Aggreko power plant and Symbion power plant at Ubungu and Tegeta respectively. Natural gas contribution to power generation has reduced by 2% from 47% in the last quarter to 45% in June, 2016 due to shut down of Symbion Ubungu 112 MW.



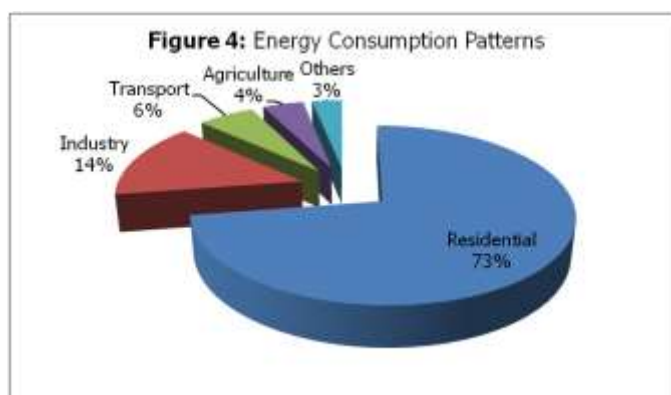
Tanzania is a net importer of the petroleum products which are used for power generation, transportation and industries. In the period of March to June, 2016 about 494,456,084.65 litres of petroleum products were

imported for domestic market. The import was composed of gasoil (51%), mogas (37%), and Jet- A1/ Kerosene (12%).

During the period under review and as shown in Figure 3 the petroleum products price dropped slightly. The decline in domestic market price is attributable to stability in exchange rate and the plunging oil price in the world market.

ENERGY DEMAND

Tanzania is estimated to be hosting about 53 million of which 75% lives in the rural areas. Its GDP is around US\$ 48 billion (December, 2015) with a GDP per capita of about US\$ 1,038. Over past years, on average GDP grew at 7% per annum while population was at 2.7%. To achieve the dream of being a middle income country by 2025 with a GDP per capita of about US\$3,000 per annum, Tanzania economy suppose to grow at about 10% per annum. This growth rate calls for availability of



adequate, reliable, and affordable energy supply.

The country daily electricity average demand is around 950 MW. The highest peak demand recorded in March, 2016 is 1,026 MW. Figure 4 shows energy consumption patterns to be composed of: residential (72.5%); industry (14.4%); transport (5.8%); agriculture (4.2%) and others (3.1%).

In June 2016, average electricity consumption per capita was 137kWh/year which is smaller compared to global consumption of 2500kWh and 550kWh per annum for Sub-Saharan Africa. In Tanzania the demand for electricity is on average growing between 10% - 15% per annum.

ELECTRIFICATION PROGRAMME

As part of initiative to support GoT to achieve its target of connection levels to 60 percent by 2025 and more than 75 percent by 2033 TANESCO has reduced electricity Tariffs by 2%. Rural Electrification Program Phase II Project implementation started in Financial Year 2013/14 and was planned to be completed in 24 months. However, due to delay disbursements to REA and payments to contractors, wayleave acquisition, late delivery of imported line materials, the time to complete all projects was extended to 30th June, 2016. The project involved construction of six (6) substations; 14,734 kilometers of medium voltage (MV) lines; installation of 3,521 distribution transformers; construction of 9,088 kilometers of Low Voltage (LV) lines; and targeting to connect 257,000 initial customers.

As of 30th June, 2016 construction of the six substations has been completed to 100 percent and commissioned. These substations are: Kasulu (3MVA), Kibondo (3MVA), Kigoma (5MVA), Mbinga (3MVA), Ngara (3MVA) and Tunduru (3MVA). Electrification of 13 un-electrified District Headquarters has been completed. During the period under review two sessions on Solar PV and Small Hydro Power (SHP)

workshop was conducted at Mkomaindo Health Institute at Ruangwa District in Lindi; and Nazareth Roman Catholic Centre in Njombe Regions respectively. The Solar PV training involved a total of 40 participants (4 women and 36 men Artisans/Engineers) whereas, 32 participants, (6 women and 26 male) participated in the SHP training. High tension works have been completed by 94.2 %, low tension works by 87.5%, transformer installation by 82.3% and a total of 100,575 which is about 39.1% of the targeted initial customers have been connected. Overall project completion as of 30th June, 2016 was 91.5%.

KEY ENERGY SECTOR STATISTICS

KEY ENERGY SECTOR STATISTICS

INDICATOR	VALUE			
	30.09. 2015	31.12.2015	31.3.2016	30.6.2016
Total Population (million - EST)	50	53	53	53
Rural Population (% Total Population)	75%	75%	75%	75%
Population Growth	2.7%	2.7%	2.7%	2.7%
GDP (US\$ Billion)	48	50	50	50
GDP Growth Rate	7%	7%	7%	7%
GDP Per Capita (US\$)	1,038	1,038	1,038	1,038
Headline inflation	6.4%	6.8%	6.7%	5.6%
Total Grid Installed Capacity	1,246.24 MW	1,516 MW	1,461.69 MW	1,357.69 MW
Total Off- grid Installed Capacity	76.43 MW	76.43 MW	76.43 MW	76.43 MW
Generation mix (% Hydro/thermal/Liquid fuel)	45/33/22	37/47/16	39/49/12	42/45/13
Imported Electricity	14MW	14MW	14 MW	14 MW
Total IPPs Installed Capacity	292 MW	412 MW	412 MW	307.45 MW
Total EPPs Installed Capacity	70MW	70MW	0 MW	0 MW
TANESCO Total Capacity	884.24MW	1,034MW	1,033.40 MW	1,050.24 MW
Maximum Power Demand	934.62MW	988MW	1,026.02 MW	1,026.02 MW
Electricity Connection level	30%	30%	30%	41%
Electricity Access level	40%	40%	40%	58%
Total Customers Connected with electricity services	1,409,966	1,648,386	1,697,002	1,772,221
Ration of No. of customers per employee	229	252	251	250
No. of Customers Connected in during the Quarter	67,868	68,630	48,616	75,219
Electricity Consumption per Capita per annum	108kWh	108kWh	108kWh	137kWh
No. of Districts Electrified	120	124	125	127
% of Districts not Electrified	10%	10%	2%	0%
No. of Villages in the Country	15,209	15,209	15,209	12,268
No. of Villages Electrified	4,718	5,157	5,560	4,395
%. of Villages not Electrified	68.98%	67%	63.4%	64.2%
Max. Transmission Voltage	220kV	220kV	220 kV	220 kV
Total losses – Technical and None - Technical	18%	17.47%	17.38%	17.26%
Total Commercial losses - %	8%	8%	8%	8%
Average Electricity Tariff per Kwh (US\$ Cents)	16	16	14	14
TANESCO Revenue Collection Efficiency	96%	93%	96%	97%
Renewable Energy installed Capacity (on/off grid)	78MW	78MW	78MW	80MW
Solar Installed Capacity	5.3 MWp	5.3 MWp	5.3MWp	5.3MWp
Co-Generation Installed Capacity	37MW	37MW	37MW	37MW
Number of PSAs signed	25	25	25	26
Number of Active PSAs	21	19	13	14
Explorable Potential Area	534,000Km ²	534,000Km ²	534,000Km ²	534,000Km ²
Explored Area	159,000Km ²	159,000Km ²	159,000Km ²	177,374Km ²
% Explored Area Total Potential	30%	30%	30%	33.2%

