



**DETERMINATION OF TARIFF ADJUSTMENT FACTORS FOR THE SECOND
QUARTER OF 2016
(APRIL TO JUNE 2016)**

**APRIL 2016
KAMPALA, UGANDA**

1. INTRODUCTION

In January 2014, the Electricity Regulatory Authority (ERA) approved and published in the Uganda Gazette the Quarterly Tariff Review Methodology. The methodology was implemented effective January 2014. The Quarterly Tariff Review Methodology provides for adjustment of the Electricity annual Base Tariffs for changes in the following:-

- (i) Inflation rate leading to Inflationary Adjustment Factor (IRAF)
- (ii) Exchange rate leading to Exchange Rate Adjustment Factor (FERAF)
- (iii) Fuel prices at the International Market leading to Fuel Price Adjustment Factor (FPAF)

The tariff review for the second quarter of 2016 (Q2 2016) has been undertaken in accordance with the approved Quarterly Tariff Review Methodology and the licenses issued by the Authority to Umeme Limited, Uganda Electricity Transmission Company Limited (UETCL), and Eskom Uganda Limited.

This review has taken into account changes in; the consumer price index, exchange rate of the Uganda Shilling (Ush) against the United States Dollar (US\$), international fuel prices, and the energy generation mix from the assumptions used in the determination of the 2016 Base Tariffs as well as Umeme Limited investments. More specifically;

- (i) The Uganda Shilling has appreciated by 0.26% against the US Dollar, from Ush 3,357.1/US\$ in November 2015 to Ush 3,348.6/US\$ at the end of February 2016.
- (ii) The international fuel price for crude oil as at the end of February 2016 was US\$ 32.46 per barrel compared to US\$ 44.30 per barrel used in the determination of the 2016 Base Tariffs.
- (iii) Adjustment of Umeme Limited 2012 and 2013 investments that qualify for inclusion in the Regulatory Asset Base.

The detailed assumptions that form the background of the tariff review for the second quarter of 2016 are contained in the subsequent sections of this report.

2. ELECTRICITY END-USER 2016 BASE TARIFFS

In accordance with the Quarterly Tariff Review Methodology, the Authority at its 256th meeting held on 18th December 2015 approved the 2016 Base Tariffs shown in Table 1. The quarterly adjustment factors are applied to the approved Base Tariffs, to determine the applicable end-user -retail tariffs for each of the quarters.

Table 1: 2016 Base Electricity End-User Tariffs

	End-User - Retail Electricity Tariffs (Ush/kWh)					
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Weighted average
2016 Base Tariff	651.0	587.0	544.9	369.4	628.4	491.7

During the determination of the Base Tariffs, the Authority approved the Base Macroeconomic Parameters for 2016, which are presented in the second column in Table 2.

Table 2: Macroeconomic Parameters Used in Determination of 2016 Base Tariffs and the Adjustment Factors for Q2 2016

Macroeconomic Parameters	Q1 2016	Q2 2016	%age Change Q1 to Q2 2016
	Base Parameters		
Exchange rate US\$/Ush	3,357.1	3,348.6	-0.25%
Core Consumer Price Index	152.3	155.4	2.04%
US Producer Price Index	193.2	194.9	0.88%
International Prices of Fuel	44.3	32.5	-26.64%

Source: Bank of Uganda for exchange rate, Uganda Bureau of Statistics for CPI, US Bureau of Labour Statistics for US PPI, and Organization of Petroleum Exporting Countries for International Fuel Prices.

Note: The exchange rate is the average rate of the buying and selling rates on the last day of the applicable month. That is November 2015 for Q1 2016, February 2016 for Q2 2016.

¹ The Uganda Bureau of Statistics carried out a rebasing of the Consumer Price Index (CPI). The discussion of the rebased CPI figures is presented in Section 3.2

The base macroeconomic factors stated in Table 2, which were the basis for the 2016 Base Tariffs are for the month of November 2015. As of February 2016, these parameters had changed as shown in column 2 of Table 2. The detailed analysis of each of the macroeconomic factors is contained in the subsequent section.

