



**THE ELECTRICITY SUB - SECTOR
REGULATORY PERFORMANCE REPORT
FOR THE FINANCIAL YEAR 2018/2019**



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CHAIRMAN'S STATEMENT

On behalf of the Board of Directors of the Energy and Water Utilities Regulatory Authority (EWURA), I am pleased to give a brief overview of the Electricity Sub-Sector Regulatory Performance Report for the Financial Year 2018/2019. The report has been prepared in order to provide information to stakeholders and the general public on the performance of the Electricity Sub-Sector. The Board of Directors in collaboration with all Stakeholders will continue to oversee the development of the Electricity Sub-Sector based on the applicable Policies and Legislations.

I wish to take this opportunity to express my sincere appreciation to the Government of the United Republic of Tanzania through the leadership of His Excellency, President Dr. John Pombe Joseph Magufuli, the Ministry of Energy, the Ministry of Water and other Stakeholders for their continued support and cooperation.

Through this report I am confident that the sector stakeholders and the general public will be able to get information that will enable them understand the performance of the Electricity Sub-Sector during the Financial Year 2018/2019.

Finally, I would like to thank the Board of Directors, Management and Staff for their cooperation.



Ahmad Kilima
Deputy Chairman, EWURA Board of Directors
March 2020

FOREWORD

The Electricity Act, Cap 131 and EWURA Act, Cap 414 gives mandate to the Authority to regulate the Electricity Sub-sector in Mainland Tanzania. Under these Acts, the Authority is mandated to undertake technical and economic regulatory functions in the Electricity Sub-sector. The regulatory functions that are implemented by the Authority in the Electricity Sub-sector are geared towards: efficient and safe operation of the Electricity Supply Industry (ESI); protection of interests of consumers, the Government and other Stakeholders; and attraction of investments into the Sub-sector.

During the period from 1st July 2018 to 30th June 2019, EWURA continued to oversee regulatory performance of the Electricity Sub-Sector. The report presents regulatory activities carried out by the Authority and performance in the ESI in Mainland Tanzania including provision of reliability and security of electricity supply, Urban and Rural electrification, investment in power infrastructure, efficiency of operations and quality of services provided to electricity consumers. It also highlights the achievements attained and the challenges faced within the electricity sub- sector.

Achievements attained include among others, enactment of subsidiary legislations, adherence of licensees to applicable legislation and regulatory frameworks, and improved provision of services by licensees to electricity consumers. Successful implementation of these activities has taken the electricity sub-sector steps forward as evidenced by increased energy demand, electricity access, connectivity and investment.

I would like to thank the Government, Board of Directors, Management and Staff and other Stakeholders for their cooperation.



Nzinyangwa E. Mchany
ACTING DIRECTOR GENERAL
March 2020

ABBREVIATIONS AND ACRONYMS

AHEPO	:	Andoya Hydro Electric Power Limited
Cap.	:	Chapter
EMC	:	Electromagnetic Compatibility
ESI	:	Electricity Supply Industry
ESIRSR	:	Electricity Supply Industry Reform Strategy and Roadmap
EWURA	:	Energy and Water Utilities Regulatory Authority
GN	:	Government Notice
GO	:	Gas Oil
GW	:	Giga Watt
GWh	:	Gigawatt-hour
HFO	:	Heavy Fuel Oil
HSE	:	Health, Safety and Environment
IDO	:	Industrial Diesel Oil
IMO	:	Independent Market Operator
IPP	:	Independent Power Producer
ISO	:	Independent System Operator
km	:	Kilometre
kV	:	Kilo Volt
LV	:	Low Voltage
MoE	:	Ministry of Energy
MV	:	Medium Voltage
MVA	:	Mega Volt Ampere
MW	:	Mega Watt
MWh	:	MegaWatt-hour
PPA	:	Power Purchase Agreement
REA	:	Rural Energy Agency
SPP	:	Small Power Producer
SPPA	:	Standardized Power Purchase Agreement
SPPT	:	Standardized Small Power Projects Tariff
TANESCO	:	Tanzania Electric Supply Company Limited
TANWAT	:	Tanganyika Wattle Company Limited
TBS	:	Tanzania Bureau of Standards
TGP	:	Tegeta Gas Power Plant
TPC	:	Tanganyika Planting Company
UGP2	:	Ubungo Gas Power Plant 2
ZECO	:	Zanzibar Electricity Corporation Limited
SAIFI-CP	:	System Average Interruption Frequency Index at Connection Point
COD	:	Commercial Operation Date

EXECUTIVE SUMMARY

The Electricity Act, Cap. 131 gives the Authority mandate to perform both technical and economic regulation of the Electricity Supply Industry (ESI) in Tanzania Mainland pursuant to Section 5 and 6 of the Act. This report presents Electricity Sub-Sector Regulatory Performance during the period from 1st July 2018 to 30th June 2019. The report is made under Section 30(7) that requires the Authority, by regulation, to publish periodic reports on the performance of licensees, including but not limited to the quality, reliability and security of supply, progress with electrification, investment, efficiency of operations and other standard of customer services.

During the reporting period, six regulatory tools were developed. These are; The Electricity (Generation, Transmission and Distribution Activities) Rules 2019, GN No. 287; The Electricity (Electrical Installation Services) Rules, 2019, GN No. 382; The Electricity (Supply Services) Rules 2019, GN No. 387; The Electricity (Procurement of Power Projects and Approval of Power Purchase Agreement) Rules 2019, GN No. 453; The Electricity (Development of Small Power Projects) Rules 2019, GN No. 462; and The Electricity (Standardized Small Power Projects Tariff) Order 2019, GN. No. 464.

In executing the requirement of sections 5 and 8 of the Electricity Act, 662 licences were issued of which eight (8) were electricity generation licences and 654 were electrical installation licences.

As of 30th June 2019, the installed capacity was 1,602.71MW of which 1,565.72MW was for main grid and 36.812MW was for off-grids. However, this capacity does not include own use generation. Maximum Demand for the main grid, during the year under review, was 1,116.58MW as recorded on 30th November 2018 while the generation mix consisted of natural gas 67.5%, hydropower 32.3%, liquid fuel (HFO/IDO/GO) 0.1% and biomass 0.2%.

There were twelve entities licenced to conduct electricity activities for sale. TANESCO was engaged in electricity generation, transmission, distribution, supply and cross border trade activities; Songas Tanzania Limited, Mwenga Hydropower Limited (MHL), Tanzania Wattle Company (TANWAT), Tanganyika Planting Company Limited (TPC), Andoya Hydro Electric Power Company Limited (AHEPO), Tulila Hydroelectric Power Company Limited, Yovi Hydropower Company Limited, Darakuta Hydropower Development Company Limited and Matembwe Village Company Limited were engaged in electricity generation activities; while Mwenga Power Services Limited as well as Andoya Hydro Electric Power Company (AHEPO) were engaged in electricity distribution activities.

The transmission network comprised of 5,896km of which 543km was for 66kV; 1,673km for 132kV; 3,011km for 220kV; and 670km for 400kV. The distribution network comprised of 109,663.34km of which 109,225.6km was for TANESCO, 414km for Mwenga Power Services Limited and 23.74km for Andoya Hydro Electric Power Company Limited. Expansion of the distribution network has increased by 5% for TANESCO, Mwenga 15%, and Andoya 1%. The increase has been attributed to support from the Government, TANESCO, EWURA, development partners, private sectors, and Rural Energy Agency (REA), among others. The electricity energy losses for TANESCO were 16.23% of which 5.87% was for transmission system and 10.36% for distribution system. Mwenga Power Services limited has a distribution loss of 4.24% and Andoya 5.75%.

Financial performance analysed revenue generation, collection efficiency, profitability and cost per unit sold for six utilities; TANESCO, Andoya, Mwenga Power Services, Songas, Mwenga Hydro and Tulila Hydro. With exception of TANESCO whose total revenue and cost per unit sold slightly decreased, all utilities reported increases in total revenue and cost per unit sold. Further, despite the fact that there was decrease in collection efficiency of utilities, Mwenga Hydro and Tulila recorded an improvement. Furthermore, distribution utilities incurred loss while generation utilities earned profit.

Sector achievements during the reporting period includes increased level of awareness to electrical installation licenses, issuance of 654 electrical installation licences; issuance of eight (8) generation licences; publishing four regulatory tools; connection of 198,286 new customers; reduced electricity losses, and increased demand of the regulatory intervention to matters regarding licensing, consumer complaints resolution and electricity accident investigation;

Challenges faced during the period under review include low power reliability caused by inadequately maintained power infrastructure; and low private sector participation. To address these challenges, the Authority will continue to intensify various regulatory interventions which include regulatory tools development, awareness campaigns, monitoring and inspections.



1. INTRODUCTION

Energy and particularly electricity play a vital role in the socio-economic development of any country. Availability, affordability, reliability and access to electricity services are key ingredients towards achieving desired socio-economic development in Tanzania. To ensure continuous improvement of these aspects of the electricity supply system, the Authority continued to implement its mandate to regulate the sector during the financial year 2018/2019, which ended on the 30th June 2019. The report presents highlights of the sector performance implemented by various Stakeholders.

In line with the National Development Goals which includes industrialisation agenda among others, the Authority's strategic objective is to ensure improved regulated services which include quality, availability and affordability of the electricity supply. The strategies for implementation of this objective included development and review of regulatory tools; monitoring and enforcing quality of service standards; promotion of commercial viability of regulated suppliers; development and implementation of measures to protect consumer interests; licensing and registration of regulated suppliers; promotion of modern energy use; ensuring efficient procurement of regulated infrastructure; and facilitating investments for sustainable supply of electricity.

The Electricity Act, Cap. 131 gives EWURA mandate to perform both technical and economic regulation of the Electricity Supply Industry (ESI) in Mainland Tanzania pursuant to Section 5 and 6 of the Act.

The Authority's activities in relation to the electricity sub-sector include: protecting customer interests through the promotion of competition; promoting access to, and affordability of electricity services particularly in rural areas; promoting least-cost investment and the security of supply for the benefit of customers; promoting improvement in the operational and economic efficiency of the electricity supply industry and efficiency use of electricity; promoting appropriate standards of quality, reliability and affordability of electricity supply; taking into account the effect of the activities of the electricity supply industry on the environment; protecting the public from dangers arising from the activities of the electricity supply industry; and promoting the health and safety of the individuals employed in the electricity supply industry.

The report presents the performance of key stakeholders in the electricity sub-sector, particularly in electricity generation, transmission, distribution, supply and cross border trade. Currently, the ESI is dominated by TANESCO which is a public utility, and vertically integrated, while private utilities have relatively small stake in the ESI. In addition, the report, presents the overall performance of regulatory activities accomplished, achievements attained and challenges encountered. The Authority expects that this report will provide useful information and data to stakeholders as far as the electricity sub-sector is concerned.

2. REGULATORY TOOLS

The Authority developed six (6) regulatory tools in accordance with Section 40 of the EWURA Act Cap 414 and Section 45 of the Electricity Act 2008 which mandate the Authority to do so. The following regulatory tools were reviewed during the reporting period: -

- a) The Electricity (Generation, Transmission and Distribution Activities) Rules, 2019, GN. 287 published on 12/4/2019, which govern electricity generation, transmission and distribution activities;
- b) The Electricity (Electrical Installation Services) Rules, 2019, GN 382, published on 10/5/2019, which govern electricity installation activities;
- c) The Electricity (Supply Services) Rules 2019, GN 387, Published On 10/5/2019, which govern electricity supply activities;
- d) The Electricity (Procurement of Power Projects and Approval of Power Purchase Agreement) Rules 2019, Government Notice (GN) 453 Published on 14/6/2019, which govern procurement of power projects and approval of Power Purchase Agreement (PPA);
- e) The Electricity (Development of Small Power Projects) Rules, 2019, Government Notice (GN) 462 published on 21/6/2019, which govern small power projects (generation and mini-grids) up to 10MW; and
- f) The Electricity (Standardized Small Power Projects Tariff) Order 2019, GN. 464, published on 21/06/2019, which govern tariff for small power projects up to 10MW.

Apart from the reviewed regulatory tools detailed above, the Authority in performing its duties continued to use the existing regulatory tools and standards as shown in **Annex 1**.

3. LICENSING AND REGISTRATION

Pursuant to Section 8 of the Electricity Act, Cap 131, any person undertaking or seeking to undertake generation, transmission, distribution, supply, system operation, cross-border trade in electricity, physical and financial trade in electricity, and electrical installation activities shall require a licence. Section 5 of the Electricity Act, Cap 131, mandates the Authority to award licences to entities undertaking or seeking to undertake a licenced activity.

However, Section 18 of the Electricity Act, Cap 131, mandates the Authority to exempt any person from application of the requirement of Section 8 of the Act. Subsequent to this, Rule 36 of the Electricity (Development of Small Power Projects) Rules 2019, Government Notice No. 462, published on 21st June 2019, and Rule 11(4) of the Electricity (Generation, Transmission and Distribution Activities) Rules, 2019, GN. 462 published on 21/6/2019 exempt Service providers of electricity services below 1 MW from requiring licenses but must be registered by the Authority.

The Authority issued 662 licences of which 654 were electrical installation licences and eight (8) were electricity generation licences.

The eight (8) Electricity generation licences issued have a total potential generation capacity of 153.892MW as per **Table 1 and Annex 2**. This indicates an increase of 56.592MW as compared to year ended June 2018 which had 97.3MW, as well as an increase of 3.892MW for the year ended June 2017 which had 150MW. A list of all power supply services licensees is shown in **Annex 3**.

Table 1: Electricity Generation Licence Issued from Year 2017/18 to 2018/19

Financial Year	Number Of Licence Issued	Capacity (MW)
2018/19	8	153.892
2017/18	7	97.3

Source: EWURA Licence Data Base

The Authority issued 654 and 600 Electrical Installations Licences in the FY 2018/19 and 2017/18, respectively, which is an increase of 8.2%. 15 licences were issued to women and 639 to men in FY 2018/19, while 10 licences were issued to women and 590 to men in the FY 2017/18 as shown in **Table 2**. A complete list of electrical installation licensees is accessed through the Authority’s website “www.ewura.go.tz”.

Table 2: Electrical Installation Licences Issued from year 2016/17 - 2018/19

Financial Year	Total Licences Issued	Number of Male Licensees	Number of Female Licensees
2018/19	654	639	15
2017/18	600	590	10
2016/17	634	621	13

Source: EWURA Licence Data Base

The Authority registered 20 Very Small Power Producers (VSPP) with total installed capacity of 1,390.4kW for conducting mini-grid activities, serving 3,298 customers in areas where TANESCO grid has not reached. Out of the 1,390.4kW, 995kW is from hydro generation and is sold to TANESCO while 395.4kW is from solar generation and is distributed to customers through mini-grids. **Table 3.** There is an increase of number of registered VSPP as compared to the previous financial year where four mini-grids were registered with a total capacity of 453.03kW. The list of registered mini-grids for the year ended June 2019 is shown in **Annex 3(a)** and total list of registered mini-grid is shown in **Annex 3(b).**

Table 3: Registered mini-grid Operators from year 2016/17 to 2018/19

Financial Year	Registered Mini Grid	Capacity (kW)
2018/19	20	1,390.4
2017/18	4	453.03
2016/17	3	905.60

4. REGULATORY APPROVALS

Pursuant to Section 5 of the Electricity Act, Cap 131, the Authority has mandate to approve and enforce tariffs and fees charged by licensees and approve the initiation of procurement of new installation of the electricity supply. Also, pursuant to Section 25 of the Electricity Act, the Authority has mandate to approve Power Purchase Agreements (PPAs) and Section 7 of the EWURA Act, Cap. 414 mandates the Authority to facilitate resolution of complaints and disputes between service providers and their customers.