Number of active Exploration Companies	16	14	10	10
Number of Drilled wells	90	91	92	92
No. of wells Discovered	61	61	61	61
% of wells discovered and appraised with gas	68%	68%	66%	66%
Total Natural Gas Discovered (GIIP)	55.08 TCF	55.24TCF	57.25TCF	57.27TCF
Number of dry wells	29	29	31	31
Number of producing gas wells	12	12	12	10
Total Recoverable Natural Gas (est.70% of GIIP)	38.56TCF	38.56TCF	38.56TCF	38.56TCF
Daily Natural Gas Production - Songo Songo (MCFT)	86 to 92	86 to 92	86 to 92	64 to 85
Daily Natural Gas Production - Mnazi Bay (MCFT)	60	50	55	50
Quarterly Natural Gas Produced –Songo Songo (mmscfd)	7,769.30	8,118.20	8,264.48	6,624.2
Quarterly Natural Gas Produced - Mnazi Bay (Mmscfd)	1,192.37	4,186.36	4,026.32	4,642.7
No. of Industrial Customers using Natural Gas	40	40	40	37
No. of Power Plants run on Natural Gas	5	6	6	5
No. of Institutions using Natural Gas	3	3	3	3
No. of Motor vehicles using Natural Gas	35	35	35	35
No. of Households using Natural Gas	70	70	70	70
Total Volume of Petroleum Imported per Annum - Litres	4,714,866,825	5,163,565,034	1,230,970,837*	1,230,970,837*
Total Petroleum Imports during the quarter in Q3 of 2016 - MT	1,190,440	1,167,727	979,243	979,243
% of Petroleum Import For Local Market - MT	52%	52%	47.53%	47.53%
% of Petroleum Import For Transit - MT	48%	48%	52.47%	52.47%
No. of Licensed Oil Wholesalers	88	88	95	95
No. of Licensed Oil Retailers	990	990	1,071	1,075
No. of Licensed LPG importers	6	6	7	7
No. of Licensed Consumer Installation	2	2	6	8
No. of Licensed of Lubricant	8	8	12	12
No. of Licensed Bunkering	2	2	2	2
No. of Licensed Storage	1	1	1	1
Total Annual of LPG imported (MT) based on 2016 imports	65,611	72,627	19,248*	30,827*
Total Annual LPG imported (MT)	18,275	19,857	19,248	19,221

* 2016 import

KEY DEVELOPMENTS IN THE ENERGY SECTOR

Key developments in the Energy Sector include assessment of Energy Sector Governance and Implementation Status of Strategic Projects.

THE ENERGY SECTOR GOVERNANCE

The governance in the Energy Sector entails Institutional set Up, Legal and Regulatory Frameworks.

- **Electricity Supply Industry Re-organization:** In June 2014, GoT approved the Electricity Supply Industry Reform Roadmap and Strategy 2014 - 2025. The reform aims at improving efficiency, quality of services, promote availability of affordable and reliable power supply, stakeholders' satisfaction, enhancing transparency and competition and reducing government subsidies burden to the industry. The Roadmap envisages unbundling TANESCO into separate generation, transmission and distribution companies over a period of 11 years. The Implementation Status Report is provided in **Appendix 1**.
- **PURA Establishment Progress:** On 24th February the PURA Interim Committee was formulated to execute PURA functions as provided for in Section 12 of the Petroleum Act, 2015. The committee is also charged to prepare necessary documents for making PURA operation. As of 30th June 2016, PURA Committee has prepared the following documents: PURA establishment Roadmap; Draft PURA framework and organisation structure; Draft PURA scheme of Service; Draft PURA recruitment strategy; Draft PURA financing strategy; Draft PURA Budget for 2016/17; Draft PURA annual Administrative Levy and regulations; Draft PURA (Fees and charges) Rules; Draft PURA Strategic Plan; Draft PURA Salary Structure and Scale; Draft PURA financial

Regulation; and PURA Board of Directors recruitment process started.

- **The National Energy Policy, 2015:** The policy is a result of merging several policies such as: 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. Draft National Energy Policy 2015 Implementation Strategy has been developed and expected to be in use at the end of first quarter of 2016/17.
- **Updates on LNG Project:** In November 2015, TPDC finalised acquisition of land for a planned Liquefied Natural Gas (LNG) plant. The LNG facility is planned to be located at Likong'o village in Southern Tanzania town of Lindi. TPDC was issued with a title deed for 2071 hectares of land set aside for the construction of LNG facilities. Key players in the LNG project include TPDC, Royal Dutch Shell/BG Group; Statoil, ExxonMobil and Ophir Energy. Currently the GNT team has already formed to fast track negotiation for Host Government Agreement (HGA).
- **Exploration along East African Rift Basin:** TPDC completed acquisition, processing and interpretation of Airborne Gravity Gradiometry along Eyasi-Wembere basin with the intention to explore the rift basins with similar geological setting to Albertine and Turkana basin in Uganda and Kenya.
- **Ruvu Basin Gas Discovery:** Exploration of Petroleum in Ruvu basin lead to discovery 2.17TCF of natural gas in Mambakofi one. Dodsall through consultants completed post-well studies with the aim to integrate well information with existing seismic data to increase geological understanding. Currently, Dodsall is preparing appraisal program for Mambakofi-1 location. This

discovery makes the total gas in place to rise from 55.08 TCF to 57.25 TCF

- **Songo Songo Gas field Development:** In October 2015, Pan African Energy Tanzania Limited (PAET) signed a loan facility worth US\$60 million with International Finance Corporation (IFC) to be used for development of Songo Songo gas field. After completion of work-over for the existing production wells SS-5, SS-7 and SS-9 the field productive capacity increased from approximately 83 MMscfd to about 150 MMscfd. In December, 2015, PAET commenced drilling a new production well SS-12, which is expected to be completed by mid-January 2016. When the programme is completed the field is expected to produce about 190 MMscfd, which would both fill the existing Songas infrastructure and provide additional gas volumes to the National Natural Gas Infrastructure Project.
- **Mnazi Bay Gas Development Project:** An up to 10mmscfd processing plant transporting in a 27km, 8" pipeline from Mnazi Bay to Mtwara Municipality is in place. The MB -1 well is supplying 2mmscfd to 18MW capacity power plant at Mtwara. In August, 2015, Maurel and Prom drilled MB-4 and completed connecting the gathering station located at MB-3 to collect gas from MB-2, MB-3, MB-4 and MSX-1 wells. This development makes Mnazi Bay to contain five wells.
- **East Africa Crude Oil Pipeline Project (EACOP):** On 12th October 2015, the Government of Uganda and Tanzania with Tanzania National Oil Company TPDC and the representative of Lake Albert up streamer Investors (TOTAL) signed a Memorandum of Understanding (MoU). The MoU signed would see the parties involved win the development and constructions of East Africa Crude oil Pipeline in Tanzania route from Hoima oil fields inlet to Tanga port outlet facilities. The announcement was made officially on 23th April, 2016 during the East Africa 13th