3. DETERMINATION OF THE ADJUSTMENT FACTORS FOR Q2 2016

3.1 Foreign Exchange Rate Adjustment Factor (FERAF)

The movement in the exchange rate of the Uganda Shilling against major currencies directly affects the costs for companies involved in the Electricity Supply Industry because a portion of these companies' costs is incurred in foreign currency yet the retail tariff is charged and revenue is collected in Uganda Shillings.

There has been a reduction in the Uganda Shilling equivalent of the cost incurred in foreign currency on account of the appreciation of the Uganda Shilling against the United States Dollar during the first quarter of 2016.

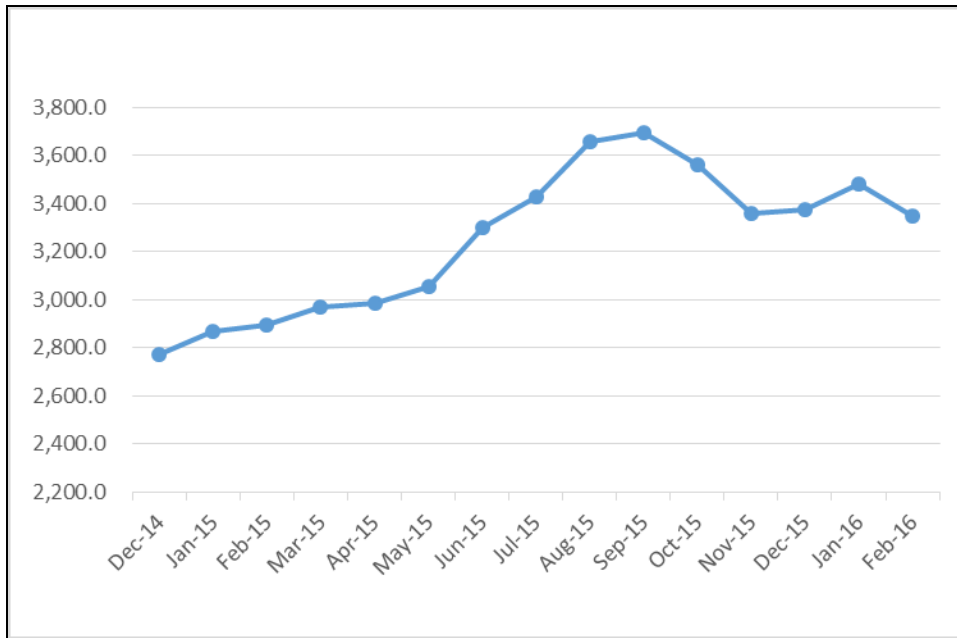
During the determination of the 2016 Base Retail Tariffs, the Authority approved the foreign currency content of the Operation and Maintenance (O&M) Costs of 35.4% for Eskom Uganda Limited, 25.0% for Uganda Electricity Transmission Company Limited, and 33.0% for Umeme Limited. UETCL also incurs over 99% of the power purchase costs in foreign currency. In addition, the investment costs for Umeme Limited including; the capital recovery and return on Investment are recovered in United States Dollars. Therefore, an appreciation of the Uganda Shilling against the United States Dollar reduces the shilling equivalent of the electricity industry costs required in foreign currency.

Between November 2015 and February 2016, the Uganda Shilling appreciated against the United States Dollar. The exchange rate used in determination of the Q2 2016 tariffs is Ush. 3,348.6 per US\$ compared to Ush. 3,357.1² as at the end of November 2015, which was used in the determination of the base tariffs. This represents an appreciation of

² https://www.bou.or.ug/bou/rates_statistics/statistics.html

0.26%. The trend of the exchange rate of the Uganda Shilling against the United States Dollar is shown in Figure 1.