4.1 Initiation of Procurement of New Electricity Supply Installations

The Authority did not receive any application for approval for Initiation of Procurement of new electricity supply installations. However, as part of its regulatory function, the Authority continued to monitor implementation of previous approvals, including those approved in the year ended June 2017 where two power projects were approved, namely;

- a) Kikagati Power Company Limited (KPCL) for development of a 14MW hydropower project located at the border townships of Kikagati in Uganda and Murongo in Kyerwa District of Tanzania. and
- b) 200-350MW Combined Cycle Gas Power Project (Somanga PPP) to be implemented by TANESCO and a private entity at Somanga Fungu in Kilwa District.

4.2 Power Purchase Agreements

The Authority did not receive any application for approval of Power Purchase Agreement, instead it continued to monitor implementation of previously approved PPAs between power producers and TANESCO as an off taker as shown in **Table 4**.

Table 4: PPA and SPPA for Year 2018/19 for operating Power Plant

S/N	Name of Power Producer	Capacity (MW)	Source of Energy	Location
1.	Songas Tanzania Limited	189	Natural gas	Dar es Salaam
2.	Darakuta Hydropower Development Company Limited	0.32	Hydro	Magugu – Babati
3.	Ruaha Energy Company Limited	0.59	Hydro	Njombe
4.	Matembwe Village Community Company Limited	2.75	Hydro	Njombe
5.	Mwenga Hydro Limited	4.00	Hydro	Mufindi
6.	Tulila Hydro Electric Plant Company Limited	7.50	Hydro	Songea
7.	Andoya Hydro Electric Power Company Limited	1.00	Hydro	Mbinga
8.	Ngombeni Power Limited	1.40	Biomass	Mafia
9.	Tanganyika Planting Company Limited	17.5	Biomass	Moshi
	Total	224.06		

Source: EWURA PPA & SPPA Data Base

4.3 Rates and Charges

The Authority did not receive any application for approval of tariffs; however, it published the Electricity (Standardized Small Power Projects Tariff) and continued to monitor implementation of previous approvals as shown here under;

- a) The Electricity (Standardized Small Power Projects Tariff) Order 2019 with Government Notice No. 464 was published on 21st June 2019 and came into operation on 1st May 2019. It guides on the feed in tariff to the main and mini grid which includes tariff for avoided cost and technology (hydro, biomass, solar and wind technology) based tariff for SPPs which entered SPPA with TANESCO before and after May 2015 respectively as shown in **Annex 6**.
- b) The Tanzania Electric Supply Company Limited ("TANESCO") Tariff Adjustment Order No. 2016-010 of 1st April 2016. It guides sales of electricity to its customers in different categories as shown in **Annex 7**.
- c) The Electricity (Mwenga Hydro Limited Tariff Application) Order, 2012 effective from 1st July 2012. It guides sales of electricity to customers in different categories as shown in **Annex 8**.

4.4 Complaints and Dispute Resolutions

A total of 138 complaints raised by customers on various matters related to electricity supply services were attended to by the Authority. Out of these, 131 complaints were resolved and 6 were in progress of being resolved as per Table 5. The nature of complaint disputes included; electricity billings, compensation due to fire accident and power disconnection disputes.

Table 5: Status of Electricity Complaints for the FY 2018/2019

S/No.	Month	No. of Complaints received	No. of Complaints Resolved	No. of Pending complaints
1.	July 2018	7	7	0
2.	Aug 2018	10	10	0
3.	Sept2018	14	14	0
4.	Oct 2018	17	17	0
5.	Nov 2018	14	14	0
6.	Dec 2018	10	10	0
7.	Jan 2019	12	10	2
8.	Feb 2019	7	7	0
9.	Mar 2019	25	22	3
10.	April 2019	7	7	0
11.	May 2019	6	5	1
12.	June 2019	9	8	1
Total		138	131	7

The Authority will continue to raise awareness to service providers on the importance of providing satisfactory service to their customers as well as resolving disputes before they are reported to the Authority by their customers. Also, the Authority will continue to raise awareness to customers of service providers to report to the Authority on any disputes related to unsatisfactory provision of services that has been reported but not resolved by their respective service providers.

5. PERFORMANCE MONITORING

Section 31 of the Electricity Act, Cap 131 mandates the Authority to monitor and assess compliance with the Electricity Act. Section 30(1) of the Electricity Act, Cap 131 requires the Authority to establish systems and procedures to monitor and measure licensees' performance. Section 15(4) of the Electricity Act, Cap 131 requires licensees to submit to the Authority, data and information relating to performance of their functions.

5.1 Technical Performance

Technical performance in this report, considers performance in electricity generation, transmission, distribution, supply and cross-border trading.

5.1.1 Electricity Generation Performance

Performance in electricity generation is analysed with respect to installed capacity, maximum demand, generation mix, plant availability, plants utilisation and energy dispatched for the 10 (ten) licensees who were operating as per **Table 5**. In addition, generation performance is analysed based on the initiatives undertaken by the Government of Tanzania to promote private sector investment in power generation.

a) Installed Capacity

Installed Capacity refers to the total name plate capacity (MW) of all generators connected in the grid (main grid and off grid).

As of June 2019, installed capacity was 1,601.67 MW (1565.72 for main-grid and 35.95 for off-grid). Out of 35.95MW in off-grid, 34.198 were from plant owned by TANESCO and 1.754 from Very Small Power Plant (VSPP). Contribution of each power plants is as shown in **Annex 9** and **Table 5**, respectively.

In comparison to the year ended June 2018, there is an increase of 84.89MW (5.30 %) which implies increase in power generation investment. Furthermore, there was an increase of 104.66MW (6.68 %) in the main grid and decrease of 19.77MW (52.90%) in off-grid which implies increase in investment in expanding and connecting main grid into areas served by mini-grids.

Table 5: Installed Capacity from Year 2017/18 to 2018/19

Year	2018/2019	2017/2018	Difference (MW)	Difference (%)
Total Installed Capacity (MW)	1,601.67	1,518.2	83.47	5.21%
Main Grid Installed Capacity (MW)	1565.72	1,461.06	104.66	6.68%
Off-Grid Installed Capacity including VSPP (MW)	35.952	57.14	-21.19	-58.93%

Source: EWURA Licence Data Base

Contribution of each licensee in the installed capacity is as shown in **Annex 10** and **Table 6** respectively. TANESCO contributed 87%, Songas 12% and SPP as well as VSPP 1.0%.

Table 6: Licensees Contribution in Installed Capacity for Year 2018/19

S/N	Name of Licensee	Number of Power Plants	Installed Capacity (MW)	% Contribution
1.	TANESCO	34	1,389.114	87.00
2.	Songas Tanzania Limited (IPP)	1	189.00	12.00
3.	SPP and VSPP	35	23.56	1.00
	Total	75	1,601.67	100

Source: EWURA Licence Data Base

Additional capacity is expected from power plant currently under development as shown in **Table 7**.

Table 7: Power Plant Currently Under Development

S/N	Name	Capacity (MW)
1.	Mwalimu Julius Nyerere Hydro Power Project	2,115
2.	Kinyerezi I Extension Gas Power Project	185
3.	Somanga Fungu Gas Power Project	300
4.	Rusumo Hydro Power Project ¹	26.7

Source: EWURA Licence Data Base

b) Maximum Demand

Maximum demand refers to the highest level of electrical demand recorded during the period under review.

Maximum Demand for the main grid was 1,116.58MW as recorded on 30th November 2018 as shown in **Table 8**. Comparing to the previous year, which ended June 2018, where maximum demand was 1,045.70MW as recorded on 27th June 2018, there is an increase of 70.88MW (6.3%).

Table 8: Maximum Demand

Year	2018/19	2017/18	Difference
Maximum Demand (MW)	1,116.58	1,045.70	70.88
Date	30 th November 2018	27 th June 2018.	

Source: Daily System Operation Reports from TANESCO.

c) Electricity Generation Mix

Electricity generation mix refers to a group of different primary energy sources (e.g. hydro, gas, coal etc.) from which secondary energy (electricity) is produced. Generation mix consisted of natural gas 67.5%, hydropower 32.3%, liquid fuel (HFO/IDO/GO) 0.1% and biomass 0.2% as shown in **Figure 1**.

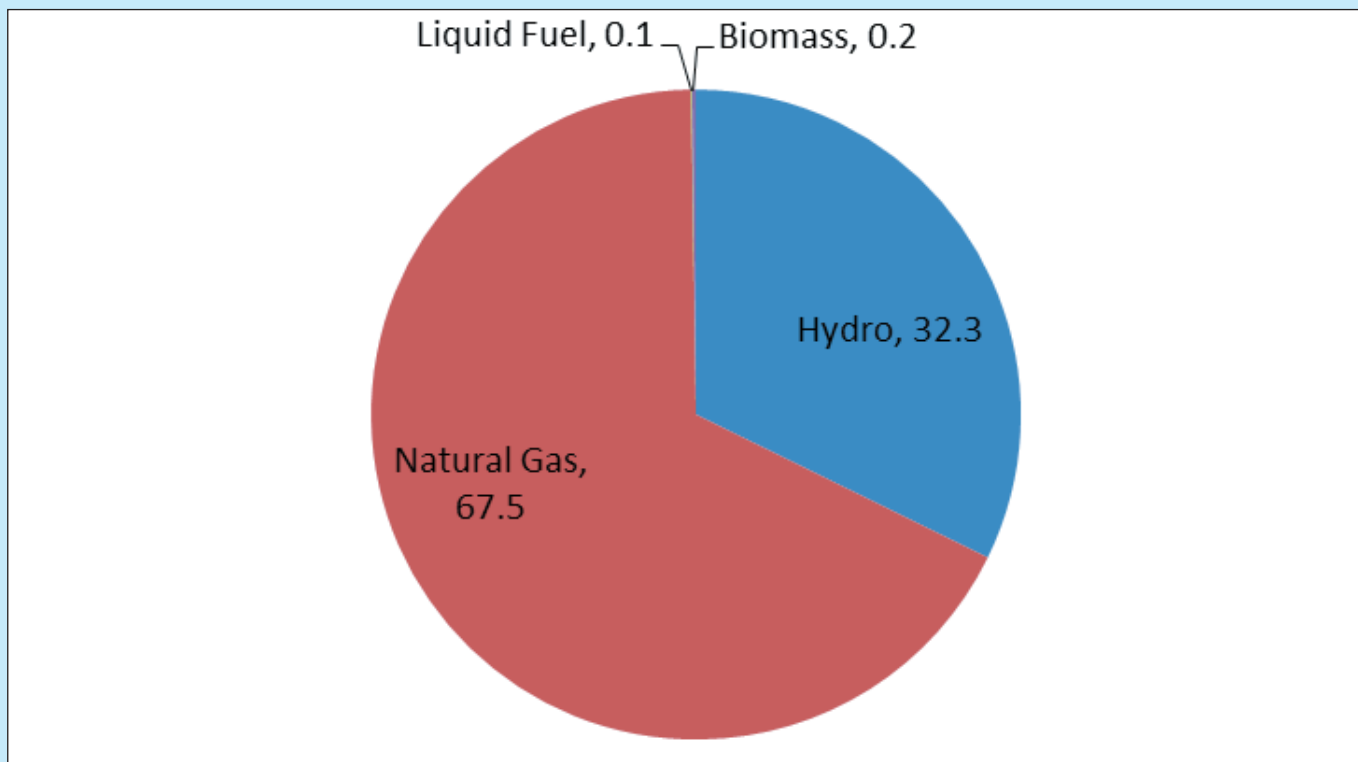


Figure 1: Electricity Generation Mix (%)

Source: Daily System Operation Reports from TANESCO.

In comparison to year ended June 2018, there is an overall increase of 3.39% and 0.41% for natural gas and hydro respectively and a decrease of 3.65% and 0.03% for liquid fuel and biomass respectively as shown in **Table 9**.

Table 9: Generation Mix from year 2016/17 to 2018/19

Technology	Year 2018/19	Year 2017/18	Difference (%)
Natural Gas (%)	67.5	64.11	3.39
Hydro (%)	32.3	31.89	0.41
Liquid Fuel (%)	0.1	3.75	-3.65
Biomass (%)	0.2	0.23	-0.03

Source: Daily System Operation Reports from TANESCO.

d) Electricity Generation and Imports [GWh]

During the period under review, a total of 7,590.59GWh were generated and imported as shown in **Table 10** and **11** respectively, which implies a 6.05 % increase as compared to 7,131.47 GWh reported during the previous financial year. These units were received from TANESCO plants, IPPs, SPPs and imports from neighbouring countries (Kenya, Uganda and Zambia).

Table 10: Electricity Generation and Imports (GWh) - TANESCO, IPP, SPP and Imports

No.	Source	Amount (GWh)		% Contribution	
		2018/19	2017/18	2018/19	2017/18
1	TANESCO	5,889.69	5,510.76	77.59	77.27
2	IPP (Songas)	1,515.08	1,445.28	19.96	20.27
3	Small Power Producers (SPPs)	64.69	61.72	0.85	0.87
4	Cross Border Imports	121.13	113.62	1.60	1.59
	Total	7,590.59	7,131.47	100	100

Source: TANESCO Daily System Operation Reports & Other Licensees Annual Reports

Table 11: Electricity Generation and Imports (GWh) – Grid, Off-Grid, imports and SPP

Description	Amount (GWh)		% Contribution	
	2018/19	2017/18	2018/19	2017/18
Grid	7,308.19	6,772.123	96.28	94.96
Off- Grid	96.58	183.912	1.27	2.58
Cross Border Imports	121.13	113.709	1.60	1.59
SPPs	64.69	61.724	0.85	0.87
Total	7,590.59	7,131.468	100	100

Source: TANESCO Daily System Operation Reports & Other Licensees Annual Reports

Total import was 121.13GWh of which 0.011GWh was from Kenya, 90.80GWh from Uganda and 30.31GWh from Zambia as shown in **Table 12**. This indicates an increase of 7.51GWh equivalent to 6.2% from 113.62GWh reported in the previous year. It also shows an increase of 11.6% and 6.2% for imports from Uganda and Zambia respectively and a significant decrease of 14536.4% for imports from Kenya.