Summit on the Northern Corridor Integrations Projects held in Kampala Uganda. The Cross border Pipeline project with an estimated investment value of USD 3.5 billion will cover 1443 kilometres with 80% distance transiting through Tanzanian Land and only 20% covering Ugandan land. The project is going to be implemented by Private led up streamer investors from TOTAL, TULLOW and CNOOC oil companies. The project duration is estimated to be more than three years and the first oil to be transported is expected to be before year 2020. The project will open an opportunities for the two governments to initiate value corridor infrastructure development projects which will link land locked countries of Uganda, Rwanda, Burundi and DRC with Port outlet of Tanga. The existence of value corridor along the route would enable social economic development of the society alongside infrastructure corridor. The Project implementation schedule and activities is currently ongoing starting with laying down legal and institutions framework, Commercial, land and ports issues. The actual constructions expected to start after Front End Engineering and Design (FEED) is completed, which is projected to be by end of September 2016. The Project is implemented on fast tracking mode to enable it transport its first drop of oil before year 2020.

IMPLEMENTATION STATUS OF STRATEGIC PROJECTS

In 2013, BRN Initiative was launched to spearhead implementation of twenty nine (29) energy strategic projects made up of: seven power generation projects; seven power transmission projects; fourteen power distribution projects; and one Natural Gas Infrastructure project. However, implementation of these projects is constrained by availability of financial resource. BRN Phase 1 has come to an end on 30th June, 2016. The BRN program has worked well so far despite challenges faced in terms of resource mobilization. The Energy Department of the Ministry of Energy and Minerals has taken over and

continue to monitor and expedite implementation of priority energy projects which were envisaged in the BRN. The Department will also continue to work closely with MDAs and other stakeholders to address challenges to ensure the intended outcomes are achieved on time for the national benefits. At the end of BRN Phase 1, the implementation status of some of the projects is as follow:

- a) Construction of 60 MW HFO Nyakato Power Plant was completed and inaugurated by His Excellence President Dr. Jakaya Mrisho Kikwete in September, 2013;
- b) Construction of 542 km Natural Gas Pipeline from Mtwara and Lindi to Dar es Salaam and Gas Processing Plants at Madimba (Mtwara) and Songo Songo (Lindi) was completed and inaugurated in October 2015 by His Excellence President Dr. Jakaya Mrisho Kikwete;
- c) Kinyerezi I (150MW) is 100% completed and is in full operation. The Power plant was inaugurated by HE President Dr. Jakaya Mrisho Kikwete in October 2015;
- d) Kinyerezi II (240MW), a loan from Japan Bank of International Cooperation (JBIC) which is 85% of total cost was secured. The Government contribution of 15% of project cost (USD 51.6 million) has been disbursed TANESCO and the Contractor. The foundation stone for the project was laid in March 2016 by His Excellence President Dr. John Pombe Magufuli. The project is expected to be completed by 2018 and contribute the installed capacity in the national grid;
- e) Kinyerezi I – Extension (185 MW): The contract signed on 19th April, 2016 by TANESCO and Jacobsen As from Norway. The Contractor paid 13.6 million out of USD 20.6 million as advanced payment and the contractor started site mobilization.

- f) Iringa – Shinyanga 400kV Backbone Transmission Investment Project is as follows: Lot I and Lot 3 are 100% complete inspected and commissioned operating at 200kV. Substation works are as well completed by 100%;
- g) Electricity V Package III Project is 100% complete whereby construction of Medium Voltage (MV) and Low Voltage (LV) lines, installation of distribution transformers and street lights completed by 100% with connection of 4,251 customers by 30th June, 2016; and
- h) A total of 672,951 customers have been connected to electricity for three years. That is connection of 193,673 customers to both on grid and off-grid electricity against the target of 150,000 customers for 2013/14; connection of 199,836 against the target of 175,000 customers for 2014/15; and connection of 279,442 against target of 250,000 customers for 2015/16. This is equivalent to 117% of the set target of 575,000 customers in three years.

The detailed implementation report on BRN projects is provided in **Appendix 2.**

GLOBAL CHECKS

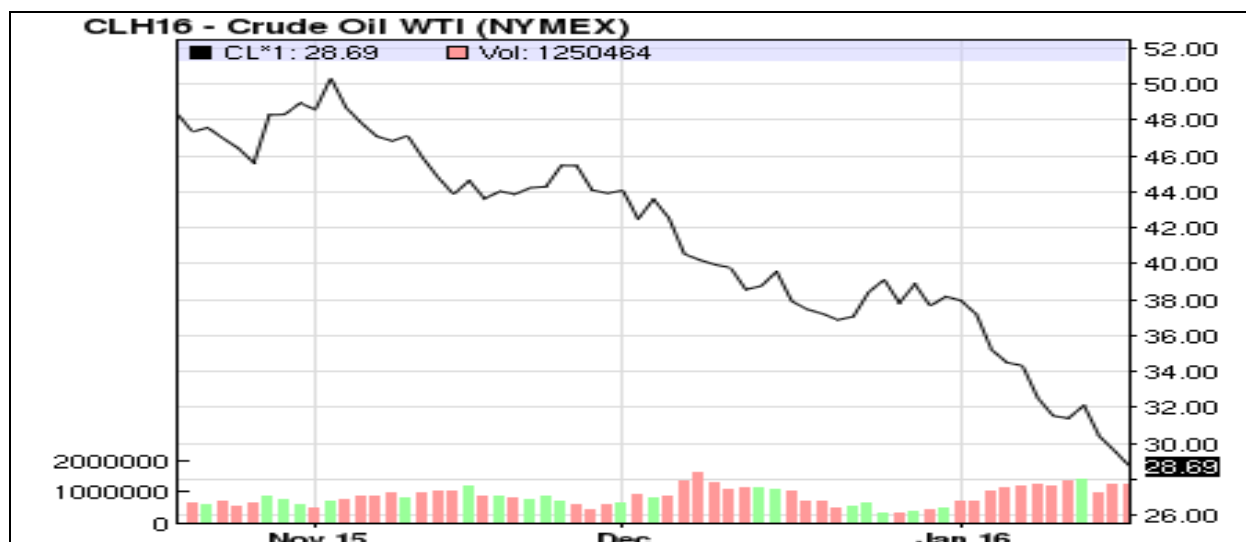
COP21 Paris Agreement

In 20th April, 2016 more than 100 countries signed the universal global climate deal and Tanzania signed too. The agreement aims at reducing greenhouse gas emission and alleviating the threat of dangerous climate change. The agreement limits global warming to well below 2°C and is due to enter into force in 2020. Nations have agreed to work together towards a low carbon future by scaling up climate finance up to US\$ 100 billion a year by 2020. Tanzania is likely to benefit from these initiatives by promoting renewable energy resources.

