



**REF: EPC/27/2016**  
**ECONOMIC PORTFOLIO COMMITTEE'S REPORT**  
**KIBO PALACE HOTEL, ARUSHA, TANZANIA 13 - 16 DECEMBER 2016**

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## **1. Introduction**

Economic Portfolio Committee (EPC) second quarter for 2016/17 was held on 13<sup>th</sup> to 16<sup>th</sup> December 2016 at Kibo Palace Hotel, Arusha, Tanzania. The Portfolio Committee meeting was hosted by Energy and Water Utilities Regulatory Authority (EWURA).

### **EPC Participants**

#### **Present:**

1. Energy Regulatory Commission of Kenya (ERC)
2. Water, Electricity and Mines Regulatory Agency of Burundi (AREEM)
3. Electricity Regulatory Authority of Uganda (ERA)
4. Energy and Water Utilities Regulatory Authority (EWURA) and
5. Rwanda Utilities Regulatory Authority (RURA) as per attached **Annex 1**.

## **2. EPC's Mandate**

The mandate of EPC is to deal with policies, planning, tariffs, market operations, research and information sharing amongst member institutions.

## **3. EPC Officials**

EPC is chaired by RURA, and ERA as the Secretary.

## **4. Adoption of Agenda**

The following agenda was proposed and adopted.

- a) Review of the 11<sup>th</sup> Executive Committee (EXCO) Resolutions made in Bujumbura- Burundi, May 2016,
- b) Review of EPC Action Plan 2016/17,
- c) Update on Supply and Demand Balance for Electricity, Oil and Gas.
- d) Update on recent developments in each member country,
- e) Update on weighted average tariff for electricity, the respective cost breakdown, tariff cost drivers for customer groups and the associated charges per National Regulatory Institutions, and
- f) Any other business.

#### **5. Review of the 11<sup>th</sup> Executive Committee (EXCO) Resolutions made in Bujumbura- Burundi, May 2016**

**Resolution a:** Directed the activities of EREA shall be mainstreamed into each EREA member institutions work plan.

All member countries reported that, the EREA 2016/17 work plans were mainstreamed into their institutions work plans.

**Resolution k:** Directed that EPC to prepare, and report on weighted average tariff for electricity, the respective cost breakdown, tariff cost drivers for customer groups and the associated charges per National Regulatory Institutions.

The status is reported as a substantive agenda number f.

**Resolution m:** Directed each cross cutting activity should be led by a portfolio committee for proper coordination and in collaboration with the secretariat.

ERC as a member of EPC in the electricity thematic working group has been working on supply and demand balance and this will be ready before the AREA meeting in May 2017.

**Resolution o:** Directed EPC to finalize the position paper on the methodology for determination of the reasonable rate of return (RoR) on investments in the electricity industry.

This activity is work in progress is expected to be completed by May 2017 (Q4) as per EPC work plan.

## 6. Review of EPC Action Plan 2016/17

- a. Demand and Supply balance for Electricity from various member countries.

The Tables 7.1 to 7.5 present the demand, supply and reserve margin per EREA member country. For prudence practice, the ideal reserve margin range is 15%-20% of peak demand.

**Table 7.1 : Kenya Demand supply balance- Normal load growth**

Year	Plant name	Added capacity [MW]	Total Capacity [MW]	System Peak (MW)	Less NonFirm Capacity	Surplus Deficit	Reserve Margin (%)
<b>2016</b>	KenGen Olkaria Wellheads II Geothermal	20	<b>2,355</b>	1,679			16%
<b>2017</b>	Emergency Power	90	<b>2,575</b>	1,804			15%
	Kipeto - Phase I	50					
	Lake Turkana - Phase I, Stage 1	100					
<b>2018</b>	Menengai I Phase I - Stage 1	103	<b>2,850</b>	1,942			14%
	Aeolus Kinangop	60					
	Meru Phase I	80					
	Kipeto - Phase II	50					
	Lake Turkana - Phase I, Stage 2	100					
<b>2019</b>	HVDC Ethiopia-Kenya interc.	400	<b>3,409</b>	2,090			12%
	Lake Turkana - Phase I, Stage 3	100					
<b>2020</b>	Lamu Unit 1	327	<b>3,588</b>	2,259			25%
<b>2021</b>	Lamu Unit 2	327	<b>3,935</b>	2,451			25%
<b>2022</b>	Lamu Unit 3	327	<b>4,289</b>	2,633			25%

**Table 7.2 : Uganda Demand supply balance- Normal load growth**

Year /Plant	Type	Added Capacity MW	Total Capacity MW	System Peak MW	Effective capacity (MW)	Surplus/ (Deficit) MW	Reserve Margin %
<b>2015</b>			<b>852</b>				
SAIL	Co-gen	7	<b>859</b>	551	683	132	19.3%
<b>2016</b>							
Access TSK	Solar	10	<b>869</b>	574.43	685	110.57	16.1%
<b>2017</b>							
Tororo North Solar	Solar	10					
Sindila	Hydro	6					
Ndugutu	Hydro	5					
Kinyara	Cogen	40					
Siti 1&2	Hydro	5					
Nengo bridge	Hydro	7					
Rwimi	Hydro	6					
Waki	Hydro	5					
Lubilia	Hydro	5					
Nyamwamba	Hydro	9					
Emerging Power	Solar	10					
		<b>108</b>	<b>977</b>	605	739	134	18.1%
<b>2018</b>							
Nsongezi	Hydro	35					
Kikagati	Hydro	16					
Albatros (50MW)	Thermal	-					
Tororo PV Solar	Solar	15					
Kakaka	Hydro	5					
Isimba	Hydro	183					
Achwa I,II,	Hydro	83					