Table 12: Electricity Imports (GWh)

Country	Year 2018/19 (GWh)	Year 2017/18 (GWh)	Difference (GWh)	Difference (%)	Region Supplied
Kenya	0.011	1.61	-1.599	-14536.4	Namanga Town
Uganda	90.80	85.21	5.59	6.2	Kagera Region
Zambia	30.31	26.80	3.51	11.6	Rukwa Region
Total	121.13	113.62	7.51	6.2	

Source: TANESCO Daily System Operation Reports & Other Licensees Annual Reports

e) Power Generation Plants Availability

Power plant availability refers to amount of time the plant is able to produce electricity over a certain period, divided by total amount of time in the period. It measures the time the power plant is ready to generate electricity throughout the year. In this report, the plant availability recorded during maximum demand as per the daily operation system reports has been assumed to be the daily availability of the power plant.

During the period under review, average availability of all hydro power generation plants was 86%, Gas Fired Power Plants 67%, and Liquid Fuel Power Plant 21% as shown in **Annex 12** and **Table 12**. The Authority will continue to monitor all power plants to ensure that maintenance is done, and each power plant's availability improves towards 95% minimum.

f) Plant Utilization

Plant utilization or use factor is the ratio of the time that a power plant is in use to the total time that it could be in use. It measures the time the power plant was in operation throughout the period when it was available. In this report, energy generated for each plant has been used to calculate utilisation of the plant as reported in the daily system report by TANESCO.

During the period under review, average utilisation of all hydro power generation plants was 61%, Gas Fired Power Plants 63 %, and Liquid Fuel Power Plant 0% as shown in **Annex 12** and **Table 12**. The Authority is continuing to monitor utilisation of power plants to ensure that all plants operate to their maximum in accordance with their availability (except for HFO/IDO and GO plants) without disrupting dispatch merit order.

Table 12: Power Plant availability and Utilisation

Plants Name	Plant Availability (%)		Plant Utilization (%)	
	2018/19	2017/18	2018/19	2017/18
Hydro Power Plants	86	96.195	61	51.997
Gas Fired Power Plants	67	71.408	63	69.026
Liquid Fuel Power Plant	21	83.333	0	66.333

Source: TANESCO's Daily System Operation Reports

g) Private Sector Participation in Generation Segment

On 7th November 2018, TANESCO on behalf of the Government of Tanzania, advertised tendering for qualifications from independent power producers to develop 600MW from coal, 150MW from wind, and 200MW from Solar.

Bidders shortlisted for submissions of requests for development of the projects were as follows: three (3) out of seven (7) bidders were for coal, thirteen out of twenty bidders for wind, and eighteen out of fifty two were for solar.

5.1.2 Electricity Transmission Performance

In this report, electricity transmission performance is analysed with respect to line length, substations, number of customer, System Average Interruption Frequency Index at Connection point (SAIFI-CP) and Outages. During the period under review, only one licensee (TANESCO) was in operation at 66kV, 132kV, and 220kV.

a) Transmission Infrastructure

As of 30th June 2018, transmission network comprised of 5,896km of transmission lines as shown in **Annex 12** and **Table 14**. Also, the network comprised of 55 grid substations of total

capacity 4,356MVA as shown in **Annex 12** and **Table 15** and one Grid Control Centre (GCC) located at Ubungu in Dar es Salaam City.

Table 14: Existing Transmission Infrastructure Line Length as of June 2018

Voltage	Line length (km)		Difference (km)	Difference (%)
	Year 2018/19	Year 2017/18		
66	543	543	0	0
132	1,673	1,672.57	0.43	0
220	3,011	2,760.7	250.3	8
400	670	670	0	0
Total	5,896	5,646.27	249.73	4

Source: TANESCO Annual Reports

Table 15: Transmission Network Substation

Voltage (KV)	Number Of Substations			Capacity (MVA)		
	2018/19	2017/2018	Difference	2018/19	2017/2018	Difference
66	7	7	0	89	88.6	0.4
132	27	27	0	1,599	1,598.9	0.1
220	21	19	2	2,668	2,578.3	89.7
400	0	0	0	0	0	0
Total	55	53	2	4,356	4,265.8	90.2

Source: TANESCO Annual Reports

b) Customers

As of June 2019, five customers were directly connected to the transmission network as shown in **Annex 12** and **Table 16**.

Table 16: Transmission Network Customers

Voltage (KV)	Customer name
220	1. Bulyanhulu Gold Mine
132	2. ZECO
	3. Tanganyika Portland Cement ,
	4. Tanga Cement
	5. Rhino Cement

Source: TANESCO Annual Reports

c) Power System Reliability in Transmission Infrastructure

Power system reliability is analysed using System Average Interruption Frequency Index at Connection Point (SAIFI-CP) which is calculated as a ratio of total number of interrupted connection points (due to fault) to total number of connection points in the grid network (in this case 132 by August 2018 and 135 by June 2019 connection point). In addition, system reliability at each voltage level is analysed based on outage hours and frequency.

TANESCO being the only licensee in electricity transmission activity has set a Key Performance Indicator (KPI) for SAIFI-CP of less than or equal to 12 per annum. However, during the period under review, SAIFI-CP was 14.62 which is higher than the set target by 2.62 interruption and higher by 0.95 as compared to previous year which ended June 2018 as per **Annex 12** and **Table 17**. Therefore, the Authority will continue to monitor implementation of preventive maintenance in order to minimize frequency of trips at Transmission Connection Points to below the target level.

Table 17: System Average Interruption Frequency Index at Connection Point (SAIFI-CP)

SAIFI-CP	Year 2018/19	Year 2017/18
Standard SAIFI-CP (set target)	12	12
Recorded SAIFI-CP	14.62	13.67
Difference	2.62	1.67

Source: TANESCO Annual Report

Furthermore, total outage hours during the reporting period were 2,205 as shown in **Annex 12** and **Table 18**. This is a decrease of 29% as compared to the previous year which ended in June 2018. However, there is an increase of 18% in outage hours for the 66kV transmission line network.

Table 18: Transmission Line Outage Hours

Voltage	Outage	2017/18	2018/19	Difference	Difference (%)
220kV	Planned	705	558	-147	-26
	Unplanned	281	191	-90	-47
	Total	986	749	-237	-32
132kV	Planned	1,354	911	-443	-49
	Unplanned	149	112	-37	-33
	Total	1,503	1023	-480	-47
66kV	Planned	283	181	-102	-56
	Unplanned	72	252	180	71
	Total	355	433	78	18

Source: TANESCO Annual Reports

In addition, total outage frequency during the reporting period was 496 as shown in **Annex 12** and **Table 19**. This is a decrease of 35% as compared to the previous year which ended in June 2018. However there is an increase of 52% in outage frequency for the 220kV line.

Table 19: Transmission Line Outage Frequency

Voltage	Outage	2017/18	2018/19	Difference	Difference (%)
220kV	planned	80	110	30	27
	unplanned	45	148	103	70
	Total	125	258	133	52
132kV	planned	97	87	-10	-11
	unplanned	409	113	-296	-262
	Total	506	200	-306	-153
66kV	Planned	23	16	-7	-44
	Unplanned	16	22	6	27
	Total	39	38	-1	-3

Source: TANESCO Annual Reports

Total grid failure for the period under review was 12.47 hours in 4 events as shown in **Annex 12** and **Table 20**. This indicates a decrease of 66% in hours and 33% in events as compared to the previous year which ended June 2018.

Table 20: Total Grid Failure

Description	Year 2018/19	Year 2017/18	Difference (%)
Hours	12.47	36.6	-66
Event	4.00	6	-33

Source: TANESCO Annual Reports

5.1.3 Electricity Distribution Performance

Electricity distribution performance is analysed with respect to infrastructure, number of customers and outages. Three (3) licensees were operating during the period under review which were Tanzania Electricity Supply Company Limited (TANESCO), Mwenga Power Services Limited, and Andoya Hydroelectric Power Company Limited (AHEPO).

a) Electricity Distribution Infrastructure

As of 30th June 2019, the distribution network comprised of 109,663.34km of which 109,225.60km were for TANESCO, 414km for Mwenga Power Services Limited and 23.74km for Andoya Hydro Electric Power Company Limited as shown in **Annex 13** and **Table 21**. When compared to year ended on 30th June 2018, TANESCO had an increase of 5,936.24km equivalent to 5%, Mwenga had an increase of 63km equivalent to 15% and Andoya had an increase of 0.24km equivalent to 1% The expansion of distribution network has been significantly contributed by the rural electrification initiatives by Rural Energy Agency (REA), among others.

Table 21: Electricity Distribution Infrastructure Length

Licensee	Voltage (kV)	Line Length (km)		Difference (km)	Difference (%)
		2017/18	2018/19		
TANESCO	33	32,342.31	33,817.6	1,475.29	4
	11	6,477.83	6,588.4	110.57	2
	0.23 and 0.4	64,469.22	68,819.60	4,350.38	6
	Total	103,289.36	109,225.60	5,936.24	5

Mwenga	33	241	294	53	18
	0.23 and 0.4	110	120	10	8
	Total	351	414	63	15
Andoya	11	10.5	10.5	-	0
	0.23 and 0.4	13	13.24	0.24	2
	Total	23.5	23.74	0.24	1

Source: TANESCO, Mwenga & Andoya Annual Reports

b) Customers

As of 30th June 2019, the electricity distribution infrastructure for the three licensees comprised of 2,488,434 customers of which 2,484,222 were for TANESCO; 3,956 for Mwenga Power Services Limited; and 256 for Andoya Hydro Electric Power Company Limited as shown in **Annex 13** and **Table 22**. When compared to the year ended on 30th June 2018, TANESCO had an increase of 260,584 (10%) customer's, Mwenga an increase of 1,035 (26%) and Andoya a decrease of 2 (1%). The increase of access and connectivity of electricity has been significantly contributed by the rural electrification initiatives by Rural Energy Agency (REA).

Table 22: Electricity Distribution Licensees' Customer

Licensee	Number of Customer		Difference	
	2017/18	2018/19	Number	%
TANESCO	2,223,638	2,484,222	260,584	10
Mwenga	2,921	3,956	1,035	26
Andoya	258	256	-2	-1
Total	2,226,817	2,488,434	261,617	11

Source: TANESCO, Mwenga & Andoya Annual Reports

c) Power System Reliability in Distribution Infrastructure

Power system reliability is supposed to be analysed with respect to System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI), and Customer Average Interruption Duration Index (CAIDI). SAIFI measures average number of supply interruptions per customer per year, SAIDI measures average duration (in minutes) of supply interruptions per customer per year and CAIDI measures average duration of each supply interruptions per customer who experienced the interruption per year.

Tanzania Standard, TZS 1374:2011, Section 7, requires that the annual SAIFI should be less than 3 interruptions per customer per year, the annual SAIDI should be less than 650minutes (10.8 Hours) per customer per year, and the annual CAIDI should be less than 4 minutes (0.1hours) per interruption event per year.

However, due to challenges of getting reliable data including actual number of customers affected by outages, this report only analyses duration and frequency of outages in general. It also analyses the reliability indices with assumption that number of affected customer is equal for both planned and unplanned outages for TANESCO. It has to be noted that the affected customer of planned outages are recorded in the monthly operation report of TANESCO. The Authority will continue to follow up on implementation of projects that will enable utilities to record the actual number of customers affected per each interruption.

Therefore, during the period under review, total outage hours were 1,410.77 for TANESCO

equivalent to a decrease of 240.72 hours for Mwenga Power Services Limited and 4.3 for Andoya Hydro Electric Power Company Limited as shown in **Annex 13** and **Table 23**.

Table 23: Electricity Distribution Outage Hours for year 2017/18 and 2018/19

Licensee	Outages	2017/18	2018/19	Difference	% Deference.
TANESCO	Planned	19,344	677.97	-18,666	-2753
	Unplanned	14,217	732.8	-13,484	78
	Total	33,561	1,410.77	-32,150	-2279
Mwenga	Planned	49.28	221.7	172.42	78
	Unplanned	145.4	19.02	-126.38	-664
	Total	194.68	240.72	46.04	19
Andoya	Planned	36	2.37	-33.63	1419
	Unplanned	134	1.93	-132.07	-6843
	Total	170	4.3	-165.7	3853

Source: TANESCO, Mwenga and Andoya Annual Reports

The total outage frequency was, 1,741 for TANESCO, 1,173 for Mwenga Power Services Limited and 127 for Andoya Hydro Electric Power Company Limited as per **Annex 13** and **Table 24**.

Table 24: Electricity Distribution Outage Frequency for year 2017/18 and 2018/19

Licensee	Outages	2017/18	2018/19	Difference	% Deference.
TANESCO	Planned	19,344	853	-18,491	-2168
	Unplanned	14,217	888	-13,329	-1501
	Total	29,094	1,741	-27,353	-1571
Mwenga	Planned	21	32	11	34
	Unplanned	180	1,141	961	84
	Total	201	1,173	972	83
Andoya	Planned	8	11	3	27
	Unplanned	5	116	111	96
	Total	13	127	114	90

Source: TANESCO, Mwenga and Andoya Annual Reports

For the period under review, the reliability indexes were as shown in **Annex 13** and **Table 25**. All Licensees' operated above the required standard of SAIFI. Mwenga operated above all required reliability index.

Table 25: Power Reliability Indexes for Year 2017/18 and 2018/19

Licensee	Index	Standard Index	Recorded index	Difference	Difference (%)
TANESCO	SAIFI	3	46.032	43.032	93%
	SAIDI	650	2,784	2,134	77%
	CAIDI	4	60.5	56.5	93%

MWENGA	SAIFI	3	19.1	16.1	84%
	SAIDI	650	13,386	12,736	95%
	CAIDI	4	700.8	696.8	99%
ANDOYA	SAIFI	3	124	121	98%
	SAIDI	650	255.3	-394.7	-155%
	CAIDI	4	2.1	-1.9	-94%

Source: TANESCO, Mwenga and Andoya Annual Reports

d) New Connections to Power Supply

According to the TANESCOs' Customer Service Charter, a customer must be connected within the duration specified in the charter. The specified duration is 30 working days if the customer is within 30m from supply line, 60 working days if within 30-100m, and 90 working days for new networks or high voltage line extension. The same has been used to all other licensees for analysis purposes.

During the reporting period, TANESCO achieved 94.15% of connections, Mwenga Power Services Limited 100% and Andoya Hydro Electric Power Company Limited 100% as shown in **Annex 13** and **Table 26**. Comparing to year ending 30th June 2018, there is an improvement on all licensees' in connection of customers. The Authority will continue working to ensure that all applications are connected within the required time.

Table 26: Electricity Distribution Customer Connection

Licensee	2017/18			2018/19		
	Applications	Connections	%	Applications	Connections	%
TANESCO	273,272	197,543	72.2	276,764	260,564	94.15%
Mwenga	387	380	98	1,035	1,035	100
Andoya	64	20	31	6	6	100

Source: TANESCO, RPD, AHEPO Annual Reports

5.1.4 Electricity Energy Losses

Energy losses performance were analysed for three utilities which were in operation during the period under review. These were; Tanzania Electricity Supply Company Limited (TANESCO), Mwenga Power Services Limited, and Andoya Hydroelectric Power Company Limited (AHEPO).