The Tumbling of Oil Prices in the World Markets

Global oil prices have fallen sharply over the past seven months. As shown in Figure 5, between September to December, 2015 and in the period of February and January the crude oil price slightly increased in the world market from US\$40/bp to US\$42/bp. The reasons for include weak demand due to insipid economic growth especially in China, surging US oil and gas domestic production and global geopolitical tensions.

Figure 5: Global Crude Oil price trends



Source: <http://www.nasdaq.com/markets/crude-oil.aspx>

Falling oil prices have created a windfall of lower energy costs for oil importing countries and huge implications for the oil exporting economies. While it is good news for the consumers, the magnitude and speed at which the oil price is declining triggers financial strains to IOCs. This advent has pushed IOCs to embark on cost cutting strategies which are slowing down of petroleum exploration activities worldwide, Tanzania without exception.

In addition, global oil prices drop have pressed African's oil-exporters such as Nigeria and Angola to revise their budgets by adjusting the oil price assumption and cutting down spending. Public spending cuts and falling investment point to a weaker economic outlook for the oil-exporting countries. Despite falling price trends in the world market, Eastern Africa countries are still working on their programmes to develop the discovered resources although at a slow pace as follows:

- **Tanzania:** In November, 2015 TPDC acquired a land for LNG construction to commercialize about 55 TCF of natural gas. The land is located at Likong'o in Southern Tanzania town of Lindi.
- **Kenya:** In 2012 Kenya discovered oil at tertiary rift basin near Lake Turkana with about 600 million barrels of recoverable oil.

Some exploration activities are still going on in the Lamu and Anza Basins.

- **Uganda:** In 2007, Uganda discovered oil in Albertine Rift Valley near Democratic Republic of Congo with about 3.5 billion of barrels of recoverable oil. Uganda plans to construct a refinery with capacity of 30,000 bpd and gradually rising to 60,000 bpd.
- **Mozambique:** Mozambique discovered the natural gas of more than 112 TCF in the offshore Ruvuma Basin. Mozambique plans to build LNG plants for gas export and is now mobilizing necessary resources for infrastructure development.

INVESTMENT OPPORTUNITIES

- **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 Corridor transportation pipeline; Dar es Salaam via Mwanza and Kigoma Petroleum Pipeline; Mtwara, Lindi, Pwani and Dar es Salaam regions distribution; and LNG and Petrochemical facilities.
- **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.
- **Renewable Energy Sub-sector:** Development of Renewable energies mainly from solar, geothermal, wind and biomass is promoted. Investment in the manufacturing of renewable energies equipments in Tanzania is also encouraged.

CHALLENGES

The Energy Sector faces numerous challenges including the following:

- Creating a financially and commercially viable sector
- Financial resource constraints for infrastructure expansion
- Attracting more private sector investments to the sector
- Expansion of access to electricity
- Increasing power supply security and reliability
- Reducing technical and non- technical losses
- Improving TANESCO financial condition; and
- Inadequate resource to fund Energy Sector reforms.

FUTURE OUTLOOK

Tanzania is planning to be Eastern and Central Africa regions power hub. Tanzania is planning to embark in power trading with neighboring countries including Zambia, Malawi, Rwanda, Burundi, DRC, Kenya and Uganda.

Power trading agenda is implemented by Tanzania participating in the construction of regional power interconnections linking North and South such as the Eastern Africa Power Pool (EAPP) and the Southern Africa Power Pool (SAPP). These interconnections provide opportunities for power trading in the region hence attaining security of supply and system stability.

IMPORTANT LINKS

- Ministry of Finance (<http://www.mof.go.tz/>)
- Energy and Water Utilities Regulatory Authority (www.ewura.go.tz),
- Tanzania Electric Supply Company Ltd (www.tanESCO.co.tz),
- Tanzania Petroleum Development Cooperation (www.tpdC-tz.com),
- Petroleum Importation Coordinator Ltd (www.picltz.com)
- Tanzania Investment Centre (www.tic.co.tz), and
- Rural Energy Agency (www.rea.go.tz).

The Permanent Secretary,
Ministry of Energy and Minerals,
5 Samora Machel Avenue, P.O. Box 2000,
11474, Dar-es-Salaam, Tanzania.
Tel: +255 22 2117156/9
Fax 255-22-2120799
E-mail: ps@mem.go.tz
Website: www.mem.go.tz

APPENDICES

Appendix 1: ESI Reform Implementation Status (July, 2014 – June, 2016)

S/N	ACTIVITY	MILESTONE	LEAD	STATUS	REMARKS
1.	Establish a Task Force with mandate to monitor the implementation of the Roadmap	Formation of Tanzania Electricity Supply Industry Reform Team by August, 2014	MEM	Completed	In August, 2014 the Task Force established
2.	Establish a Transformation and Change Management Team (TCMT) at TANESCO to manage the reform process	Transformation and Change Management Unit (TCMT) at TANESCO by August, 2014	TANESCO	Completed	In September, 2014 the TCMT established.
3.	Improve TANESCO financial performance	Developing technology based Standard Power Purchase Agreement (PPA) model and Grid Codes by September, 2014	Regulator	Completed	In August, 2015, seven model PPA's were developed for Natural gas, Hydro, Coal, Wind, Solar, Geothermal and Oil.
		Retirement of EPPs by December, 2014	MEM	Implemented	<ul style="list-style-type: none"> ▪ Symbion (112MW) as EPP retired in September, 2014; ▪ Aggreko (100MW) as EPP retired in October, 2014; and ▪ Aggreko 20MW and 50MW contracts ceased on 15 February, 2016 and 20 March, 2016 respectively.
4.	Initiate valuation of TANESCO's generation, transmission and distribution assets	Prepare for verification and transfer of assets and liabilities for separation of generation, transmission and distribution	TANESCO	Not implemented	<ul style="list-style-type: none"> ▪ Investment and Landmaster appealed against the tendering process for procurement of a consultant. ▪ On 4th November, 2015 PPRA ruled in

S/N	ACTIVITY	MILESTONE	LEAD	STATUS	REMARKS
		assets by December, 2014			<p>favour of the applicant and called for re-tendering.</p> <ul style="list-style-type: none"> TANESCO Board approved bidders for the consultant services where Request for Proposal (RFP) already issued to bidders and deadline for submission is by 22 July, 2016.
5.	Capacity building to MEM, TANESCO, REA and EWURA	<p>Initiate training to support the new market structure needs by January, 2015</p> <p>Carry out human capital needs assessment by March, 2015</p>	MEM	Not implemented	<ul style="list-style-type: none"> Training is ongoing based on traditional Training Programme Procurement for TNA consultant has been launched under World Bank support to prepare Training Programme for smooth ESI-RSR implementation; TNA Contract awarded; and 11th July, 2016 assignment commenced expected to be completed within six month. However, tentatively by October, 2016 the assignment expected to be completed.
6.	Establishment of market information desk	Establish market information desk at MEM by March, 2015.	MEM	Completed	Market information desk established were Eng. Samuel Mgweno to lead Market information desk at MEM with assistance of Eng. Erick Rugabera.