Figure 1: Movement in Ush/US\$ exchange rate up to February 2016



The appreciation of the Uganda shilling is largely attributed to the tight monetary policy stance, which in part led to a contraction in demand for imports as reported in Bank of Uganda's *Composition of Imports values and Volumes indices*. The shilling was also supported by seasonal factors and weak corporate demand. It is expected that depreciation pressures may continue in the short to medium term as domestic and external fundamentals warrant a further correction of the exchange rate.

According to Bank of Uganda, the current account deficit continues to widen due to public infrastructure projects. Externally, the likely hike of the US Federal reserve rate poses a great risk of capital outflows from Emerging Markets and Developing Economies, which could revive the depreciation pressures in these economies, including Uganda.

The appreciation of the Uganda Shilling has a substantial impact on Electricity Supply Industry costs and consequently the end-user tariffs. The Authority's review indicates that the appreciation of the Uganda shilling in Q1 2016 reduced the sector annualized revenue requirement

by Ush 5,398 million and subsequently reduces the end-user tariffs by a weighted average of Ush 1.0/kWh as shown in Table 3.

Table 3: Foreign Exchange Rate Adjustment Factor (FERAF)

	End-User - Retail Electricity Tariffs (Ush/kWh)					
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Weighted Adjustment Factor
FERFAF	(1.2)	(1.0)	(1.0)	(0.8)	(1.0)	(1.0)

3.2 Inflation Rate Adjustment Factor (IRAF)

3.2.1 Rebasing of CPI by UBOS

In December 2015, Uganda Bureau of Statistics (UBOS) announced that it had revised the base year for computation of the Consumer Price Index (CPI) from 2005/06 = 100 to 2009/10 = 100. UBOS implemented the rebased CPI starting in January 2016.

Since ERA is one of the entities that make use of the CPI data in the annual as well as quarterly reviews of electricity tariffs, UBOS provided the Electricity Regulatory Authority with the new series of CPI based on the 2009/10 base year.

Following UBOS' rebasing of the CPI, ERA is also obliged to use the CPI values published by UBOS to adjust the local currency component of the Operation and Maintenance costs for Umeme Limited, ESKOM Uganda Limited, and Uganda Electricity Transmission Company Limited in line with the respective tariff methodologies in the licenses.

Table 4 shows the original base CPI values used when determining medium term Operation and Maintenance costs and other parameters for Umeme Limited, Eskom Uganda Limited, and UETCL on one hand and the alternative periodic CPI values as provided by UBOS to adjust for movements in purchasing power. The rebased CPI is what is to be replaced in the tariff model.

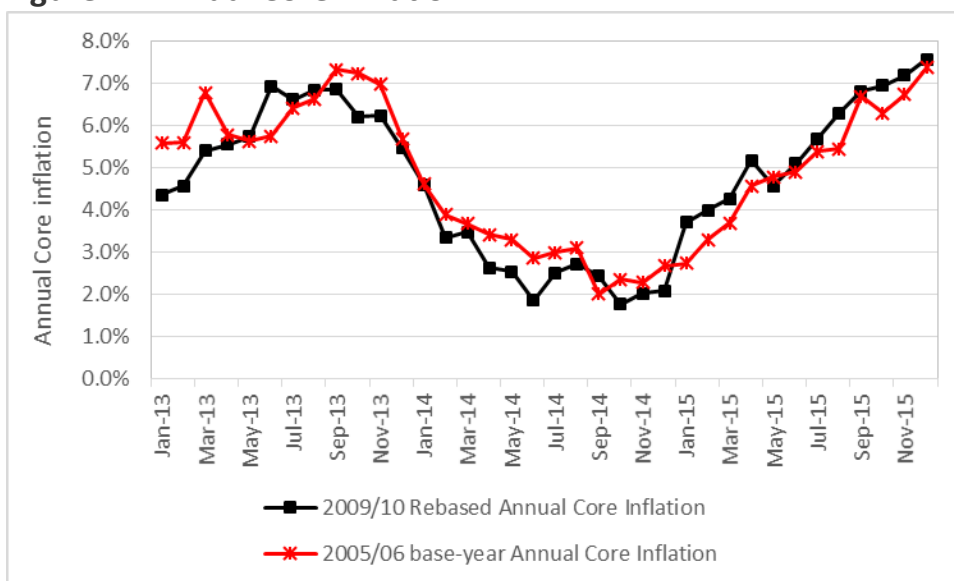
Table 4: Original and rebased CPI figures by UBOS