In accordance with the ESI-RSR, 2014 Section 6.2 to 6.4, the desired total losses in the electricity supply industry is supposed to be 12% by 2025 as follows, 18% - 16% from July 2015 to June 2018, 16%-14% from July 2018 to June 2021, and 14%-12% from July 2021 to June 2025. However, the desired percentage targets do not allocate the portion for distribution segment.

During the period under review, TANESCO had a total energy loss of 16.23% of which 5.87% is for transmission and 10.36% for distribution which indicates a need for more effort to reach the target of 14% by year 2021. Mwenga Power Services limited had a distribution loss of 4.24% which is higher than the year that ended June 2018 whereby the losses were 3.69% and Andoya were 5.75% which is less than the previous year where the losses were 7.41% as shown in **Annex 12, Annex 13, Table 27 and 28**.

The Government of Tanzania through TANESCO has taken initiatives to reduce losses in the power infrastructure. The initiatives undertaken include replacement of post-paid energy meters to prepaid meters to its customers, rehabilitation of the generation power plants including Hale & Nyumba ya Mungu, construction and rehabilitation of substations in Dar es Salaam, Kilimanjaro, Arusha, Dodoma, Iringa, Singida, Shinyanga and Geita Region, rehabilitation of the power distribution infrastructure throughout the country, and awareness program conducted to discourage energy theft.

Mwenga Power Services limited had increased losses due to expansion of the power distribution network to its customers at Kihansi area. Expansion of network involves increased number of transformers which contribute to increment of technical losses. In case of Andoya Hydroelectric Power Company Limited had reduction of energy losses due to adherence of proper maintenance of the power infrastructure.

Table 27: Electricity Transmission Losses - TANESCO

Year	Energy Received In Grid Transmission System (GWh)	Energy Received For Distribution (GWh)	Losses (GWh)	Losses (%)
2018/19	7,413.953	6,975.209	435.551	5.87
2017/18	6,742.405	6,341.677	397.164	5.89

Source: TANESCO Daily Operation Reports

Table 28: Electricity Distribution Losses

Licensee	Year	Energy Distributed To Customers (GWh)	Energy Sales To Customer (GWh)	Losses (GWh)	Losses (%)
TANESCO	2018/19	6,824.81	6,468.285	356.53	5.20
	2017/18	6,642.67	6,341.677	586.28	8.83
Mwenga	2018/19	15.86	15.182	0.673	4.24
	2017/18	19.18	18.473	0.707	3.69
Andoya	2018/19	2.742	2.584	0.1576	5.75
	2017/18	2.995	2.773	0.222	7.412

Source: TANESCO, Mwenga and Andoya Annual Reports

Note: Total Energy distributed to customers by TANESCO was 6,824.81 GWh of which 6,607.18 (96.80%) was from main grid power plants, 96.58GWh (%) was from off grid (mini grid) power plants and 121.13GWh (1.40%) was from cross border import.

5.2 Financial Performance

This section briefly describes the financial performance of six utilities from FY 2016/17 to 2018/19. These utilities are TANESCO, a national vertically integrated utility carrying out generation, transmission and distribution activities. Andoya Hydroelectric Power Company Limited, a utility carrying out generation and distribution activities, Mwenga Power Services Limited, a utility carrying out distribution activities only and three licensed electricity generation utilities namely Songas, Mwenga Hydro Power Limited and Tulila Hydroelectric. Further, Songas generates electricity and sells to TANESCO under a long term PPA whereas Mwenga Hydro and Tulila generate electricity and sell to TANESCO under SPPAs.

Moreover, some utilities report financial performance based on fiscal year and others use the calendar year, hence, for calendar year 2016 to 2018 it is referred as 2016/17 to 2018/19, respectively. Thus, the financial performance analysis is either based on the draft financial statements of FY 2018/19 or audited financial statements of the year 2018 and other data obtained from the utilities. Furthermore, since TANESCO and Andoya are vertically bundled, the financial reports show the performance of the utility as a whole and not as a separate segment.

5.2.1 Revenue Generation

During the FY 2018/19, electricity sales continued to be the main source of income for all utilities contributing an average of 88.9% to the total revenue in FY 2018/19 compared to 86.8% in previous FY. Revenue generated by each utility presented in **Figure 2** and detailed in **Annex 14**.

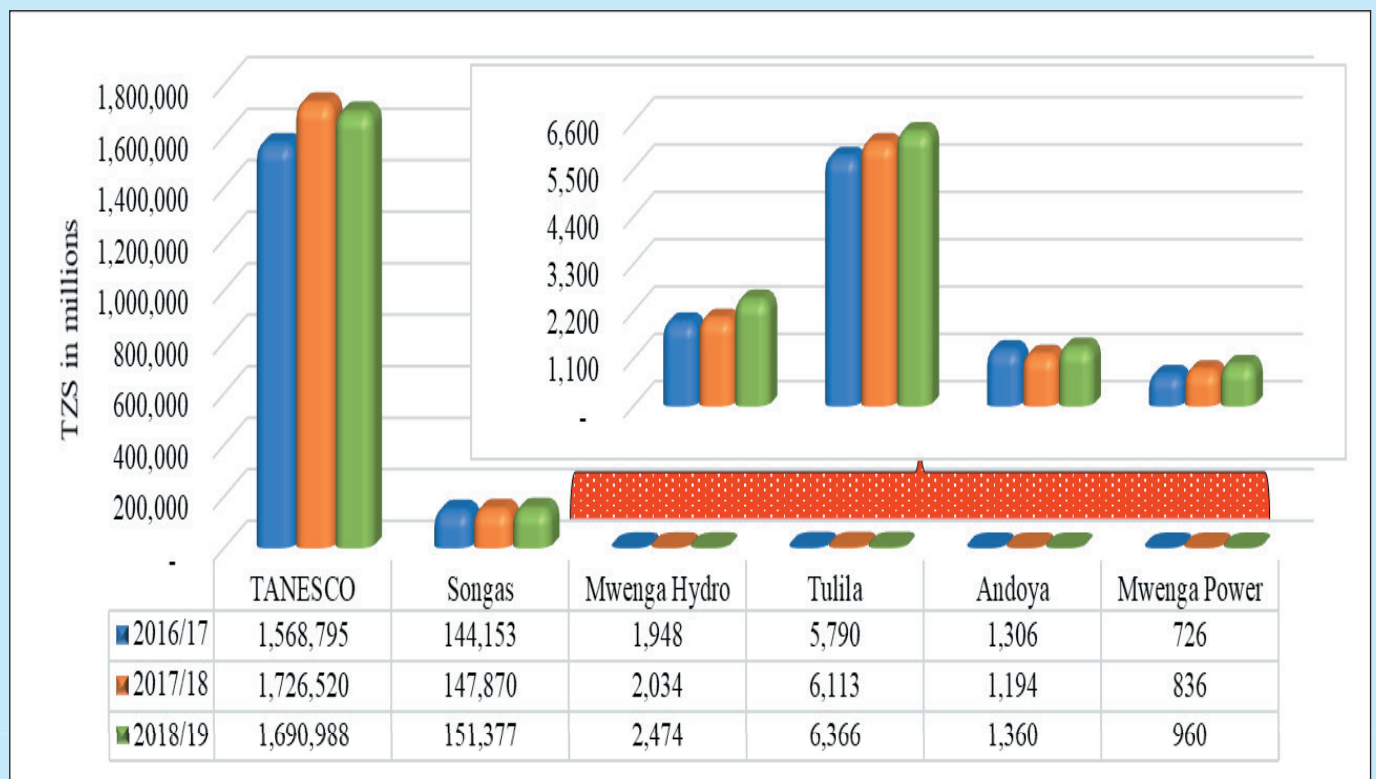


Figure 2: Total Revenue by Utility

Source: Licensee's Audited Financial Reports

Being a national utility, TANESCO generates most of the revenue in the electricity sub-sector mainly from sales made to general use customers (T1) and High Voltage supply customers that account for an average of 49% and 33% of the TANESCO total electricity sales revenue respectively, as depicted in **Figure 3**.

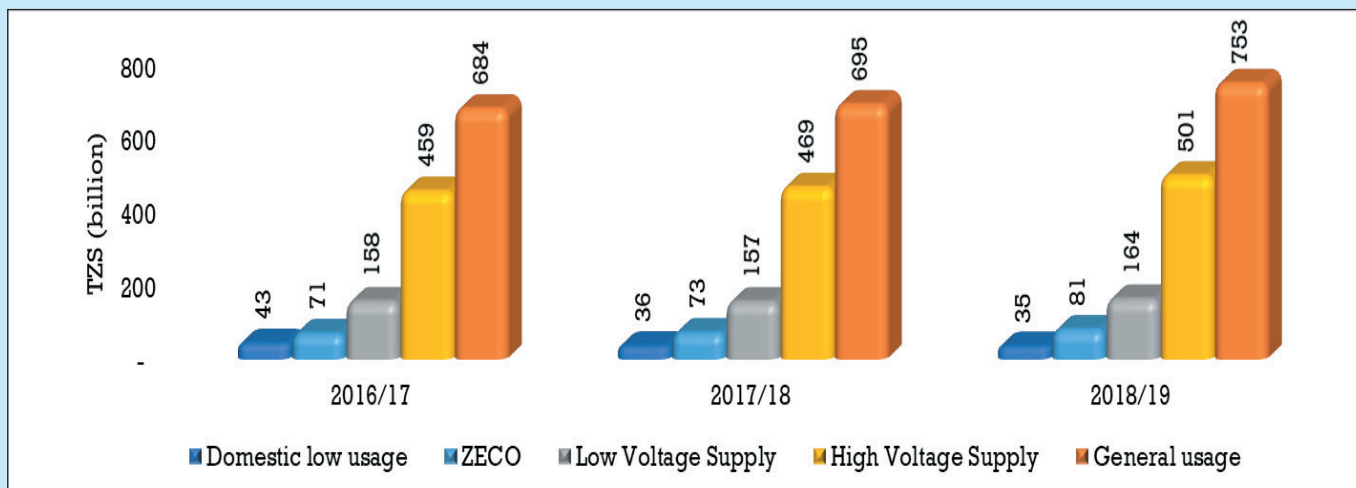


Figure 3: TANESCO Revenue by Customer Category

Source: TANESCO Audited Financial Reports

Further, out of 29 TANESCO regions, 62.7% of its revenue from electricity generated from seven regions, whereas 37.3% is from 22 regions. The highest revenues are from K' North (14.3%), Ilala (13.1%), and Temeke (9.5%) while the lowest contributions are from Katavi (0.24%), Simiyu (0.36%) and Lindi (0.42%). **Figure 4** below shows Contribution of each TANESCO region to the total revenue and detailed in **Annex 15**.

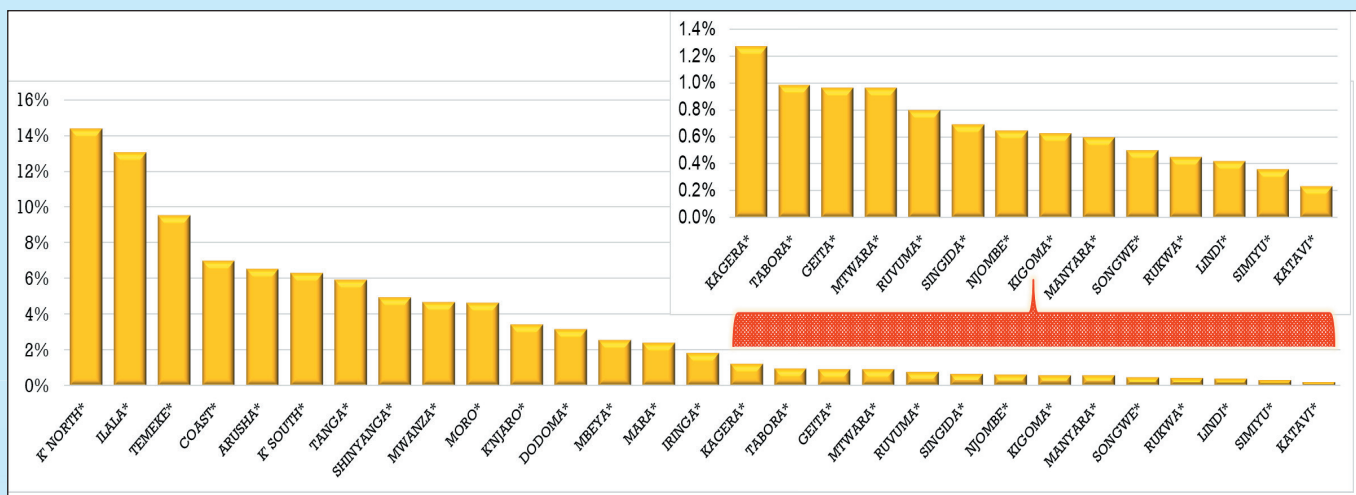


Figure 4: Contribution of each TANESCO region to the total revenue

Source: EWURA Analysis

5.2.2 Collection Efficiency

Collection efficiency measures the ability of a utility to collect from its customers the amount billed for services rendered. As shown in **Figure 5**, the collection efficiency of all other utilities decreased in FY 2018/19 with the exception of Tulila and Mwenga Hydro that improved during the year. The collection efficiency reported includes arrears from previous financial years.

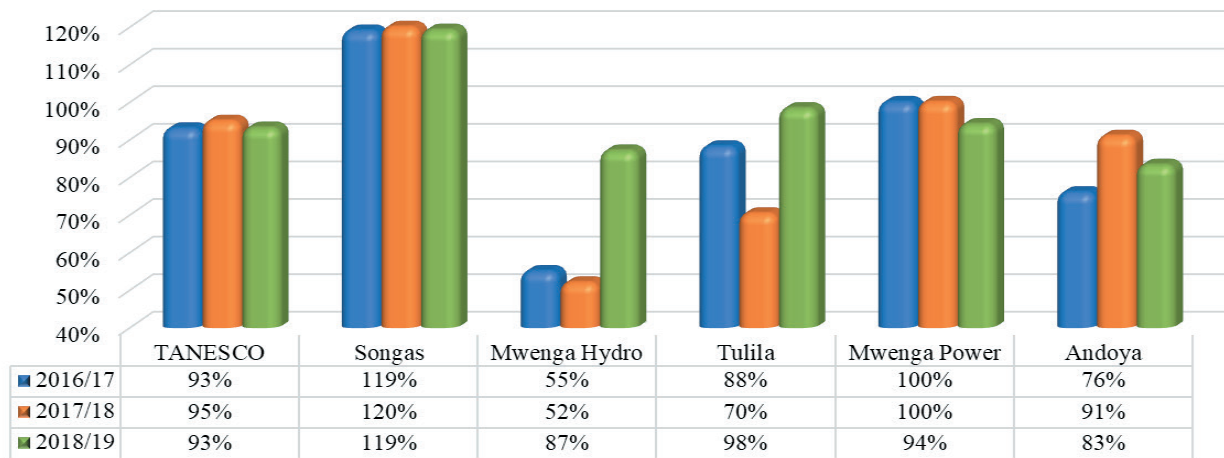


Figure 5: Collection efficiency by Utility

Source: Licensee’s Audited Financial Reports

5.2.3 Profitability

During the period under review, profitability for electricity generation utilities i.e. Songas Limited, Mwenga Hydropower limited , Tulila Hydro power limited and Andoya Hydro Electric Company Limited increased while that of TANESCO and Mwenga Power utilities made substantial losses in previous three consecutive FYs. However, in FY 2018/19 TANESCO reduced its loss by 74% when compared to FY 2017/18, which has been attributed to the improvement in operational efficiency, and connection to the National Grid of areas which were supplied with thermal power plants in Ngara, Biharamulo, Mbinga, Ludewa, Liwale, Somanga Fungu, Namtumbo, Mtwara and Madaba has contributed reduction of cost by saving of fuel consumption. In addition, TANESCO has increased percentage utilization of Natural gas in power generation.