S/N	ACTIVITY	MILESTONE	LEAD	STATUS	REMARKS
7.	Improve TANESCO financial performance Continue	Cleaning-up of TANESCO Balance Sheet	TANESCO	Ongoing	<ul style="list-style-type: none"> To improve collection efficiency TANESCO is rolling out a program of installing prepaid meters to its customers; The Government electricity bills commenced being paid centrally through Treasury.
		Establish an Electricity Infrastructure Procurement Coordinator (EIPC) by June, 2015	TANESCO	Not completed.	<ul style="list-style-type: none"> EWURA completed the study for the EIPC establishment. TANESCO awaited to provide recommendations on the best place where EIPC to be instituted. During transition period, TANESCO Planning and Investment Department is undertaking the engagement.
		Ring fence the core functions into strategic business units (SBU) by December, 2015.	TANESCO	Ongoing	<ul style="list-style-type: none"> Regions and power plants already ring-fenced and provisional statements are being generated. Ring-fencing of Strategic Business Units namely generation, Transmission and Distribution awaits completion of valuation exercise.
		Ring fence Distribution (Dx) into several zones by December, 2015.	TANESCO	On progress	<ul style="list-style-type: none"> Seven zones have been established and commenced submitting provisional financial statements. Procurement of Goods –Tsh. 300Million; Works-

S/N	ACTIVITY	MILESTONE	LEAD	STATUS	REMARKS
					<p>Tsh.500Million; Consultant-Tsh. 100Million and Non-consultant-Tsh. 300Million commenced;</p> <ul style="list-style-type: none"> Recruitment commenced to certain levels.
8.	Carry out management information system audit	Integrate management information system for integrated resource planning by June, 2015	TANESCO	Not completed	<ul style="list-style-type: none"> Delloite & Touché engaged for the exercise with kick off meeting being held on 1st October, 2015; Terms of Reference to procure consultant completed; Bid documents for sourcing the contractor in progress expected to be finalized by June, 2016.
9.	Reviewing of the Electricity Act, 2008, in particular, Section 41(6)	Prepare proposal to amend section 41(6) of Electricity Act. 2008 by June, 2015	MEM	Implemented	Section 41(6) of the Electricity Act, 2008 repealed through Section 56 of the Tanzania Extractive Industries (Transparency and Accountability) Act. 2015.
10.	Continue improving the state owned utilities financial performance	Improve operational and financial performance by March, 2015	TANESCO	Ongoing	<ul style="list-style-type: none"> TANESCO outstanding arrears estimated at Tshs. 763.6Billion as of May, 2016; and TANESCO outstanding electricity debt estimated at Tshs. 239.9 Billion as of April, 2016.
		Improving financial management and accountability for each zone by June, 2015	TANESCO	Implemented	Each zone manage it own budget, have power to procure and recruit up to certain limits

S/N	ACTIVITY	MILESTONE	LEAD	STATUS	REMARKS
11.	Review tariff structure and develop Grid Codes to guide transmission and distribution operations	Establish rules for no-discriminatory access to transmission network (Grid Code) by December, 2015	Regulator	Implemented	<ul style="list-style-type: none"> Electricity (Tariff Setting) Rules 2016 in place and Grid Codes for transmission network developed; Draft Grid Codes for distribution network developed;
12.	Designate the Grid Control Centre (GCC) as an Independent System Operator (ISO)	Designate GCC as ISO by December, 2015.	Regulator	Ongoing	<ul style="list-style-type: none"> Draft Electricity System Operations Corporation (Establishment) Order in place; The Electricity (System Operation Services) Rules 2015 in place; The Electricity System Operator Licence Template in place.
13.	Introduce third party access	Develop wheeling charges mechanism by Jan, 2016	Regulator	Ongoing	The Electricity (Tariff Setting) Rules 2013 Amendment I to allow for transmission wheeling charges in place.
14.	Designate Independent Market Operator (IMO)	Establish Independent Market Operator (IMO) by Mar, 2016	Regulator	Ongoing	<ul style="list-style-type: none"> Electricity Market Operator Licence Template 2016 in Place; and Electricity Market Operations Services Rules, 2016 in place.

Appendix 2. Summary of BRN Projects Implementation Status

S/N	NAME	USD - Million	IMPLEMENTATION STATUS
			As 30.06.2016
1	Mwanza (HFO), 60MW	59	100% funded by GoT and Commissioned in 2014
2	Kinyerezi – I (150MW)	183.3	100% funded by GoT. Construction completed, commissioned and operating fully since March 2016.
3	Kinyerezi-II, 240MW	334	<ul style="list-style-type: none"> 85 % Loan from JBIC and SMBC amounting to USD 292 million secured Loan agreement with JBIC signed in March, 2015. GoT contribution of 15% disbursed February 2016 Ground Breaking Ceremony done by H.E President Dr. John P. Magufuli in March 2016. Site clearance and mobilization on going Construction of temporary office is ongoing
4	Kinyerezi I – Extension, 185MW	187.9	<ul style="list-style-type: none"> Contract signed on 19th April 2016 by TANESCO and Jacobsen AS Contractor paid USD 13.6 million out of USD 20.6 million as Advance payment and started site mobilization
5	Kinyerezi III, 300MW	369.8	<ul style="list-style-type: none"> JV arrangements with Shanghai Electric Power Company of China signed. Feasibility study submitted and approved by Minister for Finance and Planning Treasurer Registrar has approved the project. PPA negotiations second round completed 15th June 2016 waiting approvals Process of selling 30% shares has been initiated including floating the shares to public Project Implementation Agreement reviewed by stakeholders Completion expected end of 2019
6	Kinyerezi IV, 300MW Power generation using natural gas (Combined Cycle)	USD 400 million	<ul style="list-style-type: none"> JV arrangements with China Power Investment Company completed. Project Concept Note to be tabled to TANESCO's Board of Directors for discussion and approval. Review of feasibility study is ongoing Expected commissioning end of 2019.
7	Singida Geo Wind Phase I, 50MW	USD 136 million	<ul style="list-style-type: none"> Land acquired, ESIA certificate issued and Compensation completed NDC looking for financing options PPA negotiation is ongoing Expected completion in December 2017
8	Kilwa Energy Phase I (Somanga Fungu), 210MW	USD 365 million	<ul style="list-style-type: none"> PPA finalized Addendum to Implementation Agreement – Comments received from MEM are under review by Lenders. Power Purchase Agreement Direct Agreement – Executed with TANESCO on 14 August 2015 Gas Supply Agreement Direct Agreement – Final document provided to TPDC for their review and execution Shareholder Agreement with TANESCO – Under review by TANESCO Gazetting of incentives approved by NISC pending with Tanzania Investment Centre Phase I to be commissioned by end, 2017
9	Iringa - Shinyaga (Backbone Transmission), 400kV, 690km	USD 441.13 million	<ul style="list-style-type: none"> Iringa – Dodoma (Lot 1): construction completed 100% and the line commissioned Dodoma-Singida (Lot 2): Forecast: 100% Actual: 85% Singida – Shinyanga (Lot 3): Forecast: 100% Actual: 99.3% Substations (Lot 4): Forecast: 100% Actual: 98% to be commissioned by September, 2016
10	North East Grid Kinyerezi-Chalinze- Segera -Arusha,	USD 692.7 million	<ul style="list-style-type: none"> Negotiations between the Ministry of Finance and EXIM bank of China completed (Exim Bank of China USD 588.79 and GoT USD 104.21) Exim Bank of China and MoFP agreed to sign the Loan Agreement with disbursement schedule to be done in three financial years ESIA study