Year /Plant	Type	Added Capacity MW	Total Capacity MW	System Peak MW	Effective capacity (MW)	Surplus/ (Deficit) MW	Reserve Margin %
MS Xabo power	Solar	20					
		<b>357</b>	<b>1,334</b>	646	953.20	307.2	47.6%
<b>2019</b>							
Muzizi	Hydro	44.7					
Karuma	Hydro	600					
Siti 2	Hydro	16					
Muyembe	Hydro	7					
Sironko	Hydro	7					
Lake Albert (50MW)	Nat Gas	-					
		<b>674.7</b>	<b>2,009</b>	684	1,405.25	721.25	105.4%

**Table 7.3 : Burundi Demand supply balance- Normal load growth**

Year/Plant Name	Type	Added Capacity (MW)	Total Installed capacity (MW)	Effective capacity (MW)	System Peak (MW)	Surplus /Deficit (MW)	Reserve (MW)
<b>2015</b>			<b>72</b>	<b>46</b>	<b>75</b>	<b>-29</b>	
<b>2016</b>			<b>72</b>	<b>46</b>	<b>75</b>	<b>-29</b>	
<b>2017</b>							
Bubanza PV	Solar	10					
Gitega PV, GIGAWATT	Solar	7,5					
Gitega PV	Solar	10					
Mpanda	Hydro	10,4					
Solar/Thermal Hybrid	Thermal	20					
<b>TOTAL 5</b>			<b>58</b>	<b>23</b>			
<b>TOTAL</b>			<b>130</b>	<b>69</b>	<b>84</b>	<b>-15</b>	
<b>2018</b>							
Mpanda	Hydro	10,40					
Kabu 16	Hydro	20,00					
Jiji 003	Hydro	31,50					
Mule 034	Hydro	16,50					
Ruzb 006	Hydro	15,00					
KagU 006	Hydro	12,00					
Ruvu 216	Hydro	15,00					
Ruvu 167	Hydro	15,00					
Rusumo	Hydro	27,00					
Rusizi III	Hydro	49,00					
<b>TOTAL 6</b>			<b>211</b>	<b>127</b>			
<b>TOTAL</b>			<b>341</b>	<b>196</b>	<b>87</b>	<b>109</b>	<b>125%</b>
<b>2019</b>							
Ruvu 169	Hydro	20,00					
Ruvyironza NELSAP	Hydro	27,00					
<b>TOTAL 7</b>			<b>47</b>	<b>28</b>			
<b>TOTAL</b>			<b>388</b>	<b>224</b>	<b>93</b>	<b>131</b>	<b>141%</b>
<b>2020</b>							
Rushiha	Hydro	13,00					

Year/Plant Name	Type	Added Capacity (MW)	Total Installed capacity (MW)	Effective capacity (MW)	System Peak (MW)	Surplus /Deficit (MW)	Reserve (MW)
<b>TOTAL 8</b>			<b>13</b>	<b>8</b>			
<b>TOTAL</b>			<b>401</b>	<b>232</b>	<b>100</b>	<b>132</b>	<b>132%</b>

**Table7.4: Tanzania –Electricity Demand and Supply balance**

Year	Type	Added Capacity	Total Firm Capacity	Available Capacity	System Peak Demand	Surplus/ (Deficit)	Reserve Margin
		(MW)	(MW)	(MW)	(MW)	(MW)	(%)
<b>2015</b>			<b>1541.62</b>	<b>1079.13</b>	<b>988.27</b>	<b>90.86</b>	<b>9%</b>
<b>2016</b>							
Ubungo II	Gas	16					
Kinyerezi I	Gas	75					
Aggreko - Ubungo (EPP)	Diesel	-50					
Aggreko - Tegeta (EPP)	Diesel	-20					
Songea - Isolated Grid	IDO	0.23					
Biharamulo - Isolated Grid	IDO	2.50					
Ngara - Isolated Grid	IDO	2.50					
Tunduru - Isolated Grid	IDO	0.10					
Symbion Ubungo	Gas	-120					
<b>As of November 2016</b>			<b>1,447.95</b>	<b>1,013.57</b>	<b>1,041.63</b>	<b>-28.07</b>	<b>-3%</b>
<b>2017</b>							
Kinyerezi I Extension	Gas	185					
Kinyerezi II	Gas	240					
Import (Ethiopia)	Hydro	200					
			<b>2,072.95</b>	<b>1,451.065</b>	<b>1,460.00</b>	<b>-8.94</b>	<b>-1%</b>
<b>2018</b>							
Kinyerezi I & II	Gas	600					
Rusumo Falls	Hydro	27					
Singida	Wind	50					