Figure 6 below shows profitability by utilities.

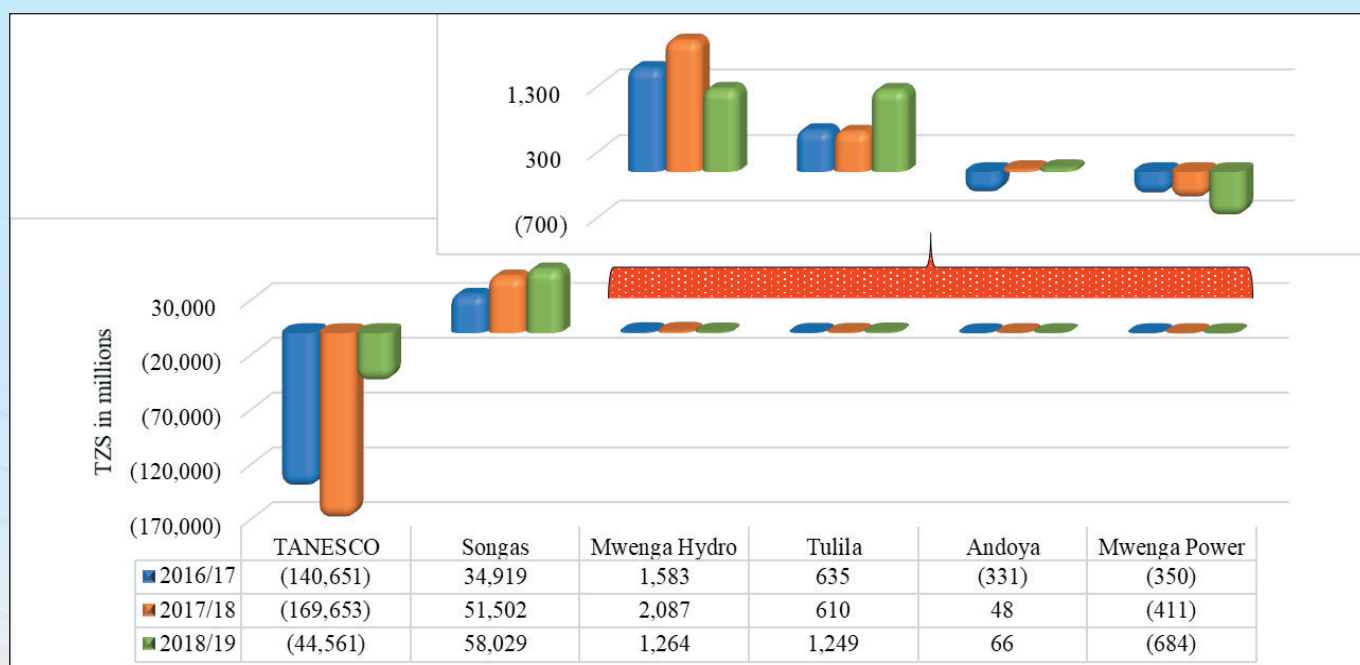


Figure 6: Profitability of Utility

Source: Licensee’s Audited Financial Reports

5.2.4 Cost per Unit Sold

Utilities that provide distribution services have reported high cost per unit sold while those generating electricity only, have lower unit cost. Based on the applicable tariffs for TANESCO and Mwenga Power, **Figure 7** indicates that the two utilities cannot cover their costs of providing electricity services.

In FY 2018/19, the unit cost for TANESCO improved slightly while that of Mwenga Hydro, Andoya, Mwenga Power and Songas increased. The cost per unit sold for TANESCO improved by 11% from unit cost of TZS 303.42 in FY 2017/18 to TZS 269.57 in FY 2018/19. Further, compared to other utilities, Mwenga power has the highest cost per unit sold.

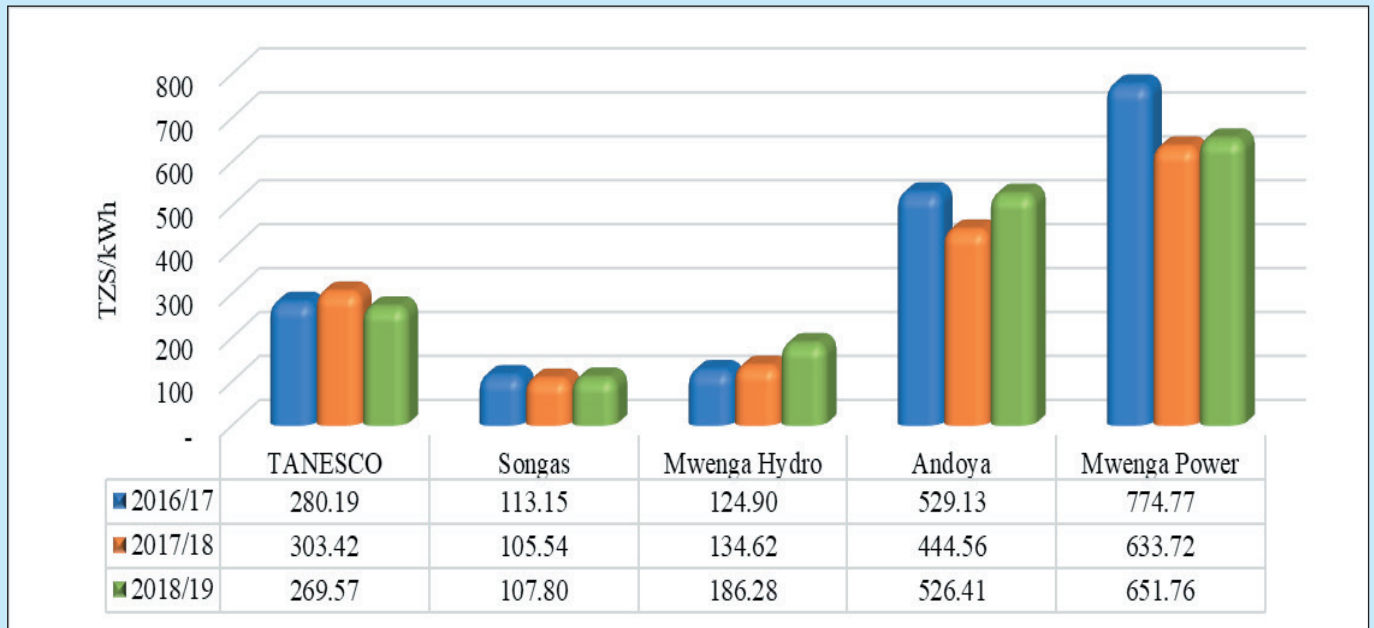


Figure 7: Total cost per unit sold

Source: EWURA Analysis

6. ACHIEVEMENTS AND CHALLENGES

6.1 Achievements

The achievements made by the sector during the reporting period include the following:

- a) Increased level of awareness to electrical installation licensees due to the awareness programs, inspections and meetings with stakeholders conducted by the Authority which resulted into increase in number of people applying for electricity installation licences;
- b) Issuance of 654 electrical installation licences to personnel who carry out electrical installation activities in order to ensure safety practices in the electrical installation services to customers;
- c) Issuance of eight (8) generation licences with a potential generation capacity of 153.892MW when commissioned;
- d) Development of six (6) regulatory tools for regulation of Procurement of Power Projects and Approval of Power Purchase Agreement; Development of Small Power Projects; electricity Supply Services; Electrical Installation Services; Electricity Generation, Transmission and Distribution Activities; Small Power Projects Tariff.
- e) Network expansion and connection of 261,617 new customers, which has increased connectivity and accessibility of electricity in the country.
- f) Network reliability and losses have continued to improve as a result of continuous monitoring and inspection of electricity infrastructures.
- g) Increased awareness which has led to increased demand of the regulatory intervention to matters regarding licensing, consumer complaints resolution and electricity accident investigation;

6.2 Challenges and Way Forward

During the reporting period, the electricity sub- sector faced a number of challenges including the following:

a) Electricity Supply Reliability - Despite of the ongoing efforts to increase reliability, the electricity sub-sector has a challenge to establish and meet the set targets as per Tanzania Standard, TZS 1374:2011, Section 7, which requires SAIFI to be less than 3 interruptions per customer per year, SAIDI be less than 650minutes (10.8 Hours) per customer per year, and CAIDI be less than 4 minutes (0.1hours) per interruption event per year. To address this, the Authority will intensify monitoring and inspection activities as well as ensuring that licensees identifies all customer connected per feeder.

b) Low Private Sector Participation - Private sector investments in the electricity sub sector continued to be low. To address this, the Authority in collaboration with other stakeholders will continue regular review of the existing regulatory tools and development of new ones when deemed necessary.

7. CONCLUSION

During the year under review, the electricity sub-sector registered milestones towards achievement of the national goals and targets. The sub-sector achieved growth in some areas such as increase in installed capacity by 5.21%, increase in length of transmission lines by 4%, increase in customer connection by 11% and slight increase in energy generated by 8%. The above mentioned achievements have been attributed by the support of the Government through the Ministry of Energy, Rural electrification program conducted by Rural Energy Agency, enforcement of regulatory frameworks, support of Development Partners and adherence of licensees to the licence terms and conditions. The growth indicates that the sub-sector is moving towards the right direction in achieving the set national goals and targets.

However, apart from above achievements, the sub-sector experienced challenges which include low energy demand growth and licensees not meeting the required reliability indices targets.

The authority in collaboration with other Stakeholders will continue to address the challenges with the aim of promoting electricity energy usages for socio-economic activities, enhancing regulatory compliance of the licensees and improving reliability of power supply.

ANNEXES

Annex 1: Regulatory Tools and Standards

Annex 1(a): Regulatory Tools

- ✓ EWURA Act, 2001;
- ✓ The Electricity Act, 2008;
- ✓ National Energy Policy, 2015;
- ✓ The Electricity (General) Regulations GN 63;
- ✓ Model Power Purchase Agreements for seven technologies (i.e. Hydro, Natural Gas, Oil, Coal, Geothermal, Solar and Wind);
- ✓ The Electricity (Licensing Fees) Rules, 2012. GN. 11/2013;
- ✓ The Energy and Water Utilities Regulatory Authority (Fees and Levies Collection Procedure) Rules, 2010. GN. 193/2010;
- ✓ Guidelines for Tariff Application, 2009;
- ✓ Manual for Inspection of Electricity Infrastructure;
- ✓ Guidelines for SPP Grid Interconnections, 2011;
- ✓ Tanzania Grid Code, 2014.
- ✓ Electricity System Operations Cooperation (Establishment Order), 2016;
- ✓ Electricity (System Operations Services) Rules, 2016;
- ✓ Electricity (Market Operation Services) Rules, 2016;
- ✓ Electricity (Tariff Setting) Rules, 2016;
- ✓ Standardized Power Purchase Agreement;
- ✓ The Electricity (Grid and Distribution Codes) Rules, 2017, GN. 451;
- ✓ The Electricity (Net Metering) Rules, 2017, GN. 441/2017;
- ✓ The Electricity (Procurement of Power Projects and Approval of Power Purchase Agreement) Rules 2019, GN. 453;
- ✓ The Electricity (Development of Small Power Projects) Rules, 2019, GN. 462;
- ✓ The Electricity (Supply Services) Rules 2019, GN. 387;
- ✓ The Electricity (Electrical Installation Services) Rules, 2019, GN 382;
- ✓ The Electricity (Generation, Transmission and Distribution Activities) Rules, 2019, GN. 462; and
- ✓ The Electricity (Standardized Small Power Projects Tariff) Order 2019, GN. 464.

Annex 1(b): Standards

- ✓ TZS 1373:2011 – Power Quality - Quality of supply;
- ✓ TZS 1374:2011 – Power Quality - Quality of service and reliability;
- ✓ TZS 1375:2011 – Electromagnetic Compatibility (EMC) – Limits for voltage change, voltage fluctuation and flickers in public low voltage supply system for equipment with rated current \leq 16A per phase and not subject to conditional connection;
- ✓ TZS 1376:2011 – Electromagnetic Compatibility (EMC) – Limits for voltage change, voltage fluctuation and flickers in public low voltage supply system for equipment with rated current \leq 75A per phase and subject to conditional connection;
- ✓ TZS 1377:2011 Electromagnetic compatibility (EMC) – Limits for harmonic current emissions for equipment with input current \leq 16 A per phase;
- ✓ TZS 1378:2011 Electromagnetic compatibility (EMC) – Limits for harmonic current emissions for equipment with input current $>$ 16 A per phase;
- ✓ TZS 1379:2011 Electromagnetic compatibility (EMC) – Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems;
- ✓ TZS1380:2011 Electromagnetic compatibility (EMC) – Compatibility levels for low frequency conducted disturbances and signalling in public medium voltage power supply systems;
- ✓ TZS 1381:2011 Electromagnetic compatibility (EMC) – Compatibility levels in industrial plant for low-frequency conducted disturbances; and
- ✓ TZS1382:2011 Electromagnetic compatibility (EMC) – Power quality measurement methods.