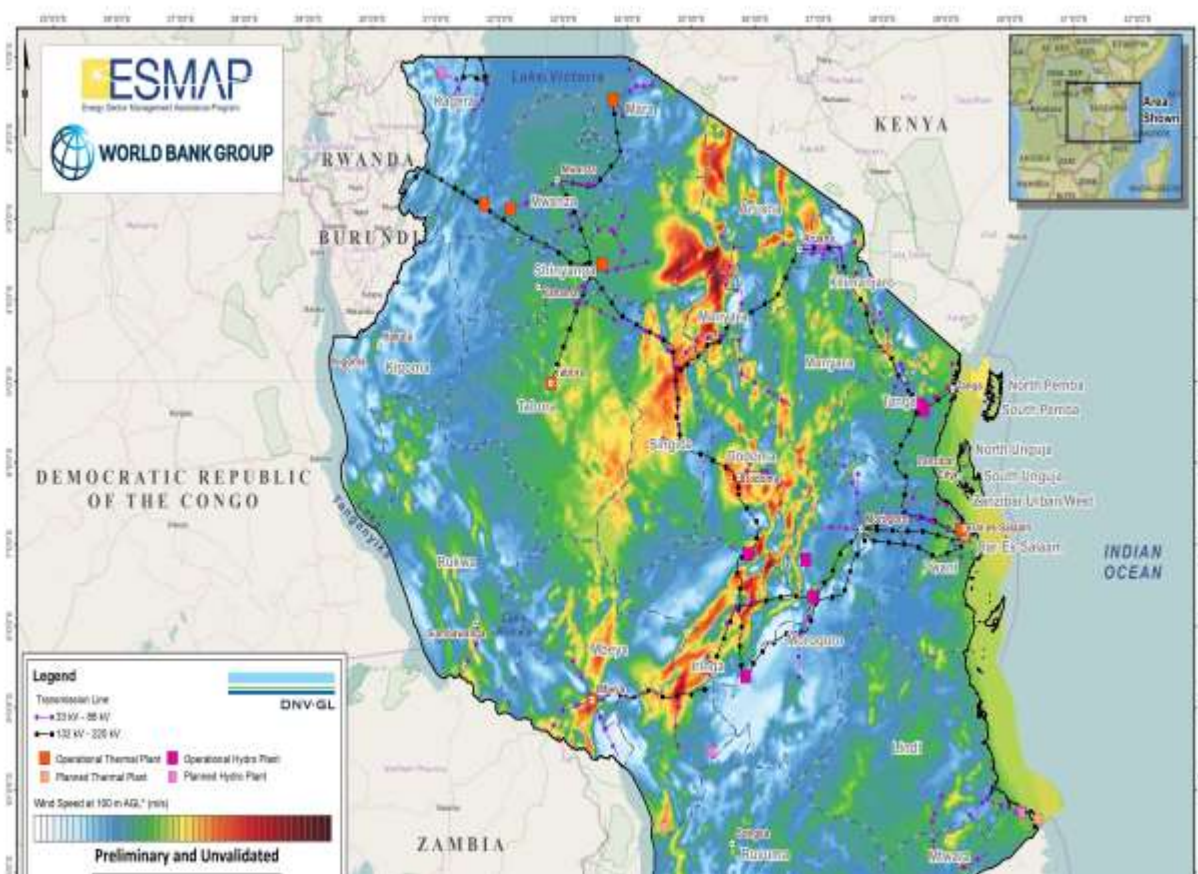
S/N	NAME	USD - Million	IMPLEMENTATION STATUS
			As 30.06.2016
	Transmission 400kV, 764km		completed. ▪ To be commissioned by June, 2018
11	Makambako – Songea, Transmission Line 220kV	USD 91.43 million	▪ 580km site clearance completed, ▪ Contractor for Distribution sub-project on site and poles installation for MV and LV ongoing ▪ Contractor for Transmission sub-project has mobilized and detailed survey ongoing ▪ the project to be commissioned by June, 2017
12	North West Grid Transmission (Mbeya, Sumbawanga, Kigoma, Nyakanazi), 400kV 1,148km	USD 664 million	▪ Phase I (Mbeya- Sumbawanga) feasibility study upgrade to 400kV completed ▪ ESIA study completed, Upgrading of 220kV feasibility study to 400kV level ongoing from Sumbawanga – Mpanda – Kigoma - Nyakanazi. ▪ Soliciting financing from AfDB and EDCF of Korea to finance Nyakanazi – Kigoma part (USD 87 million) ▪ To be Commissioned by September, 2019
13	Transmission Singida - Arusha - Namanga, 400kV, 414.4km	USD 244.375 million	Procurement ▪ Request for Proposal (RFP) issued and contract for provision of consultancy services was signed between TANESCO and M/s GOPA International Energy Consultant from Germany on 28 th April 2016 and initiation for Advance Payment on progress Transmission line (Lot T1, T2, T3 and K1): On 23 rd May 2016 landers gave No-Objection for TANESCO to proceed with contract negotiations for Lot T1, T2 and T3. ▪ Substation Lot T4: Bid evaluation report submitted to Landers for No-Objection on 27 th May 2016. Financing ▪ Loan Agreement between GoT and JICA signed in January 2016. For AfDB Loan Agreement signed on 29 th April 2015. ▪ Rural Electrification: Bid documents for works under review for advertisement.
14	Transmission Chalinze – Dodoma, 400kV, 350km	USD 176 million	Feasibility Study and Conceptual Design: ▪ The Consultant has submitted to TANESCO, Line Route Optimization Report and ESIA Review Report. TANESCO is reviewing the submitted reports for approval; ▪ The project progress is as follows: ▪ Technical analysis of optimum transmission option is completed. Submitted for review and approval. ▪ Review of ESIA report submitted by TANESCO is completed. Submitted for review and approval. ▪ Detailed load forecast, Power System Modeling and Analysis of the Interconnected Network is going on, 25% completed. ▪ Preliminary Conceptual Design is going on, 25% completed. ▪
15	Transmission Somangafungu– Kinyerezi DSM, 400kV, 198km	USD 150 million	▪ TANESCO has approved the Final Loan Term sheet from TIB for project financing. TANESCO has opened an Account at TIB for transactions of the credit facility which amount to an aggregate of TZS 79.5 bil. for compensation of PAPs and MUSD 98.1 for other contract cost inclusive of EPC cost ▪ TANESCO Negotiation team has submitted to PMU Minutes and record of the renegotiated contract on 11 th May 2016 to be tabled in the TANESCO Tender Board. Bid validity extended up to 30 th August 2016. ▪ The number of People Affected by the Projects and compensated is 947 and amount paid as of 30 th June 2016 is TZS 26.06 Billion which is 38% ▪ The Tender Board has approved M/s Byuksan Power Co., Ltd of South Korea for provision of consultancy services of the Project
16	Bulyanhulu –	USD 30	▪ The consultant M/s Shaker Consulting Group have completed inclusion of