Year	Type	Added Capacity	Total Firm Capacity	Available Capacity	System Peak Demand	Surplus/ (Deficit)	Reserve Margin
		(MW)	(MW)	(MW)	(MW)	(MW)	(%)
			2,149.95	1,504.965	1,680.00	-175.04	-10%
<b>2019</b>							
Somanga Fungu (IPP, Kilwa Energy)	Gas	320					
Mtwara (TANESCO)	Gas	300					
Mchuchuma I	Coal	600					
Lower Kihansi (Extension)	Hydro	120					
Singida	Wind	75					
Dodoma	Solar	50					
Makambako	Wind	100					
			3,714.95	2,600.465	1,920.00	680.47	35%

**Table 7.5: Rwanda – Electricity Demand and Supply balance**

Year/Plant Name	Type	Added Capacity	Total installed Capacity	Effective Capacity	System Peak	Surplus (Deficit)	Reserve
<b>2015</b>		<b>MW</b>	<b>MW</b>	<b>MW</b>	<b>MW</b>	<b>MW</b>	<b>MW</b>
Kivu Watt	Methane Gas	25	185.7	135	119	16	13%
<b>2016</b>							
Gishoma	Peat	15	259.7	240	227	13	6%
Giciye II	Hydro	4					
Mushishito	Hydro	3					
Rukarara V	Hydro	2					
Rwinkwavu	Solar	10					
Micro Hydros	Hydro	10					
Imports from Kenya	Imports	30					
<b>2017</b>							
Micros	Hydro	12	317.7	290	285	5	2%
KSEZ	Thermal	-24					
KSEZ HFO	Thermal	40					



Year/Plant Name	Type	Added Capacity	Total installed Capacity	Effective Capacity	System Peak	Surplus (Deficit)	Reserve
Imports from Kenya	Imports	20					
Nyagatare	Solar	10					
<b>2018</b>							
Micro	Hydro	14					
Renewables	Solar & Biomas	12					
Hakan Peat	Peat	70	563.7	530	381	149	39%
Ethiopia	Imports	100					
Symbion	Methane gas	50					

- b. Demand and Supply Balance for regulated petroleum products in applicable member countries.

#### **EWURA**

The demand and supply balance for petroleum products is indicated based on the comparison between available stocks of petroleum products and estimated daily consumption. Oil Marketing Companies (OMCs) are required to hold a stock which suffices the demand for at least 15 days.

**Table 7(b1) Available stocks of Petroleum Products as of 8<sup>th</sup> December 2016**

<b>SN.</b>	<b>Type of Petroleum Product</b>	<b>Available stock</b>	<b>Estimated Consumption per day</b>	<b>No. of days the available stock is sufficient to meet the demand</b>
1.	Petroleum (litres)	91,163,153	2,887,543	27
2.	Kerosene (litres)	12,339,140	126,996	83
3.	Diesel (litres)	176,077,229	4,964,606	29
4.	Jet A1 (litres)	33,221,449	571,484	46
5.	Heavy Fuel Oil (HFO) (litres)	17,930,190	621,917	24
6.	LPG (Kg)	983,726	50,000	24

**ERC**

**Table 7(b2) Available stocks of Petroleum Products as of 07.12.2016**

	<b>PRODUCT</b>	<b>AVAILABLE GLOBAL</b>	<b>ESTIMATED DAILY</b>	<b>ESTIMATED STOCK DAYS</b>
1	Premium motor spirit (pms)	108,152	4,117	26
2	Automotive gasoline (ago)	137,318	6,904	20
3	Dual purpose kerosene (DPK) & illuminating	12,577	3,610	3

\* KPC stock reports of 7/12/2016

\*\*Based on 2015 kippra data

- c. Participate in the preparation of the EREA Strategic Plan. ERA, EWURA and ERC seconded staff to participate in this activity.
- d. Harmonization of Tariff Codes. This activity is in abeyance since only ERA has fully ratified tariff code. Other EREA members are developing the tariff codes.
- e. Report on the National and Regional Demand forecast for Electricity  
This report will be ready for presentation in the May 2017.
- f. Minimum Filing Rules for Tariff Application. ERA is developing the filing rules, expected to be completed June 2017. It is expected that the results from this work will be an input in the EREA work.

## **7. Update on recent developments in each member country**

Recent developments in our member institutions for the first and second quarters of 2016/17

### **a) EWURA**

- i. Issuance of the Petroleum (Natural gas Pricing) Regulations, 2016.
- ii. Received Tariff Application from TANESCO requesting an increase of 18.19% to be effective from 1<sup>st</sup> January 2017. Analysis is ongoing
- iii. EWURA is in a process to initiate inquiry on natural gas indicative prices for strategic investments. The prices expected to be in effect by January 2017.
- iv. Issued the Electricity Regulatory Information Booklet in 2016. The booklet intended to be used as an investment promotion pack.
- v. Reviewed Electricity (Development of Small Power Projects) Rules, 2016 to address issues related to the implementation of mini-grids.
- vi. Approved power supply and sharing agreement between TANESCO and Uganda Electricity Transmission Company Limited (UETCL).