Annex 2: Licence Issued For Year 2018/19

S/N	Name	Project Area	Capacity (MW)	Type of Licence	Duration	Licence No.	Date of issue	Date of Expiry	Source
1	Mwenga Hydro Limited	Mufindi	2.4	Generation (provisional licence)	3 years	PEGL-2018-003	29/Nov/18	28/Nov/21	wind
2	ALAF Limited	Dar es Salaam	4	Generation (provisional licence)	3 years	PEGL-2018-004	21/Dec/18	20/Dec/21	gas
3	Dangote Industries Ltd	Mtwara	50	Generation (provisional licence)	3 years	PEGL-2019-001	27/Mar/19	26/Mar/21	gas
4	Kilombero Plantations Limited	Morogoro	1.692	Generation Own Use	15 years	EGL-2018-001	30/Aug/18	29/Aug/33	biomass, diesel & hydro
5	Tanzania Cigarette Public Limited Company	Dar es Salaam	3.8	Generation Own Use (Base Load)	5 Years	B EGL-2019-001	22/Mar/19	21/Mar/24	gas
6	Stamigold Company Limited	Biharamulo	7	Generation Own Use (Baseload & Standby)	15 years	B EGL-2019-002	22/Mar/19	21/Mar/34	diesel
7	Dangote Cement Limited	Mtwara	45	Generation Own Use (Base Load)	5 Years	B EGL-2019-003	30/Apr/19	29/Apr/24	gas
8	Geita Gold Mining Limited	Geita	40	Generation Own Use (Baseload) - amended on on 9th Nov. 2018	25 years	B EGL-2018-002	3/Dec/99	2/Dec/24	diesel
Total Generation Capacity			153.892						

Annex 3: Total List of Licences Issued

A Electricity Generation Licences – Sale

S/N	Licencee	Project Area	Energy Source	Capacity (MW)	Duration	Licence No.	Date of Issue	Date of Expiry
1.	Songas	Ubungo	Natural Gas	189	33 Years	issued before EWURA establishment	11/Oct/01	10/Oct/34
2.	TANESCO	Mainland TZ	Hydro, Natural Gas, HFO & Diesel	-	20 Years	EGL-2013-001	1/Mar/13	28/Feb/33
3.	TPC Ltd	Moshi	Biomass	20	13 Years	EGL-2012-006	18/Jun/12	17/Jun/25
4.	Tanganyika Wattle Company Ltd	Njombe	Biomass	2.75	13 Years	EGL-2012-005	18/Jun/12	17/Jun/25
5.	Mwanga Hydro Ltd	Mufindi	Hydro	3.36	15 Years	EGL-2013-001	1/Mar/13	28/Feb/28
6.	Tulila Hydro Electric Plant Co. Ltd	Songea	Hydro	7.5	20 Years	EGL-2016-001	3/Aug/16	2/Aug/30
7.	Andoya Hydro Electric Power Co. Ltd	Mbinga	Hydro	1	15 Years	EGL-2016-002	22/Aug/16	21/Aug/31
8.	Ngombeni Power Limited	Mafia	Biomass	1.4	15 Years	EGL-2016-003	7/Sep/16	6/Sep/31

B Electricity Generation Licences – Own Use

S/N	Licencee	Project Area	Energy Source	Capacity (MW)	Duration	Licence No.	Date of Issue	Date of Expiry
1.	Ashanti Goldfields T Ltd	Geita	Diesel	31.00	25 Years	P/G 1134	3/Dec/99	2/Dec/24
2.	Shanta Mine Co. Ltd	Chunya	Diesel	4.20	15 Years	BEG-2013-001	6/Sep/13	5/Sep/28
3.	Mufindi Paper Mills	Mufindi	Biomass	10.415	5 Years	BEG-2013-002	18/Nov/13	17/Nov/18
4.	Lake Cement Limited	Kimiji Village, Temeke	Coal	15.40	15 years	BEG-2016-001	29/Mar/16	28/Mar/31
5.	Tanga Cement Public Limited Company	Tanga	Diesel	11.48	15 Years	SEGL-2016-001	4/Oct/16	3/Oct/31
6.	Kilombero Sugar Company Limited	Kidatu - Morogoro	Biomass	12.552	15 years	BEG-2017-001	18/Apr/17	17/Apr/32
7.	Kagera Sugar Limited	Missenyi - Kagwera	Biomass	6.20	15 Years	BEG-2017-002	18/Apr/17	17/Apr/32
8.	Shanta Mine Co. Ltd	Songwe	Diesel	8.20	15 years	BEG-2018-001	2/Feb/18	1/Feb/33
9.	Kilombero Plantations Limited	Morogoro	Biomass	1.692	15 years	EGL-2018-001	30/Aug/18	29/Aug/33
10.	Geita Gold Mining Limited	Geita	Diesel	40.00	25 years	BEG-2018-002	3/Dec/99	2/Dec/24
11.	Tanzania Cigarette Public Limited Company	Dar es Salaam	Natural Gas	3.8	5 Years	BEG-2019-001	22/Mar/19	21/Mar/24
12.	Stamigold Company Limited	Biharamulo	Diesel	7	15 years	BEG-2019-002	22/Mar/19	21/Mar/34
13.	Dangote Cement Limited	Mtwara	Natural Gas	45	5 Years	BEG-2019-003	30/Apr/19	29/Apr/24

C. Electricity Distribution, Supply, Transmission and Cross Border Trade

S/N	Licensee	Project Area	Capacity (MW)	Type of licence	Duration	Licence No.	Date of Issue	Date of Expiry
1.	TANESCO	Mainland Tanzania	-	Supply	20 years	ESL-2013-001	1/Mar/13	28/Feb/33
2.	TANESCO	Mainland Tanzania	-	Transmission and Cross Border Trade	20 Years	ETSOC - 2013-001	1/Mar/13	28/Feb/33
3.	TANESCO	Mainland Tanzania	-	EDCBTL	20 Years	PEL-2013-002	1/Mar/13	28/Feb/33
4.	Mwenga Hydro Ltd (Transferred to Mwenga Power Services Ltd)	Mufindi	4	Distribution	15 Years	EDL-2013-005	30/Apr/13	29/Apr/28

D. Provisional Electricity Licences

S/N	Licensee	Project Area	Capacity (MW)	Type of Licence	Duration	Licence No.	Date of Issue	Date of Expiry
1.	Luponde Hydro Limited	Njombe	2.90	Generation (Provisional Licence)	3 years	PEGL-2017-001	1/Mar/17	29/Feb/20
2.	Suma Hydro Limited	Rungwe	1.50	Generation (Provisional Licence)	3 years	PEGL-2017-002	1/Mar/17	29/Feb/20
3.	CEFA Registered Trustees	Njombe	6.00	Generation (provisional licence)	3 years	PEGL-2017-003	1/Mar/17	29/Feb/20
4.	Ludewa Capacity Building Association	Ludewa	10.00	Generation (provisional licence)	3 years	PEGL-2017-005	29/Aug/17	28/Aug/20
5.	Dangote Cement Limited	Mtwara	60.00	Generation (provisional licence)	3 years	PEGL-2017-006	3/Nov/17	2/Nov/20
6.	Mkonge Energy Systems Co. Ltd	Tanga - Manda	9.00	Generation (provisional licence)	3 years	PEGL-2017-007	15/Dec/17	14/Dec/20
7.	Mkonge Energy Systems Co. Ltd	Tanga - Ngombezi 1	2.00	Generation (Provisional Licence)	3 year	PEGL-2017-008	15/Dec/17	14/Dec/20
8.	Ninety Two Limited	Ngorongoro	1.90	Generation (provisional licence)	3 years	PEGL-2018-001	2/Feb/18	1/Feb/21
9.	Kagera Sugar Limited	Kagera	23.80	Generation (provisional licence)	3 years	PEGL-2018-002	1/Mar/18	28/Feb/21
10.	Mwenga Hydro Limited	Mufindi	2.4	Generation (provisional licence) - Wind	3 years	PEGL-2018-003	29/Nov/18	28/Nov/21
11.	ALAF Limited	Dar es Salaam	4MW	Generation (provisional licence)-Natural Gas	3 years	PEGL-2018-004	21/Dec/18	20/Dec/21
12.	Dangote Industries Ltd	Mtwara	50	Generation (provisional licence)-Natural Gas	3 years	PEGL-2019-001	27/Mar/19	26/Mar/21
13.	Mwenga Hydro Limited	Mafinga	2.5	Generation (provisional licence) - Hydro	3 years	PEGL-2019-003	26/Nov/19	25/Nov/22

Annex 4: Registered Very Small Power Producers for year 2018/19

No.	Entity with Full Registration	Project Area	Generation Capacity (KW)	Type of activity	Duration	Registration No.	Date of Issue	Date of Expiry	Source of Energy	Customer served
1	Power Gen Renewable Energy Limited	London village, Manyoni District, Singida Region	16	Generation & Distribution	10 years	CRG – 2018 - 003 & CRD – 2018 - 003	20/Aug/18	19/Aug/28	solar	91
2	Power Gen Renewable Energy Limited	Ighombwe village, Ikungi District, Singida Region	3	Generation & Distribution	10 years	CRG – 2018 - 004 & CRD – 2018 - 004	20/Aug/18	19/Aug/28	solar	50
3	PowerCorner Tanzania Limited	Mbaya village, Liwale District, Lindi Region.	30	Generation & Distribution	10 years	CRG – 2018 - 005 & CRD – 2018 - 005	31/Oct/18	30/Oct/28	solar	243
4	PowerCorner Tanzania Limited	Nakopi village, Nanyumbu District, Mtwara Region	30	Generation & Distribution	10 years	CRG – 2018 - 006 & CRD – 2018 - 006	31/Oct/18	30/Oct/28	solar	225
5	PowerCorner Tanzania Limited	Barikiwa village, Liwale District, Lindi Region	30	Generation & Distribution	10 years	CRG – 2018 - 007 & CRD – 2018 - 007	31/Oct/18	30/Oct/28	solar	268
6	Power Gen Renewable Energy Limited	Bugalama village, Ngara District, Kagera Region.	3.18	Generation & Distribution	10 years	CRG – 2019 - 001 & CRD – 2019 - 001	11/Jan/19	10/Jan/29	solar	52
7	Power Gen Renewable Energy Limited	Murusagamba village, Ngara District, Kagera Region.	17.16	Generation & Distribution	10 years	CRG – 2019 - 002 & CRD – 2019 - 002	11/Jan/19	10/Jan/29	solar	176
8	Power Gen Renewable Energy Limited	Kalenge village, Biharamulo District, Kagera Region.	16.18	Generation & Distribution	10 years	CRG – 2019 - 003 & CRD – 2019 - 003	11/Jan/19	10/Jan/29	solar	177
9	Power Gen Renewable Energy Limited	Nyantakara village, Biharamulo District, Kagera Region.	17.18	Generation & Distribution	10 years	CRG – 2019 - 004 & CRD – 2019 - 004	11/Jan/19	10/Jan/29	solar	95
10	Power Gen Renewable Energy Limited	Mavota village, Biharamulo District, Kagera Region.	17.18	Generation & Distribution	10 years	CRG – 2019 - 005 & CRD – 2019 - 005	11/Jan/19	10/Jan/29	solar	132
11	Power Gen Renewable Energy Limited	Nemba village, Biharamulo District, Kagera Region.	23.52	Generation & Distribution	10 years	CRG – 2019 - 006 & CRD – 2019 - 006	11/Jan/19	10/Jan/29	solar	180

No.	Entity with Full Registration	Project Area	Generation Capacity (KW)	Type of activity	Duration	Registration No.	Date of Issue	Date of Expiry	Source of Energy	Customer served
12	PowerGen Renewable Energy Ltd	Leshata village, Gairo District, Morogoro Region.	15.36	Generation & Distribution	10 years	CRG – 2019 - 007 & CRD – 2019 - 007	28/ Mar/2019	27/Mar/2029	solar	147
13	Power Gen Renewable Energy Limited	Kitaita & Songambebe village, Gairo District, Morogoro Region.	15.36	Generation & Distribution	10 years	CRG – 2019 - 008 & CRD – 2019 - 008	28/ Mar/19	27/Mar/29	solar	100
14	Yovi Hydropower Co. Limited	Msolwa village, Kilosa District, Morogoro Region.	995	Generation & sale to TANE-SCO	10years	CRG - 2019 - 009	16/Apr/19	15/Apr/29	hydro	Sell Power to Tanesco
15	Power Gen Renewable Energy Limited	Itabagumba village, Buchosa District, Mwanza Region.	30.32	Generation for sale to TANE-SCO	10 years	CRG – 2019 - 010 & CRD – 2019 - 010	1/Jul/19	30/Jun/29	solar	251
16	PowerGen Renewable Energy Ltd	Busenge village, Buchosa District, Mwanza Region.	28.68	Generation & Distribution	10 years	CRG – 2019 - 011 & CRD – 2019 - 011	1/ Jul/2019	30/Jun/29	solar	180
17	Power Gen Renewable Energy Limited	Kanyala village, Buchosa District, Mwanza Region.	30.32	Generation & Distribution	10 years	CRG – 2019 - 012 & CRD – 2019 - 012	1/Jul/19	30/Jun/29	solar	251
18	Power Gen Renewable Energy Limited	Iglansoni village, Ikungi District, Singida Region.	23.96	Generation	10 years	CRG – 2019 - 013 & CRD – 2019 - 013	1/Jul/19	30/Jun/29	solar	200
19	PowerCorner T Limited	Mwenge village, Sikonge District, Tabora Region.	28	Generation	10 years	CRG – 2019 - 014 & CRD – 2019 - 014	1/ Jul/2019	30/Jun/29	solar	317
20	PowerCorner T Limited	Mgambo village, Sikonge District, Tabora Region.	20	Generation	10 years	CRG – 2019 - 015 & CRD – 2019 - 015	1/Jul/19	30/Jun/29	solar	163
Total			1,390.40						Total Customer	3,298.00
solar generation			395.4							
hydro generation			995							
generation distribution			1390.4							
			395.4							

Source: EWURA Licence Data Base

Annex 5: Total List Of Registered Entities

No.	Entity with Full Registration	Project Area	Generation Capacity (KW)	Type of activity	Duration	Registration No.	Date of Issue	Date of Expiry	Source of Energy	Customer served	Grid
1	Darakuta Hydropower Development Co. Limited - 41/72	Magugu - Babati	450	Generation	10 years	NA	3/Jul/13	2/Jul/23	hydro	Sell Power to Tanesco	Main-Grid
2	Jumeme Rural Power Supply Ltd - 41/108	Bwisya - Ukara Island	90	Generation and distribution	10 years	NA	8/Apr/16	7/Apr/26	Solar		Off-Grid
3	PowerCorner Tanzania Limited - 41/149	Orkejuloongishu Village in Kertumbeine Ward, Longido District	15.6	Generation & Distribution	10 years	CRG – 2016 - 001 & CRD – 2016 - 001	6/Oct/16	5/Oct/26	Solar		Off-Grid
4	Nasra Estates Co. Limited	Dar es Salaam	800	Generation (Own Use)		EWURA/40/1/3/108	20/Mar/17			Own Use	Off-Grid
5	E.ON Off Grid Solution Gmbh	Ololosokwan Village, Ngorongoro District	6	Generation and distribution	10 years	CRG – 2017 - 001 & CRD – 2017 - 001	21/Nov/17	20/Nov/27	solar	25	Off-Grid
6	E.ON Off Grid Solution Gmbh	Soitsambu Village, Ngorongoro District	6	Generation and distribution	10 years	CRG – 2017 - 002 & CRD – 2017 - 002	21/Nov/17	20/Nov/2027	solar	24	Off-Grid
7	E.ON Off Grid Solution Gmbh	Digodigo Village, Ngorongoro District	6	Generation and distribution	10 years	CRG – 2017 - 003 & CRD – 2017 - 003	11/21/2017	11/20/2027	solar	56	Off-Grid
8	E.ON Off Grid Solution Gmbh	Malambo Village, Ngorongoro District	13.14	Generation and distribution	10 years	CRG – 2017 - 004 & CRD – 2017 - 004	21/Nov/2017	11/20/2027	solar	86	Off-Grid
9	E.ON Off Grid Solution Gmbh	Itaswi Village, Chembra District	6.39	Generation and distribution	10 years	CRG – 2017 - 005No. CRD – 2017 - 005	19/Dec/17	18/Dec/27	solar	136	Off-Grid
10	E.ON Off Grid Solution Gmbh	Kwa Mtoro Village, Kondo District	9.5	Generation and distribution	10 years	CRG – 2017 - 006No. CRD – 2017 - 006	19/Dec/17	18/Dec/27	solar	189	Off-Grid
11	Ruaha Energy Co. Ltd	Zombo Village, Kilosa District	128	Generation and distribution	10 years	CRG – 2017 - 007No. CRD – 2017 - 007	19/Dec/17	18/Dec/27	solar	200	Off-Grid