Licensee	Base year in tariff model	Old CPI (2005/06 = 100)	Rebased CPI (2009/10 = 100)
Eskom Uganda Limited	January 2015	213.95	144.25
UETCL	November 2013	208.23	139.08
Umeme Limited	February 2012	189.63	128.46
Base CPI for 2016 Base Tariffs	November 2015	227.27	152.29

Source: UBOS

Before applying the rebased values in the model, the Authority compared the old CPI with the rebased CPI to see if there were any significant differences that could affect the tariff values. We examined the annual core inflation series of the Old CPI vis-à-vis that from the rebased CPI (Figure 2). As a result of rebasing, the share of food crops in the CPI basket dropped to 10.2 percent from 13.5 percent, while the share of core inflation increased to 82.4 percent from 81.6 percent.

Figure 2: Annual Core Inflation



We applied the rebased CPI on the determination of the 2016 base tariffs and confirmed that the tariffs are similar to those that were calculated using the old CPI values.

Based on the above, we conclude that the rebased CPI yields similar tariff results as the old CPI, has no material effect on the computation of the tariffs and hence has been adopted for the determination of the tariffs going forward, starting with the quarter two 2016 tariffs.

Based on the rebasing exercise by UBOS and communication of the applicable rebased CPI figures for the historical months, the rebased figures, therefore, replace the old CPI figures in the adjustment of end-user tariffs for Q2 2016.

3.2.2 Effect of inflation on the tariff

The inflation adjustment is applied only to the local currency component of the Operation and Maintenance costs for Eskom Uganda, UETCL, and Umeme Limited. This is based on the local currency content approved by the Authority at the time of determination of the 2016 Base Tariffs (i.e. 64.6% for Eskom, 75.0% for UETCL and 67.0% for Umeme Limited).

The IRAF is based on the composite Consumer Price Index (CPI) for the second month in the preceding quarter to which the adjustment tariff relates as published by the Uganda Bureau of Statistics. For Q2 2016, the applicable CPI is 155.4 (February 2016) representing an increase of 2.04% compared to the CPI of November 2015, of 152.29.

The United States (US) Producer Price Index (PPI) is used to adjust the Operation and Maintenance costs denominated in United States Dollars (US\$) to cater for changes in prices of imported supplies. In the period under review, the US PPI increased from 193.2 in November 2015 (Base US PPI) to 194.9 in February 2016, representing an increase of 0.88%.

The impact of the movement in inflation on the electricity retail tariffs is Ush 0.8/kWh on a weighted average basis across consumer categories as indicated in Table 5.

Table 5: Inflation Rate Adjustment Factor (IRAF)

	End-User Retail Electricity Tariffs (Ush/kWh)					
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Weighted Adjustment Factor
IRAF	1.2	1.0	1.0	0.6	1.0	0.8

3.3 Fuel Price Adjustment Factor (FPAF)

The Fuel Price Adjustment Factor includes adjustment for changes in the International fuel prices and changes in the generation mix from the assumptions used in the determination of the Base Tariffs.

Movement in fuel prices at the International market affects the cost of generation for thermal generation plants; Jacobsen Uganda Power Plant Company Limited and Electro-Maxx Uganda Limited. This in turn affects the power purchase costs incurred by UETCL.

Similarly, the changes in the generation mix from the assumptions used in determination of the Base tariffs affect UETCL's revenue requirement.