### **b) ERC**

- i. Received Tariff Application from Kenya Power for Retail Tariff Review in December 2015. Review ongoing.
- ii. Approved PPAs between KPLC and respectively four solar PV power projects, one gas turbine (KenGen), and one geothermal power plant (OrPower4 Inc)
- iii. Extended the power exchange agreement between KPLC and UETCL
- iv. Approved Tariffs for Sidonge and Talek Mini-grids.

### **c) RURA**

- i. Reviewed electricity tariff which should be effective from January 2017 with introduction of lifeline tariff for residential customers and Time of Use for industrial customers.
- ii. RURA started regulating price of petroleum products since July 2016.

- iii. Commissioned the 26 MW methane gas power plant in Western Province.

**d) ERA**

- (i) Commissioned the biggest solar PV power plant in East Africa - 10MWp.
- (ii) Undertaking 2017 annual grid tariff review.
- (iii) completed the Uniform System of Accounts and to implement the same in 2017
- (iv) completed the development of wheeling framework and interconnection code
- (v) revised the Feed-in-Tariffs (FiT) policy leading slight increase in FiT for Hydro and reduction in FiT for Bagasse technology to US Cents 8.8/kWh
- (vi) Licensed Karuma HPP (600MW) and Isimba HPP (183MW) completed, construction progressing on schedule for commissioning in last quarter of 2018.

**e) AREEM**

- i. signed the instrument of accession to EREA
  - ii. Completed a study on electricity tariffs. The existing tariffs which were set in year 2012 are highly subsidized by Government. The new tariffs are expected to be cost reflective and will be effective in 2017.
8. Update on weighted average tariff for electricity, the respective cost breakdown, tariff cost drivers for customer groups and the associated charges per National Regulatory Institutions.

## Report on Weighted Average tariff and tariff cost drivers

### 8.1 ERA

As at the end of December 2016, the weighted average tariff (WAT) in Uganda without energy losses (LF) and target uncollected revenue (TUCF) is US Cents 13.81/kWh and with LF and TUCF is US cents 17.27/kWh. The contribution of the industry generation, transmission and distribution and supply segments to the WAT tariff is shown in Figure 1.

**Figure 1: Share of different segments in Uganda WAT, Dec 2016**

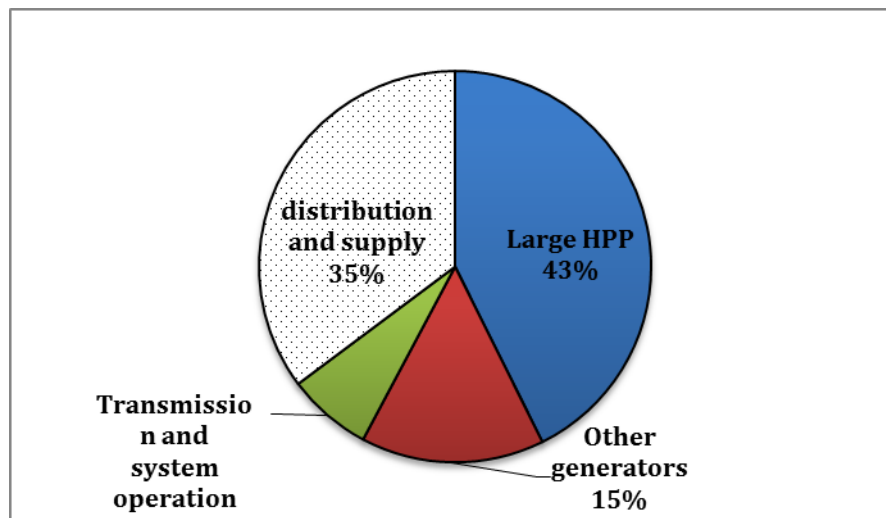
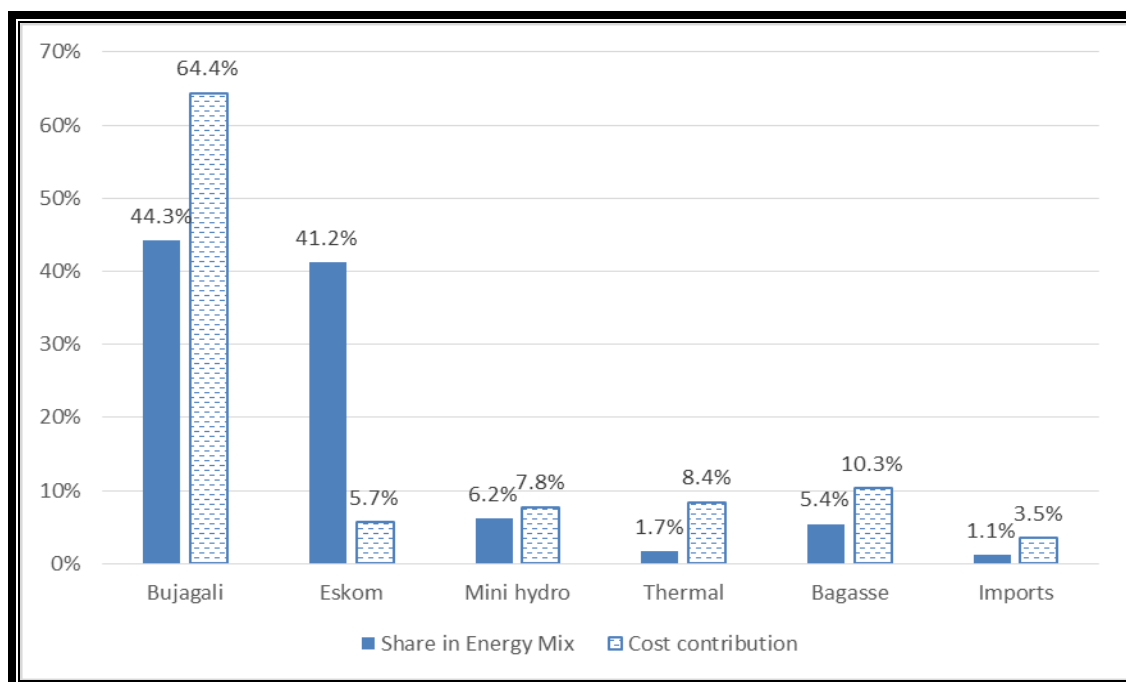