No.	Entity with Full Registration	Project Area	Generation Capacity (KW)	Type of activity	Duration	Registration No.	Date of Issue	Date of Expiry	Source of Energy	Customer served	Grid
12	Kiliflora Limited	Magadirisho, USA River, Arusha Region	230	Generation	10 years	CRG-2018-002	9/Apr/18	8/Apr/28	hydro	1	Off-Grid
13	Watu na Umeme Limited	Zombo, Korogwe District, Tanga Region	48	Generation and distribution	10 years	CRG-2018-001No. CRD-2018-001	23/Apr/18	22/Apr/28	solar	170	Off-Grid
15	Power Gen Renewable Energy Limited	London village, Manyoni District, Singida Region	16	Generation & Distribution	10 years	CRG – 2018 - 003 & CRD – 2018 - 003	20/Aug/18	19/Aug/28	solar	91	Off-Grid
16	Power Gen Renewable Energy Limited	Ighombwe village, Ikungi District, Singida Region	3	Generation & Distribution	10 years	CRG – 2018 - 004 & CRD – 2018 - 004	20/Aug/18	19/Aug/28	solar	50	Off-Grid
17	PowerCor-ner Tanzania Limited	Mbaya village, Liwale District, Lindi Region.	30	Generation & Distribution	10 years	CRG – 2018 - 005 & CRD – 2018 - 005	31/Oct/18	30/Oct/28	solar	243	Off-Grid
18	PowerCor-ner Tanzania Limited	Nakopi village, Nanyumbu District, Mtwara Region	30	Generation & Distribution	10 years	CRG – 2018 - 006 & CRD – 2018 - 006	31/Oct/18	30/Oct/28	solar	225	Off-Grid
19	PowerCor-ner Tanzania Limited	Barikiwa village, Liwale District, Lindi Region	30	Generation & Distribution	10 years	CRG – 2018 - 007 & CRD – 2018 - 007	31/Oct/18	30/Oct/28	solar	268	Off-Grid
20	Power Gen Renewable Energy Limited	Bugalama village, Ngara District, Kagera Region.	3.18	Generation & Distribution	10 years	CRG – 2019 - 001 & CRD – 2019 - 001	11/Jan/19	10/Jan/29	solar	52	Off-Grid
21	Power Gen Renewable Energy Limited	Murusagamba village, Ngara District, Kagera Region.	17.16	Generation & Distribution	10 years	CRG – 2019 - 002 & CRD – 2019 - 002	11/Jan/19	10/Jan/29	solar	176	Off-Grid
22	Power Gen Renewable Energy Limited	Kalenge village, Biharamulo District, Kagera Region.	16.18	Generation & Distribution	10 years	CRG – 2019 - 003 & CRD – 2019 - 003	11/Jan/19	10/Jan/29	solar	177	Off-Grid

No.	Entity with Full Registration	Project Area	Generation Capacity (KW)	Type of activity	Duration	Registration No.	Date of Issue	Date of Expiry	Source of Energy	Customer served	Grid
23	Power Gen Renewable Energy Limited	Nyantakara village, Biharamulo District, Kagera Region.	1718	Generation & Distribution	10 years	CRG – 2019 - 004 & CRD – 2019 - 004	11/Jan/19	10/Jan/29	solar	95	Off-Grid
24	Power Gen Renewable Energy Limited	Mavota village, Biharamulo District, Kagera Region.	1718	Generation & Distribution	10 years	CRG – 2019 - 005 & CRD – 2019 - 005	11/Jan/19	10/Jan/29	solar	132	Off-Grid
25	Power Gen Renewable Energy Limited	Nemba village, Biharamulo District, Kagera Region.	23.52	Generation & Distribution	10 years	CRG – 2019 - 006 & CRD – 2019 - 006	11/Jan/19	10/Jan/29	solar	180	Off-Grid
26	PowerGen Renewable Energy Ltd	Leshata village, Gairo District, Morogoro Region.	15.36	Generation & Distribution	10 years	CRG – 2019 - 007 & CRD – 2019 - 007	28/Mar/2019	27/Mar/2029	solar	147	Off-Grid
27	Power Gen Renewable Energy Limited	Kitaita & Son-gambebe village, Gairo District, Morogoro Region.	15.36	Generation & Distribution	10 years	CRG – 2019 - 008 & CRD – 2019 - 008	28/Mar/19	27/Mar/29	solar	100	Off-Grid
28	Yovi Hydro-power Co. Limited	Msolwa village, Kilosa District, Morogoro Region.	995	Generation & sale to TANESCO	10years	CRG - 2019 - 009	16/Apr/19	15/Apr/29	hydro	Sell Power to Tanesco	Main-Grid
29	Power Gen Renewable Energy Limited	Itabagumba village, Buchosa District, Mwanza Region.	30.32	Generation for sale to TANESCO	10 years	CRG – 2019 - 010 & CRD – 2019 - 010	1/Jul/19	30/Jun/29	solar	251	Off-Grid
30	PowerGen Renewable Energy Ltd	Busenge village, Buchosa District, Mwanza Region.	28.68	Generation & Distribution	10 years	CRG – 2019 - 011 & CRD – 2019 - 011	1/Jul/2019	30/Jun/29	solar	180	Off-Grid
31	Power Gen Renewable Energy Limited	Kanyala village, Buchosa District, Mwanza Region.	30.32	Generation & Distribution	10 years	CRG – 2019 - 012 & CRD – 2019 - 012	1/Jul/19	30/Jun/29	solar	251	Off-Grid

No.	Entity with Full Registration	Project Area	Generation Capacity (KW)	Type of activity	Duration	Registration No.	Date of Issue	Date of Expiry	Source of Energy	Customer served	Grid
32	Power Gen Renewable Energy Limited	Iglansoni village, Ikungi District, Singida Region.	23.96	Generation	10 years	CRG – 2019 - 013 & CRD – 2019 - 013	1/Jul/19	30/Jun/29	solar	200	Off-Grid
33	PowerCorner T Limited	Mwenge village, Sikonge District, Tabora Region.	28	Generation	10 years	CRG – 2019 - 014 & CRD – 2019 - 014	1/Jul/2019	30/Jun/29	solar	317	Off-Grid
34	PowerCorner T Limited	Mgambo village, Sikonge District, Tabora Region.	20	Generation	10 years	CRG – 2019 - 015 & CRD – 2019 - 015	1/Jul/19	30/Jun/29	solar	163	Off-Grid
35	Matembwe		590						hydro	sell power to tanesco	Main-Grid
Total VSPP (MW)			3,789.03							4,185.00	
Total VSPP solar generation			2,564.03								
Total VSPP hydro generation			1,225.00								
Total VSPP Main-grid			2,035.00								
Total VSPP off-Grid			1,754.03								

Source: EWURA Licence Data Base

Annex 6: Standardized Small Power Projects Tariff

a) Approved Tariffs for SPPs Selling Electricity to the Grid under Second Generation (Forth Generation)

Capacity	Minihydro	Wind	Solar	Biomass	Bagasse
	USc/kWh	USc/kWh	USc/kWh	USc/kWh	USc/kWh
0.1 - 0.5MW	10.65	10.82	10.54	10.15	9.71
0.51 - 1 MW	9.90	9.95	9.84	9.34	9.09
1.01 - 5MW	8.95	9.42	9.24	8.64	8.56
5.01 - 10MW	7.83	8.88	8.34	7.60	7.55

b) Tariffs for Main Grid Connection under the First Generation SPP Framework (Avoided Cost)

Description		2018 Tariff (TZS/kWh)	Approved Tariff effective 1 st May 2019 (TZS/kWh)	Percentage Change
Standardized Small Power Purchase Tariff		203.11	203.11	0%
Seasonally adjusted Standardized SPPT Payable in	Dry season	243.73	243.73	0%
	Wet season	182.80	182.80	0%

c) Tariffs for Mini Grid Connection under the First Generation SPP Framework (Avoided Cost)

Description	2016 Tariff (TZS/kWh)	2017 Approved Tariff (TZS/kWh)	Percentage Change
Standardized SPP Tariff	477.16	499.25	4.84%

Annex 7: TANESCO Tariff and Charges

a) Approved TANESCO Tariff

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, Buiyanhulu and Twiga Cement.

iii. Service line application fee

Tariff Category	Current Fee TZS	Proposed Fee TZS	Approved Fee TZS
All Customers	5,000	--	--

iv. Charges for Installation of Meter in Case of Damage Due To Meter Tempering/Broken

Customer Category	Requested Charges in TZS (VAT exclusive)	Approved Charges in TZS (VAT exclusive)
D1	20,000	20,000
T1	20,000	20,000
T2	30,000	30,000
T3	50,000	50,000

v. Testing and Inspection of Installation Fee

Customer Category	Description	Requested Charges TZS (VAT exclusive)	Approved Charges TZS (VAT exclusive)
D1 & T1	LUKU (Single Phase)	60,000	60,000
	LUKU (Three Phase)	200,000	200,000
	AMR (Three Phase)	300,000	300,000
T2	CT - Operated Meters	1,200,000	1,200,000
T3	CT/VT Operated Meters	1,200,000	1,200,000

b) Approved TANESCO Charges i. Single Phase Charges

Service Line	Requested Connection Charges (TZS)		Approved Connection Charges (TZS)	
	Urban Rate	Rural Rate	Urban Rate	Rural Rate
	TZS (VAT exclusive)	TZS (VAT exclusive)	TZS (VAT exclusive)	TZS (VAT exclusive)
Within 30 Meters	272,000	150,000	272,000	150,000
Within 70 Meters (one pole)	436,964	286,220	436,964	286,220
Within 120 Meters (two poles)	590,398	385,300	590,398	385,300

ii. Three Phase Charges for Urban and Rural Area

Service Line	Meter Type	Requested Connection Charges (TZS)		Approved Connection Charges (TZS)	
		Urban Rate	Rural Rate	Urban Rate	Rural Rate
		TZS (VAT excl.)	TZS (VAT excl.)	TZS (VAT excl.)	TZS (VAT excl.)
Within 30 Meters (cable 16mm ²)	LUKU				
Within 30 Meters (cable 16mm ²)	AMR				
Within 30 Meters (cable 35mm ²)	LUKU	772,893	772,893	772,893	772,893
Within 30 Meters (cable 35mm ²)	AMR				
Within 70 Meters (one pole)	LUKU				
Within 70 Meters (one pole)	AMR	1,058,801	1,058,801	1,058,801	1,058,801
Within 120 Meters (two poles)	LUKU				
Within 120 Meters (two poles)	AMR	1,389,115	1,389,115	1,389,115	1,389,115

vi. Temporary power supply charges

Customer Category	Description	Requested Charges TZS (VAT exclusive)	Approved Charges TZS (VAT exclusive)
T2	Connection Fee	Full Cost plus 10%	Full Cost plus 10%
T3		Full Cost plus 10%	Full Cost plus 10%
T2	Meter Deposit	200,000	200,000
T3		500,000	500,000

vii. Energy Deposit for Post Paid Meters

Customer Category	Description	Requested Charges TZS (VAT exclusive)	Approved Charges TZS (VAT exclusive)
D1	Single Phase	30,000	30,000
T1	Single Phase	30,000	30,000
T1	Three Phase	150,000	150,000
T2	Three Phase	200,000	200,000
T3	Three Phase	500,000	500,000

Annex 8: Mwenga Hydro Limited Tariff

a) Approved Tariffs

Customer Category		Component	Approved Rates
D1		Basic Charge	0.00
	Domestic Low Usage	Energy Charge (0-50kWh/ Month)	60.00
	High Cost Unit Penalty – High Usage	Energy Charge (50+ kWh/ Month)	273.04
T1	All other customers inclusive of domestic users averaging more than 50 kWh/Month	Energy Charge (inclusive of average fixed monthly service fee component)	234.04

b) Approved Service Line Charges

Description	Approved Connection Charges After the First 2600 Connections (TZS)	Approved Connection Charges for the First 2600 connections (subsidised) (TZS)
Application fees	5,000	5,000
New Service Line Charges		
(a) Overhead service line - single phase (30m)		
D1 with LUKU meter	385,682	180,000
T1 with LUKU meter	385,682	180,000
(b) Overhead service line - three phase (30m)		
T1 with LUKU meter (16mm ² cable)	772,893	380,000
T1 with LUKU meter (36mm ² cable)	913,202	450,000
(c) Single phase 70m route		
Single phase 70m route length - including 1 pole (LUKU)	1,145,664	850,000
(d) Three phase 70m route		
Three phase 70m route length - including 1 pole (LUKU)	1,799,062	1,300,000

Annex 9: Grid and Off-Grid Installed Capacity by Power Plant

PART I	MAIN GRID POWER PLANT	No. of Units	Technology	Installed Capacity (MW)
a)	Main Grid Power Plant Owned by TANESCO			
	Hydro			
	1. KIDATU	4	Hydro	204
	2. KIHANSI	3	Hydro	180
	3. MTERA	2	Hydro	80
	4. NEW PANGANI FALLS	2	Hydro	68
	5. HALE	2	Hydro	21
	6. NYUMBA YA MUNGU	2	Hydro	8
	7. UWEMBA	3	Hydro	0.84
	Sub-Total Hydro			561.84
	Natural Gas			
	1. UBUNGO I	12	Gas	102
	2. TEGETA	5	Gas	45
	3. UBUNGO II	3	Gas	129
	4. KINYEREZI I	4	Gas	150
	5. KINYEREZI II	6	Gas	248.22
	6. MTWARA	9	Gas	22
	7. SOMANGA	3	Gas	7.5
	Sub-Total Natural Gas			703.72
	HFO/GO			
	1. ZUZU	3	HFO	7.4
	2. NYAKATO	10	HFO	63
	3. BIHARAMULO	5	GO	4.14
	4. SONGEA	6	GO	7.67
	5. NAMTUMBO	1	GO	0.34
	6. LUDEWA	3	GO	1.27
	7. MBINGA	2	GO	2
	8. MADABA	1	GO	0.48
	9. NGARA	2	GO	2.5
	Sub-Total HFO/GO			88.8
	Sub-Total Main Grid Power Plant Owned by TANESCO			1354.36
b)	Main Grid Power Plant owned by Independent Power Producer (IPP)			
	1. SONGAS	6	Gas	189
	Sub-Total Main Grid Power Plant owned by IPP			189
c)	Main Grid Small Power Project (SPP) not owned by TANESCO			
	1. TANWAT	1	Biomass	1.5
	2. TPC	1	Biomass	9
	3. MWENGA	1	Hydro	4
	4. ANDOYA	1	Hydro	1
	5. TULILA	2	Hydro	5
	Sub-Total Main Grid SPP			20.5