S/N	NAME	USD - Million	IMPLEMENTATION STATUS
			As 30.06.2016
	Geita 220kV, 55km Transmission line with rural electrification components	million	TANESCO comments on the bidding documents for final review before submission <ul style="list-style-type: none"> M/s TANESCO have completed review of the bidding documents. Final bidding document sent to the Financier for No Objection.
17	Geita – Nyakanazi 220kV Transmission line with rural electrification	USD 35 million	<ul style="list-style-type: none"> TANESCO completed reviewing gap analysis of ESIA submitted by the Consultant M/s Lahmeyer International. Preparation of tender document for Lot A, Lot B and Lot C is underway
18	Ngara, Biharamulo and Mpanda (ORIO)	TShs. 71.5billion	Generation : <ul style="list-style-type: none"> Construction of powerhouse is 100% completed at Biharamulo Generators for Biharamulo were put on their foundations on 16th May 2016, electromechanical works started on 30th May 2016 and are 90% completed Civil works are 100% completed in Ngara and 95% completed in Biharamulo. Construction of powerhouse in Ngara started on 6th June 2016 is 60% complete. Training of staff to operate the plants completed in the Netherlands The distribution network construction works have commenced in Biharamulo with poles erected in 3 areas out of 4 areas. Expected completion for Biharamulo is July 2016 and Ngara August 2016
19	Electricity V Project (Sub-station and distribution lines)	USD 43.16 million	Distribution Works <ul style="list-style-type: none"> Construction of MV, LV lines, installation of distribution transformers and street lights completed by 100% Connection of 4,251 customers out of 8,400 customers expected Overall completion of Distribution works: 94% Substation Works <ul style="list-style-type: none"> Ilala ss- energized on 19th August, 2015 Njiro ss - energized on 11th September, 2015 Sokoine ss – works completed by 53% Completed, the project was to be closed by 30th June. The AfDB granted extension up to 31st December 2015 to allow the contractor M/s NCC to complete works at Sokoine 97% complete, Njiro and Ilala substation 100%. Overall project completion as per contract was January 2016.
20	Village Electrification Scheme along Mtwara-Somanga	TShs 20 billion	<ul style="list-style-type: none"> Tender Document has been prepared, awaiting for availability of funds to start procurement process for the contractors
21	Sustainable Solar Market Packages (SSMP I)-8,300 customers.	TZS 4.544 billion	<ul style="list-style-type: none"> Installation of 300 solar PV systems to public facilities is completed. Installation of PV systems to 8000 private facilities is in progress. To be completed December 2015
22	Sustainable Solar Market Packages (SSMP II).	TZS 24 billion	<ul style="list-style-type: none"> The evaluation of bids was completed in February, 2014. Installation of blueprints for all 8 Lots has been completed and verification is underway and is to be completed June 2016
23	Small Hydropower Projects (SHP) Provided With Performance Grant (Mawengi, Mwenga and	USD 2.5 million (TZS 4 billion)	A total of 1,396 out of 2,600 connections have been made for Mwenga SHPP. A total of 100 out of 922 connections have been made for Andoya SHPP. Connection to other customers is in progress.