Figure 2: Share of Generation technology in Uganda generation tariff, Dec 2016



The detailed breakdown of cost and tariff build-up and hence cost drivers in the Uganda Electricity industry as at Dec 2016 is attached as **Annex 2**.

## 9. Updates on end user tariffs up to December 2016

### 9.1 Existing Tariff Structures

#### a) Burundi

##### Domestic Consumers

Units	Energy Rate -US¢/kWh	Fixed Charge -US¢/2 months
0 to 100kwh	4.12	-
101 to 300kwh	8.36	-
301kwh and plus	15.75	39.37

##### **Commercial and Industries**

Units	Energy Rate- US¢/kWh	Fixed Charge - US¢/2months
0 to 200kwh	5.63	24.17
201 to 500kwh	9.03	48.48
501kwh and plus	11.51	72.72

**Administration**

Units	Energy Rate - US¢/kwh	Fixed Charge - US¢/2months
Flat rate	9.03	-

**Street Lighting**

Units	Energy Rate - US¢/kWh	Fixed Charge - US¢/2months
Flat Rate	9.15	-

**Rural Areas**

Units	Energy Rate - US¢/kWh	Fixed Charge - US¢/2months
Flat Rate	8.54	-

**Medium Voltage (6.6kV – 30kV) - billing done monthly****Medium voltage with power contracted(PS) and peak hours**

Units	Energy Rate	Fixed Charge
	US¢/kWh	US¢/kW/month
Bonus for PS	-	26.76
Extra bonus for PS	-	53.52
Peak hours (1st 150hours)	8.12	-
Normal hours ( 151 and more	5.63	

**Medium voltage with power contracted(PS) and without peak hours**

Units	Energy Rate	Fixed Charge
	US¢/kWh	US¢/kW/month
Bonus for PS	-	46.94
Extra bonus for PS	-	46.99
Flat Rate	6.3	-

**Medium voltage without power contracted(PS) and without peak hours**

Units	Price/kWh - US¢/kWh	Fixed Charge
Flat Rate	9.2	-



**b) Uganda**

**Customer Categories**

<b>Code</b>	<b>Customer Type (Code Name)</b>	<b>Capacity Limit Max demand (kVA)</b>	<b>Metering</b>
10.1	Domestic	No limit	240V
10.2	Commercial	<=100A	415V
20	Medium industrial	<=500kVA	415V
30	Large industrial	>500<=10,000kVA	11kV/33kV
40	Extra large industrial		11kV/33kV
50	Street Lighting	No limit	240V

**c) Kenya**

**Customer Categories**

<b>Code</b>	<b>Customer Type (Code Name)</b>	<b>Energy Limit kWh/month</b>	<b>Metering</b>
DC	Domestic	0-50	240/415V
	"	51-1500	240/415V
	"	>1500	240/415V
SC	Small Commercial	<15,000	240/415V
CI1	Comm./industrial	>15,000	240/415V
CI2	Comm./industrial	No Limit	11kV
CI3	Comm./industrial	No Limit	33kV
CI4	Comm./industrial	No Limit	66Kv
CI5	Comm./industrial	No Limit	132Kv
IT	Interruptible		
DC IT	"		240/415V

SC IT	"		240/415V
SL	Street Lighting	No Limit	240V

**d) Rwanda**

**Customer categories**

<b>Customer category</b>	<b>Capacity Limit Max demand (kVA)</b>	<b>Metering</b>
Low Voltage (Residential and Non- residential )	No limit	240 V-400V
Medium Voltage	No limit	6.6KVA-30KVA

**e) Tanzania**

**Customer categories**

<b>Code</b>	<b>Customer Type (Code Name)</b>	<b>Capacity Maximu (kVA)</b>	<b>Limit Demand</b>	<b>Metering</b>
D1	Domestic (lifeline tariff)	No limit		230V
T1	Residential, small commercial and light industrial use , public lighting, billboards,	No limit		230V – 400V
T2	Low Voltage Supply for Medium Industrial	Not exceed 500kVA		400V
T3 - MV	Medium Voltage	>500kVA		11kV – 33kV
T3 - HV	High Voltage Supply (large industries, mines, ZECO)	No limit		