PART I	MAIN GRID POWER PLANT	No. of Units	Technology	Installed Capacity (MW)
d)	Main Grid Very Small Power Project (VSPP) not owned by TANESCO			
	1. IYOVI	1	Hydro	0.995
	2. DARAKUTA	1	Hydro	0.45
	3. MATEMBWE	1	Hydro	0.59
	Sub-Total Main Grid VSPP			2.035
	Total Main Grid (Hydro, Natural Gas, HFO/GO & SP-P&VSPP)			1565.895
PART II	OFF-GRID POWER PLANT			
a)	Off-Grid Power Plant owned by TANESCO			
	1. KIGOMA		GO	6.25
	2. MPANDA		GO	5.676
	3. MAFIA		GO	2.18
	4. TUNDURU		GO	2.068
	5. LIWALE		GO	0.848
	6. SUMBAWANGA		GO	5
	7. KASULU		GO	2.5
	8. KIBONDO		GO	2.5
	9. LOLIONDO		GO	5
	10. INYONGA		GO	0.476
	11. BUKOBA		GO	2.56
	Sub-Total Off-Grid Power Plant owned by TANESCO			35.058
b)	Sub-Total VSPP Off-Grid Power Plant - Refer Appendix 5			1.754
	Total Off-Grid Power Plant			36.812
	NATIONAL SYSTEM TOTAL (Main Grid and Off-Grid)			1,602.71

Source: Daily Operation Report from TANESCO and EWURA Licensee Data Base

x) **Annex 10: Grid and Off-Grid Installed Capacity by Licensee**

S/N	Licensee Name & Description	Technology	Installed Capacity (MW)	% Contribution
1	TANESCO			
1.1	TANESCO Main Grid			
1.	KIDATU	Hydro	204	
2.	KIHANSI	Hydro	180	
3.	MTERA	Hydro	80	
4.	NEW PANGANI FALLS	Hydro	68	
5.	HALE	Hydro	21	
6.	NYUMBA YA MUNGU	Hydro	8	
7.	UWEMBA	Hydro	0.84	
	Sub-Total Hydro		561.84	
1.	UBUNGO I	Gas	102	
2.	TEGETA	Gas	45	
3.	UBUNGO II	Gas	129	
4.	KINYEREZI I	Gas	150	
5.	KINYEREZI II	Gas	248.22	
6.	MTWARA	Gas	22	
7.	SOMANGA	Gas	7.5	
	Sub-Total Natural Gas		703.72	
1.	ZUZU	HFO	7.4	
2.	NYAKATO	HFO	63	
3.	BIHARAMULO	GO	4.14	
4.	SONGEA	GO	7.67	
5.	NAMTUMBO	GO	0.34	
6.	LUDEWA	GO	1.27	
7.	MBINGA	GO	2	
8.	MADABA	GO	0.48	
9.	NGARA	GO	2.5	
	Sub-Total HFO/GO		88.8	
	Sub-Total Main Grid Power Plant Owned by TANESCO		1354.36	
1.2	TANESCO Off Grid			
1.	KIGOMA	GO	6.25	
2.	MPANDA	GO	5.676	
3.	MAFIA	GO	2.18	
4.	TUNDURU	GO	2.068	
5.	LIWALE	GO	0.848	
6.	SUMBAWANGA	GO	5	
7.	KASULU	GO	2.5	
8.	KIBONDO	GO	2.5	
9.	LOLIONDO	GO	5	
10.	INYONGA	GO	0.476	
11.	BUKOBA	GO	2.56	
	Sub-Total Off-Grid Power Plant owned by TANESCO		35.058	
	Total TANESCO(Main Grid + Off-Grid)		1389.418	86.69%

S/N	Licensee Name & Description	Technology	Installed Capacity (MW)	% Contribution
2	Main Grid Power Plant owned by Independent Power Producer (IPP)			
2.1	1. SONGAS	Gas	189	
	Sub-Total Main Grid Power Plant owned by IPP		189	11.79%
3	Main Grid SPP not owned by TANESCO			
	1. TANWAT	Biomass	1.5	
	2. TPC	Biomass	9	
	3. MWENGA	Hydro	4	
	4. ANDOYA	Hydro	1	
	5. TULILA	Hydro	5	
	Sub-Total Main Grid SPP - Refer Appendix 5		20.5	
	VSPP Main Grid - Refer Appendix 5		2.035	
	VSPP Off-Grid Power Plant -Refer Appendix 5		1.754	
	Total SPP and VSPP		24.289	1.52%
	NATIONAL SYSTEM TOTAL (Main Grid and Off-Grid)		1,602.71	-

Annex 11: Power Generation Plant Operation Performance Data

A. HYDRO POWER PLANTS									
Power Plant	Total Installed Capacity (MW)	Average Available Capacity (MW)	Average Utilized Capacity (MW)	Average Plant Availability (%)	Average Plant Utilization (%)	Average Plant Load Factor (%)	Total Energy Dispatched (MWh)	Generation Cost Per Unit (TZS/kWh)	
KIDATU	204	194.94	91.80	96	47	0.7	804,163.00	3.53	
MTERA	80	175.14	95.82	97	55	0.7	839,359.37	19.23	
KIHANSI	180	76.98	31.79	96	41	0.2	278,479.00	7.84	
NEW PANGANI	68	65.74	37.95	97	58	0.3	332,463.02	10.60	
HALE	21	6.99	6.34	33	91	0.05	55,579.83	27.43	
NYUMBA YA MUNGU	8	7.86	5.89	98	75	0.04	51,589.88	22.71	
AVERAGE (Availability & utilisation)									
61.2									
B. GAS FIRED POWER PLANTS									
UBUNGO 1 GAS P/PLANT	102.50	79.26	63.66	78	80	0.5	557,641.20	85.45	
TEGETA GAS P/PLANT	43.50	26.29	19.68	58	75	0.1	172,394.30	198.00	
UBUNGO 2 GAS P/PLANT	129.00	94.48	94.56	73	100	0.7	828,382.0	118.47	
KINYEREZI 1 GAS P/PLANT	150.00	124.94	95.95	83	77	0.7	840,529.68	122.44	
KINYEREZI 2 GAS P/PLANT	240.00	171.61	117.40	69	68	0.9	1,028,404.78	144.63	
MTWARA	22.00	19.17	0.13	87	1.00	0.0	14,043.353	245.32	
SOMANGA	7.50	2.00	0.00	27	0	0.0	45.2	130.00	
AVERAGE (Availability & Utilisation)									
64									
57									

C. LIQUID FUEL PLANTS									
Power Plant	Total Installed Capacity (MW)	Average Available Capacity (MW)	Average Utilized Capacity (MW)	Average Plant Availability (%)	Average Plant Utilization (%)	Average Plant Load Factor (%)	Total Energy Dispatched (MWh)	Generation Cost Per Unit (TZS/kWh)	
BUKOBA	2.56	2.20	2.20	85.94	0.08	3.05	195.04	780.00	
INYONGA	0.476	0.42	0.21	88.24	2.65	0.93	1,058.086	1,424.00	
KASULU	2.50	2.50	2.28	100.00	3.55	1.0	9,319.729	572.00	
KIBONDO	2.50	2.50	1.50	100.00	2.07	0.58	5,431.113	609.00	
KIGOMA	8.25	6.24	5.43	75.69	4.4	0.87	28,853.847	636.00	
LIWALE	0.85	1.32	0.60	4.19	3.38	0.62	2,234.244	730.00	
LOLIONDO	3.75	2.50	0.35	66.67	0.56	0.14	1,459.656	1,006.00	
LUDEWA	1.27	1.27	0.51	100.00	0.36	0.43	482.925	751.00	
MADABA	0.48	0.35	0.06	73.35	0.20	0.33	73.952	2,444.00	
MAFIA	2.18	1.40	1.40	64.41	3.62	1.02	5,350.328	939.00	
MBINGA	2.00	2.00	1.90	100.00	0.28	1.21	580.764	628.00	
MPANDA	5.406	2.50	2.40	46.23	4.74	1.09	12,444.747	566.00	
NAMTUMBO	0.34	0.34	0.34	100.00	0.71	1.22	254.637	789.00	
NGARA	2.50	2.50	1.46	100.00	0.21	0.58	556.105	562.00	
SONGEA	7.67	5.87	6.30	70.45	0.54	1.4	3,312.751	584.00	
SUMBAWANGA	5.00	4.91	5.03	98.25	0.12	1.04	607.507	601.00	
TUNDURU	2.996	1.80	1.35	59.38	4.11	0.86	7,682.834	706.00	
BIHARAMULO	4.14	3.40	0.04	100.00	0.21	0.43	422.217		
DODOMA (ZUZU) P/PLANT	7.40	4.95	0.03	67.00	1	0.004	989.55		
NYAKATO 60MW P/PLANT	63.00	33.45	0.44	53	1	0.06	4,539.43	439.00	
AVARAGE (Availability & utilisation)				83.3333	66.3333				

Annex 12: Electricity Transmission Performance Data - TANESCO

Name of Licensee: TANESCO				
Year	2018/2019			
Line Voltage (kV)	66	132	220	400
Route Length (km)	543	1,673	3,011	670
Number of Customers Connected	-	4	1	-
Number of Transmission Substation	7	27	21	-
Capacity of Transmission Substation(MVA)	89	1,599	2,668	-
Planned Outages (Hours)	181	911	558	-
Planned Outages frequency (Number)	16	87	110	-
Unplanned Outages (Hours)	252	112	191	-
Unplanned Outages frequency (Number)	22	113	148	-
Energy received in Transmission System (MWh)	7,413,952.74			
Total Energy Received in P/S for distribution (MWh)	6,975,209.00			
Transmission System Losses (MWh)	435,550.59 (5.87%)			
Cross boarder Energy Import (MWh)	121,126.74			
Cross boarder Energy Export (MWh)	N/A			
Year	2018/2019			
Total grid failure (Hours)	12.47			
Total grid failure (Frequency)	4.00			
SAIFI-CP	Total - 14.62; Average - 3.655			
Section 3: Licensee Data Approval				
Name:	Title:	Sign:	Stamp:	

Annex 13: Electricity Distribution Data

A. TANESCO

		2018/19				
Year						
Voltage(KV)		0.23/0.4	11	33		0.23/0.4
Route Length(Km)		68,819.60	6588.4	33817.6		677.97
No. of Customers Connected			2934	729		N/A
No. of Feeders		N/A				853
Load Shedding(mw)						732.8
Load Shedding(hours)						888
2018/19						
Year						2018/19
Voltage (kV)						11/33
SAIFI						46.032
SAIDI						46.4
CAIDI						1.01
2018/19						
Year						2018/19
Total number of customer connected				2,484,222		Energy distributed (MWh)
No. of application for new customer connection				276,764		Energy sold(MWh)
Number of new customer connected				260,564		Total distribution losses (%)
Number of customer complaint				2,123		Technical losses (%)
No. of customer complaint responded within 3 days				426		Non Technical Losses (%)
No. of primary substation				190		Total of temporarily breakdown (TBs)
Capacity of Primary substation (MVA)				2190		Total number of TBs resolved
No. of secondary substation				20155		Number of fatal accidents (4 employee, 33 public)
Capacity of secondary substation (MVA)				3403		Number of non-fatal accidents (56 employee, 32 public)
Name:						
				Title:		Stamp:
				Sign:		

Annex 14: Total Revenue (TZS in millions)

Description	Electricity Sales			Other Income			TOTAL			Contribution of Electricity Sales to Total Revenue		
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19
FY												
TANESCO	1,414,772	1,430,849	1,535,255	139,657	218,102	191,944	1,554,429	1,648,951	1,727,199	91%	87%	89%
Songas	172,553	183,645	189,669	36,709	41,121	38,005	209,262	224,766	227,674	82%	82%	83%
Mwenga Hydro	3,683	3,799	2,921	1,080	775	1,172	4,762	4,573	4,092	77%	83%	71%
Tuilila	7,579	8,834	10,362	104	104	104	7,682	8,937	10,466	99%	99%	99%
Andoya	975	1,262	1,123	-	-	331	975	1,262	1,454	100%	100%	77%
Mwenga Power	344	448	338	86	55	64	430	503	402	80%	89%	84%
TOTAL	1,599,905	1,628,836	1,739,667	177,636	260,157	231,619	1,777,541	1,888,993	1,971,286	90%	86%	88%

Percentage Change

Description	Electricity Sales			Other Income			TOTAL		
	2016/17	2017/18	2018/19	2016/17	2018/19	2018/19	2016/17	2017/18	2018/19
FY									
TANESCO	3%	1%	7%	-14%	-12%	1%	56%	-12%	6%
Songas	7	6%	3%	-12	-8%	3	12%	-8%	7%
Mwenga Hydro	-13%	3%	-23%	0%	51%	-13%	-28%	51%	-4%
Tuilila	899	17%	17%	-100	0%	791	0%	0%	16%
Andoya	81%	29%	-11%			32%			29%
Mwenga Power	293	30%	-25%		16%	392	-36%	17%	17%
TOTAL	3%	2%	7%	-14%	-11%	1%	46%	-11%	6%

xv) **Annex 15: TANESCO Sales per Customer Category**

Customer Category	Sales (TZS Billions)				Sales (MWh)			
	2015/16	2016/17	2017/18	2018/19	2015/16	2016/17	2017/18	2018/19
Domestic low usage	53	43	36	35	324	325	309	312
General usage	663	684	695	753	2,078	2,379	2,418	2,597
Low Voltage Supply	158	158	157	164	599	622	601	633
High Voltage Supply	438	459	469	501	2,187	2,349	2,282	2,571
ZECO	68	71	73	81	361	383	396	439
TOTAL	1,380	1,415	1,431	1,535	5,549	6,059	6,005	6,551
Percentage Contribution								
	2015/16	2016/17	2017/18	2018/19	2015/16	2016/17	2017/18	2018/19
Domestic low usage	4%	3%	2%	2%	6%	5%	5%	5%
General usage	48%	48%	49%	49%	37%	39%	40%	40%
Low Voltage Supply	11%	11%	11%	11%	11%	10%	10%	10%
High Voltage Supply	32%	32%	33%	33%	39%	39%	38%	39%
ZECO	5%	5%	5%	5%	7%	6%	7%	7%

Footnotes

¹Rusumo Hydro Power Project (80MW) is a Regional project developed by the Government of the United Republic of Tanzania (26.7MW), the Government of Republic of Rwanda (26.7MW) and the Government of Republic of Burundi (26.7MW).



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