In the 2016 Base Tariffs, the cost of fuel assumed in the tariff determination was US\$ 44.3 per barrel. According to the Organization of Petroleum Exporting Countries (OPEC); as at end of February 2016, the international price of Heavy Fuel Oil (HFO) was US\$ 32.5 per barrel. For purposes of the Q2 2016 tariff adjustment, the price of Heavy Fuel Oil that was used for electricity generation in Uganda, was assumed to be US\$ 241.5 per metric ton for determination of the Q2 2016 tariffs.

The favourable International price of fuel used for the Q2 2016 compared to the Q1 2016 tariffs resulted in a decrease in the projected power purchase costs for UETCL from thermal plants in Q2 2016. This leads to a weighted average fuel adjustment factor of negative Ush 4.3 per kWh for the second quarter of 2016 as shown in Table 6.

Table 6: Fuel Price Adjustment Factor (FPAF)

	End-User Retail Electricity Tariffs (Ush/kWh)					
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Weighted Adjustment Factor
(FPAF)	(5.2)	(4.2)	(4.2)	(3.9)	(4.3)	(4.3)

3.4 Generation Mix

The fuel adjustment factor includes the adjustment for changes in the dispatch of the generation plants or the generation mix relative to the assumptions made in the determination of the Base Tariffs. The changes in the generation mix affects the generation from the generation plants and the respective costs. The change in the dispatch for each of the generation plants from the base assumptions is shown in Table 7. Details of the generation assumptions for each plant are provided in Annex 1.

Table 7: Energy Purchases by UETCL

Generation Plant	Energy (GWh)	Cost (Ush Bn)	Energy (GWh)	Cost (Ush Bn)
	2016 Base Assumptions		Q1 2016 outturn	
Eskom Uganda Limited	337.8	11.96	340.8	11.99
Bujagali Energy Limited	372.4	139.53	375.0	139.18
KCCL	14.2	2.68	9.4	1.77
KML	5.3	0.47	5.8	0.51
Bugoye-Tronder	17.5	5.06	9.2	2.64
Mpanga	19.7	5.95	11.7	3.54
Electro-Maxx	15.3	8.69	15.4	8.72
Jacobsen Plant-Namanve	21.0	11.41	-	-
Ishasha Ecopower	6.6	1.61	7.4	1.80
Kakira Sugar Limited	52.6	16.85	45.8	14.66
Kinyara Sugar Limited	4.4	1.20	2.3	0.62
Sugar and Allied	12.8	4.07	6.3	1.26
Mayuge Sugar Limited	7.6	2.44	-	0.75
Buseruka Hydromax	8.8	2.81	7.6	2.41
Import KPLC -Kenya	8.8	8.02	9.9	9.04
Import Rwanda	0.9	0.30	1.0	0.31
Total	905.7	223.03	847.37	199.20

The variance between the forecast in the generation mix and the outturn for Q1 2016 is attributed mainly to the changes in hydrological conditions which affected generation from hydro power plants. The detailed discussion is presented in **Annex 1** to this report.

The impact of the change in the generation mix is a downward adjustment of the electricity end-user tariffs by a weighted average of negative Ush 4.6/KWh relative to the Base Tariffs as shown in Table 8.

Table 8: Generation Mix / Dispatch Adjustment Factor

	End-User Retail Electricity Tariffs (Ush/kWh)					Weighted Adjustment Factor
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	
Generation Mix	(5.6)	(4.5)	(4.5)	(4.2)	(4.6)	(4.6)

3.5 Other Adjustments

3.5.1 Umeme Limited Investments for 2012 and 2013

The Authority on 18th December 2015 considered and approved Investments for Umeme Limited for the years 2012 and 2013.

During the review of the investments for 2012 and 2013, the Authority noted that US\$ 27,629,575 had been applied for tariff determination as cumulative investments for 2012 instead of US\$ 25,219,101, based on earlier communications to Umeme Limited. In addition, US\$ 37,146,880 was used for determination of the tariffs as investments for 2013 instead of the approved US\$ 39,491,406.