**Update on the end user tariffs for each member country EXCLUSIVE of taxes and levies as at December 2016**

**a) Table 1a: Domestic Consumers (Lifeline)**

	<b>Kenya</b>	<b>Rwanda</b>	<b>Tanzania</b>	<b>Uganda</b>	<b>Burundi</b>
Units (kWh)	0 – 50	all consumption	0 - 75	0 - 15	0 -100

	<b>Kenya</b>	<b>Rwanda</b>	<b>Tanzania</b>	<b>Uganda</b>	<b>Burundi</b>
Rate (US¢/kWh) – May 2016	13.27	24.35	4.58	5.94	4.12
Rate (US¢/kWh) – Dec 2016	11.03	23.09	4.61	5.92	4.12

- (i) The Lifeline tariff for Kenya was developed based on an expert study carried out by Fichtner in year 2012. The study findings indicated that the lifeline consumption averaged 21 units per month.

It recommended a tariff band of 0-50 units per month. The decrease in the lifeline tariff is mainly due to the cross subsidy enjoyed by consumers in this category and tax exemption rather than the generation mix. More geothermal at an average total cost of US cents 9/kWh was commissioned replacing thermal that cost on average US cents 25/kWh

- (ii) RURA reviewed tariff, which should be effective from January 2017, and it will include the lifeline tariff consumption.

- (iii) The lifeline tariff for Uganda was developed based on an expert study carried out by PBA Consultants in year 2008/9. ERA will be commissioning another cost of service study in 2016/17 to among other objectives review the lifeline tariff. The decrease in lifeline tariff was mainly due to the strengthening of the US Dollar

- (iv) EWURAs choice of 0-75kWh per month for lifeline tariff was based on the usage of power for lighting purposes and for services offered by small electricity appliances. There was no official study to determine the range. However, many stakeholders were of the opinion that the previously applicable range of 0-50kWh was not adequate. Many poor consumers restricted their consumption of energy in order to afford paying for the electricity bill and in so doing continued to remain poor because of failing to take advantages of the benefits that energy offers for development. Therefore, EWURA increased the range in order to motivate the poor to use more energy for development.

**b) Table 1b: Domestic Consumers (Other)**

kWh	Kenya (US¢/kWh)	Rwanda (US¢/kWh)	Tanzania (US¢/kWh)	Uganda (US¢/kWh)	Burundi (US¢/kWh)
20(May 2016)	13.27	24.35	4.58	19.00	4.12
20 (Dec 2016)	13.27	23.09	4.61	18.47	4.12
150(May 2016)	13.60	24.35	13.38	19.00	8.36
150(Dec 2016)	16.86	23.09	13.45	18.47	8.36
500(May 2016)	15.26	24.35	13.38	19.00	15.75
500 (Dec 2016)	18.91	23.09	13.45	18.47	15.75

**c) Table 2: Small Commercial**

kWh	Kenya (US¢/kWh)	Rwanda (US¢/kWh)	Tanzania (US¢/kWh)	Uganda (US¢/kWh)	Burundi (US¢/kWh)
500(May 2016)	17.00	16.23	13.38	17.20	11.51
500(Dec 2016)	21.01	15.39	13.45	16.74	11.51

**d) Table 3: Medium Industries**

kWh	Kenya (US¢/kWh)	Rwanda (US¢/kWh)	Tanzania (US¢/kWh)	Uganda (US¢/kWh)	Burundi (US¢/kWh)
50,000 (May'16)	13.43	16.23	8.94	15.90	9.21
50,000 (Dec'16)	18.60	15.39	8.99	15.49	9.21

**e) Table 4: Large Industries**

kWh	Kenya (US¢/kWh)	Rwanda (US¢/kWh)	Tanzania (US¢/kWh)	Uganda (US¢/kWh)	Burundi (US¢/kWh)
1.5m(May 2016)	10.74	16.23	7.19	10.70	n/a
1.5m(Dec 2016)	10.85	15.39	7.23	10.28	n/a

- (i) The reviewed electricity tariff for Rwanda was set in September 2015 with high industrial tariff compared to the region, which did not allow the Rwandan industries to be competitive. The new tariff maintained industrial tariff rates and increased LV (Residential and Non-Residential) rates for the reasonable cost recovery. The slight decrease is due to the exchange rate.
- (ii) The increase in Kenya's electricity tariffs was due to the change in the generation mix; maintaining geothermal at an average cost of US cents 9/kWh and increasing thermal generation costing US cent 25/kWh to cater for reduced hydropower due to poor hydrology.
- (iii) Uganda's tariffs reduced slightly in local currency but due to the strengthening of the US Dollar the rates reduced further in US cents/kWh
- (iv) Tanzania's tariffs did not change since the last reporting time (May 2016), however a slight increasing in Tariff is due to the difference of dollar value between May and December 2016.