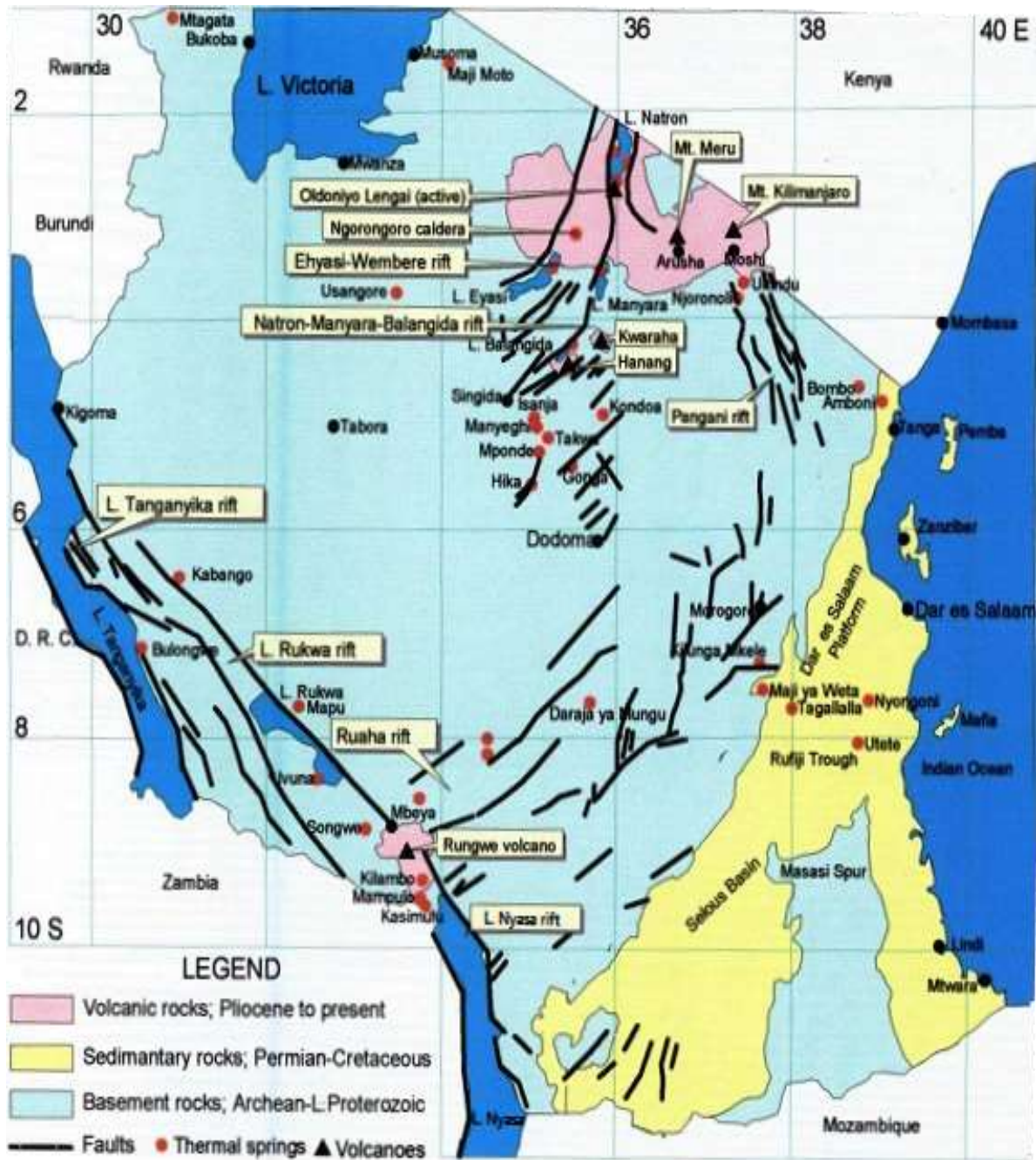
S/N	NAME	USD - Million	IMPLEMENTATION STATUS
			As 30.06.2016
	Mbagamao).		
24	Underline Distribution Transformers to Electrify Villages along Transmission Lines.	TZS 124 billion	Tender Document has been prepared, waiting for availability of funds to start procurement process for the contractors. To be completed June 2016
25	Attend all Pending and new Applications for Customer Connections (180,000 customers).	TZS 145 billion	<ul style="list-style-type: none"> ▪ A total of 240,135 customers have been connected to electricity from 1st July 2015 to 31st May 2016, equivalent to 96% of target (250,000 customers) by 30th June 2016. ▪ Total of 12,684 customers were connected from 1st to 29th June 2016. Total number of pending customers as of 29th June 2016 is 21,024.
26	Electrification of 51 Villages under Backbone Transmission (BTIP)-24,300 customers.	TZS 54.18 billion	<ul style="list-style-type: none"> ▪ PPRA has ordered REA to cancel the tender and repeat the tendering process for the Rural electrification. ▪ Hifab Oy, the consultant for the project has reviewed the revised Pre-qualification document, and now is working on the BOQ (Price Schedules) for each distribution Lot. ▪ The pre-qualification document is under review by the Financiers (NORAD and Sida) for issue of No Objection before the lots can be re-advertised. Request was submitted on 11th April 2016.
27	Rural Electrification Project under Turnkey Phase II (250,000 initial customers).	TZS 881 billion	<ul style="list-style-type: none"> ▪ As of 30th June 2016, construction of substations have been completed by 98% ▪ 13,900 kms of MV lines and 7,960 kms of LV lines completed ▪ 2,887 distribution transformers installed ▪ 102,039 customers connected and overall progress of 91.8% ▪ 13 new District Head Quarters electrified ▪ Extension of up to four months granted to contractors to accomplish the works.

Appendix 3: Energy Resources Potentials and Nation Grid

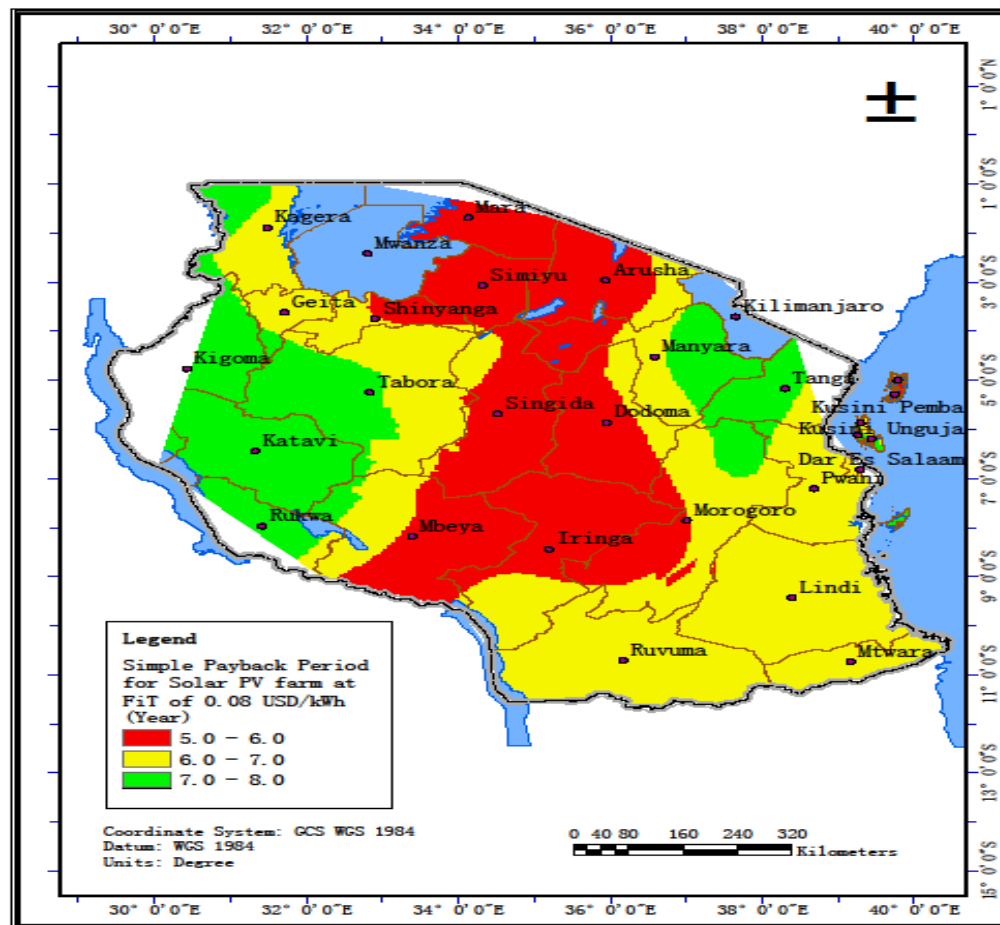
5A: Wind Map



5B: Geothermal Map



5C: Solar Map



5A: National Grid Map