The approved amounts of US\$ 25,219,101 for 2012 and US\$ 39,491,406 for 2013 have been used in the determination of the Distribution Price for the second quarter of 2016.

3.5.2 Power Supply Price (PSP) reconciliation

Umeme Limited requested that the Power Supply Price reconciliation be considered in the subsequent tariff reviews by the Authority following a decision by the Authority to defer the reconciliation on account of failure by Umeme Limited to submit the required justification and information to aid the decision.

The ERA has held meetings with Umeme Limited, and brought to the attention of the company the limitations of the submitted data and the clarification needed including but not limited to the following;

- The data submitted for the years before 2013 was not in the prescribed format as contained in the letter by the Electricity Regulatory Authority of 9th December 2015.
- Umeme Limited has not submitted the revenue data requested vide ERA letter of 1st September 2015 in the prescribed format.
- Umeme Limited was requested to submit clarification regarding customers that are on prepayment metering and consume below the lifeline units over a period of time i.e. if balances of energy not consumed are accrued, and for what period.
- Umeme Limited was requested to provide clarification in respect of prepaid energy units that are carried over from one month to another and how these are treated in computation of energy loss and company revenue.

Umeme Limited has not submitted the requested information and clarification. On the basis of the above, the PSP reconciliation has not been considered in the determination of the retail tariff for the second quarter of 2016.

3.6 Impact of Adjustment and other factors on the revenue requirement

On the basis of the foregoing discussion of adjustment factors considered in the tariff for Q2 2016, the impact of each of the factors on the revenue requirement for the electricity industry is discussed below;

The overall effect of adjustments included in determination of tariffs for Q2 2016 is a reduction in the annualized revenue requirement of the electricity industry by **Ush 105,651 million**.

Changes in the generation mix had the largest impact on the annualized revenue requirement leading to a reduction of Ush 112,715 million from the 2016 base costs. The appreciation of the Uganda Shilling against the United States Dollar led to a reduction in the annualized revenue requirement by Ush 5,398 million. The reduction in fuel prices led to a reduction in annualized revenue requirement by Shs 21,239 million.

On the other hand, increase in the US PPI led to an increase in the annualized revenue requirement by Ush 491 million, while increase in the local CPI between November 2015 and February 2016 increased the annualized revenue requirement by Ush 2,443 million.

3.7 Overall Tariff Adjustment Factor

The applicable tariff adjustment for Q2 2016 is the sum of the Exchange Rate Adjustment Factor, Inflation Adjustment Factor and Fuel Price Adjustment Factor. The adjustment factors for Q2 2016 are as shown in Table 9.

Table 9: Total Tariff Adjustment Factors Q2 2016

	End-User Retail Electricity Tariffs (Shs/kWh)					
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Weighted average
2016 Base Tariff	651.0	587.0	544.9	369.4	628.4	491.7
Tariff Adjustment Factors (Shs/kWh) for Q2 2016						
Inflation Rate Adjustment Factor (IRAF)	1.2	1.0	1.0	0.6	1.0	0.8
Exchange Rate Adjustment Factor (FERFAF)	(1.2)	(1.0)	(1.0)	(0.8)	(1.0)	(1.0)
Fuel Price Adjustment Factor (FPAF) – (a + b)	(10.8)	(8.7)	(8.7)	(8.1)	(8.9)	(8.9)
(a) Fuel Price Adjustment Factor	(5.2)	(4.2)	(4.2)	(3.9)	(4.3)	(4.3)
(b) Energy Mix Adjustment factor	(5.6)	(4.5)	(4.5)	(4.2)	(4.6)	(4.6)
Total Tariff Adjustment	(10.8)	(8.7)	(8.7)	(8.3)	(8.9)	(9.1)
Approved Q2 2016 Tariff	640.2	578.3	536.2	361.1	619.5	484.6
Percentage Change from Q1 2016	-1.7%	-1.5%	-1.6%	-2.3%	-1.4%	-1.5%

3.8 Demand Assumptions

During the first quarter of 2016, a total of 847.37 GWh is projected to be purchased by UETCL from the generation plants compared to 823.54 GWh purchased in the first quarter of 2015, representing a growth of about 2.89%. In terms of capacity, the registered total peak demand including exports in February 2016 was 554 MW compared to 560 MW in December 2015. However, the domestic peak demand excluding exports was registered to be 522 MW in February 2016 compared to 520 MW in December 2015.