**f) Table 5: Street Lighting**

Units (kWh)	Kenya (US¢/kWh)	Rwanda (US¢/kWh)	Tanzania (US¢/kWh)	Uganda (US¢/kWh)	Burundi (US¢/kWh)
500 (May 2016)	8.14	24.35	13.38	18.40	9.15
500 (Dec 2016)	10.28	23.09	13.45	17.96`	9.15

**g) Table 6: Electricity Taxes, Levies and Subsidies in each member Country for quarter four 2016**

Assumption	Kenya	Rwanda	Tanzania	Uganda	Burundi
Exchange	102	818.25	2,170.23	3,375.64	1,673.98
VAT	16% on consumption	18% on consumption	18% on Consumption	18% on consumption	18% on consumption
Regulator Levy on	Ksh0.03/kWh	0.3% of consumption	1% of Consumption	0.3% of consumption	0.5% of the main operator's

Assumption	Kenya	Rwanda	Tanzania	Uganda	Burundi
Electricity		on	on	on	turnover & 1% on consumption of other operators
Water Levy	Ksh 0.05/kWh from all hydro energy	0.3% of turnover	N/A	N/A	N/A
Rural Electrification Levy	5% of Consumption	N/A	3% of Consumption	3% of Consumption	N/A
Subsidies	a) Geothermal Steam Charge (Drilling) b) CAPEX for some transmission lines	Is not fixed. It is a lump sum given to the Utility every year for affordability issue	No subsidy	a) Capacity payments for all grid connected thermal plants b) CAPEX for some transmission lines	Capex for some transmission lines

**h) Table 7: Other Regulatory levies (Revenue to the regulator)**

<b>Assumption</b>	<b>Kenya</b>	<b>Rwanda</b>	<b>Tanzania</b>	<b>Uganda</b>	<b>Burundi</b>
Petroleum Regulatory Levy	Kshs0.12/litre for AGO & PMS  Kshs0.05 for DPK	0.3% of turnover	Kerosene TZS 3.5/litre  AGO TZS 6.80 & PMS TZS 6.10/litre	N/A	N/A
Aviation Fuel: Jet-A1 Regulatory Levy	N/A	0% of turnover	N/A	N/A	N/A
Transport sector	N/A	0.8% of turnover	N/A	N/A	N/A
ICT sector	N/A	1% of turnover	N/A	N/A	N/A

**Assumptions for the variation of Tariffs in each member Country**

1. Different levels of government subsidies in member states;
2. Different generation mix and costs driven by the various technologies applicable in each member country
3. Transmission & Distribution network and associated O&M

**Any Other Business**

There was no other business.

Submitted by;

**Economic Portfolio Committee**

15<sup>th</sup> December 2016

## ANNEX 1

### EPC Members Present

SN.	NAME	ORGANIZATION	COUNTRY	EMAIL
1.	Gakwavu Jean Lievin	AREEM	Burundi	jeanlievingakwavu@yahoo.fr
2.	Dr. Frederick Nyang	ERC	Kenya	Frederick.nyang@erc.go.ke
3.	Dr. Geoffrey Okoboi	ERA	Uganda	g.okoboi@era.or.ug
4.	Dr. Benjamin Rutimirwa	RURA	Rwanda	Benjamin.rutimirwa@rura.rw
5.	Jacques Ndagijimana	RURA	Rwanda	jndagijimana@ymail.com
6.	Blandina C. Bilau	EWURA	Tanzania	bilau@ewura.go.tz



## Appendix II : Build-up of the Uganda Electricity industry weighted average tariff, Dec 2016

A	B	C	D	E	F	G	H	I
Segment	Company	Cost		Rev. Req (RR) BEFORE Adjustments (TUCF&LF) - [Ush '000]	Rev. Req (RR) AFTER Adjustments (TUCF&LF)-[Ush '000]	Tariff BEFORE Adjustments (TUCF&LF)- [Ush]	Tariff AFTER Adjustments (TUCF&LF)	Share of Tariff
Generation	Bujagali	RTDm-Principal Repayment		173,952,990.1	221,117,697.9	116.8	148.4	11.1%
Generation	Bujagali	ITDm-Interest on Debt		97,209,483.5	123,566,356.6	65.3	83.0	6.2%
Generation	Bujagali	TERRm-Requity Repayment		224,334,059.0	285,158,827.5	150.6	191.4	14.3%
Generation	Bujagali	CITm-Income Tax		85,865,409.7	109,146,509.8	57.6	73.3	5.5%
Generation	Bujagali	Otm-Other Taxes		1,377,134.0	1,750,523.0	0.9	1.2	0.1%
Generation	Bujagali	Omm-O&M		18,563,848.4	23,597,153.6	12.5	15.8	1.2%
Generation	Bujagali	MCm-Miscellaneous Charges		14,189,756.3	18,037,093.0	9.5	12.1	0.9%
Generation	Bujagali	GOUERRm-GoU Equity		-	-	-	-	0.0%
<b>Generation</b>	<b>Bujagali</b>	<b>ALL</b>		<b>615,492,681.0</b>	<b>782,374,161.4</b>	<b>413.2</b>	<b>525.22</b>	<b>39.2%</b>
Generation	Eskom	Taxes	Recovery of Equity	3,689,469	4,689,812	2.51	3.2	0.2%
Generation	Eskom	Taxes	Equity Return	5,838,313	7,421,283	3.97	5.0	0.4%
Generation	Eskom	O&M	O&M	33,367,896	42,415,094	22.68	28.8	2.1%
Generation	Eskom	concession fees (incl. UEGCL	concession fees (incl. UEGCL	8,674,923	11,026,997	5.90	7.5	0.6%
Generation	Eskom	Taxes	Taxes	2,502,134	3,180,550	1.70	2.2	0.2%
<b>Generation</b>	<b>Eskom</b>			<b>54,072,735.7</b>	<b>68,733,735.7</b>	<b>36.8</b>	<b>46.72</b>	<b>3.44%</b>
Generation	Mpanga			23,808,695.0	30,264,060.6	302.1	384.1	1.5%
Generation	Tronder			20,227,546.0	25,711,937.5	289.0	367.3	1.3%
Generation	Hydromax			11,226,209.3	14,270,025.2	160.4	203.9	0.7%
Generation	Ecopower			6,425,527.7	8,167,711.8	243.4	309.4	0.4%
Generation	KML			1,861,360.0	2,366,039.5	87.8	111.6	0.1%
Generation	KCCL			10,729,812.1	13,639,037.5	188.9	240.1	0.7%
Generation	Electro-Maxx			34,771,284.2	44,198,989.1	568.2	722.2	2.2%
Generation	HFO Jacobsen		45655323.83	45,655,323.8	58,034,070.6	-	-	2.9%
Generation	Kakira			67,384,649.8	85,654,972.8	320.3	407.1	4.3%
Generation	Kinyara			4,785,910.3	6,083,537.1	271.9	345.7	0.3%
Generation	SAIL and..			26,024,394.2	33,080,513.0	318.9	405.4	1.7%
Generation	Imports			33,258,501.7	42,276,038.7	856.5	1,088.7	2.1%
Generation	Exports			(47,862,392.7)	(60,839,552.6)	(466.3)	(592.7)	-3.0%
<b>Generation</b>	<b>ALL</b>			<b>907,862,238.2</b>	<b>1,154,015,277.8</b>	<b>250.6</b>	<b>318.5</b>	<b>57.8%</b>
Transmission	UETCL	Investment						
Transmission	UETCL	Generation Levy		268,754.7	341,623.4	0.08	0.1	0.02%
Transmission	UETCL	Rural Electrification Levy		44,056,140.6	56,001,293.1	12.69	16.1	2.8%
Transmission	UETCL	O&M		72,737,988.5	92,459,788.0	20.95	26.6	4.6%
Transmission	UETCL	Other Revenue		(7,679,000.0)	(9,761,044.1)	(2.21)	(2.8)	-0.5%
<b>Transmission</b>	<b>ALL</b>			<b>109,383,883.8</b>	<b>139,041,660.4</b>	<b>32.6</b>	<b>41.40</b>	<b>7.5%</b>
Distribution	Umeme	Asset Related	Recovery	131,679,344	160,643,606	41.77	51.0	8.0%
Distribution	Umeme	Asset Related	Return on Investment	197,877,343	241,402,555	62.77	76.6	12.1%
Distribution	Umeme	Asset Related	Capital	0	0	-	-	0.0%
Distribution	Umeme	Asset Related	Taxes	84,804,576	103,458,238	26.90	32.8	5.2%
Distribution	Umeme	O&M	Staff Costs	59,228,173	72,256,035	18.79	22.9	3.6%
Distribution	Umeme	O&M	Other Staff costs	12,374,958	15,096,960	3.93	4.8	0.8%
Distribution	Umeme	O&M	Transport Costs	10,670,766	13,017,914	3.38	4.1	0.7%
Distribution	Umeme	O&M	R&Maint.	17,894,008	21,829,984	5.68	6.9	1.1%
Distribution	Umeme	O&M	Admin	40,084,625	48,901,662	12.72	15.5	2.4%
Distribution	Umeme	O&M	Insurance	4,426,080	5,399,643	1.40	1.7	0.3%
Distribution	Umeme	O&M	Automatic Meter Reading (AMR)	647,352	789,744	0.21	0.3	0.0%
Distribution	Umeme	O&M	Pre-payment	3,664,312	4,470,316	1.16	1.4	0.2%
Distribution	Umeme	Other Costs	Lease fees	5,486,740	6,693,606	1.74	2.1	0.3%
Distribution	Umeme	Other Costs	Regulatory fees	2,683,634	3,273,927	0.85	1.0	0.2%
Distribution	Umeme	Other Costs	Reconciliation s	10,126,920	12,354,443	3.21	3.9	0.6%
Distribution	Umeme	Other Costs	Other Revenues	(4,646,286)	(5,668,285)	(1.47)	(1.8)	-0.3%
<b>Distribution</b>	<b>Umeme</b>	<b>ALL</b>	<b>ALL</b>	<b>577,002,544</b>	<b>703,920,347</b>	<b>183</b>	<b>223</b>	<b>35.2%</b>
				<b>1,594,248,666.4</b>	<b>1,996,977,285.5</b>	<b>466.2</b>	<b>583.2</b>	<b>100.0%</b>