We however note that the domestic demand was lower than the anticipated peak demand of around 527 MW for the quarter. The lower than anticipated growth in demand was mainly due to;

- (a) Slowdown in economic activity. This is reflected by the revision of projected GDP growth rate for Uganda by IMF which was revised from 5.8% to 5%. The level of activity in the economy influences energy consumption.
- (b) Energy Loss reduction. There has been a noted steady reduction in losses by UETCL and Umeme Limited leading to saving of more energy. This translates into lower demand from the system.
- (c) Constrained distribution network infrastructure and transformation capacity for manufacturers especially in the industrial parks have limited the capacity of industries to use more power.

4 REVENUE REQUIREMENT, TARIFF AND SUBSIDY IMPLICATIONS

4.1 Revenue Requirement Implications

The annualized revenue requirement for the electricity industry is shown in Table 10.

Table 10 Summary of Revenue Requirement

	Eskom Generation				Transmission			Other power purchases	Export revenues	Distribution			
	Total	Asset related	O&M	Lease fee	Total	O&M	Levies & Funds	Total	Total	Total	Asset related	O&M	Lease fee
	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill
Q1 2016	47,826	10,715	28,484	8,627	104,322	67,395	36,927	844,293	47,862	490,159	339,966	144,606	5,587
Q2 2016	47,968	10,687	28,675	8,605	100,550	68,395	32,155	761,687	68,069	490,622	339,245	145,804	5,573

In the determination of tariffs for Q2 2016, the annualized revenue requirement for Eskom Uganda Limited is projected to increase to Ush 47,968 million in Q2 2016 from Ush 47,826 million in Q1 2016. The increase is largely driven by adjustment for Consumer Price Index leading to an increase in the local content of the Operation and Maintenance costs.

Due to appreciation of the Uganda Shilling against the United States Dollar, changes in the generation mix, and reduction in the international oil prices in Q1 2016, the annualized power acquisition costs (excluding the capacity payments to all thermal generators) reduced from Ush 844,293 million in Q1 2016 to Ush 761,687 million in Q2 2016.

The annualized revenue requirement for Umeme Limited has increased from Ush 490,159 million provided for in the tariff for Q1 2016 to Ush 490,622 million in Q2 of 2016, mainly on account of adjustment for Consumer Price Index for the local content of the Operation and Maintenance Costs. There was a reduction in the annualized asset-related costs from Ush 339,966 million in Q1 2016 to Ush 339,245 million in Q2 2016 on account of the appreciation of the Uganda Shilling against the United States Dollar.

4.1.1 Capacity Price for Eskom (U) Limited

The Capacity Price for Eskom (U) Limited will increase from Ush 41,085 per MW per hour in Q1 2016 to Ush 41,207 per MW per hour in Q2 2016 as shown in Table 11. The increase is attributed to increased costs on account of adjustment of local content Operation and Maintenance costs for Consumer Price Index.

Table 11: Eskom Capacity Price for Q2 2016

	Average Capacity Price	Total costs	Investment component	Capital recovery charges	Return on investment	Net accumulated investment	Income taxes payable	O&M component	US\$-portion of O&M	US\$-portion of O&M	Concession fee
	CP y,q	USh mill	USh mill	US\$ thous	US\$ thous	US\$ thous	US\$ thous	Ush mill	Ush mill	Ush mill	US\$ thous
	Ushs/ MW										
Q1 2016	41,085	47,826	10,715	964	1,559	12,992	668	28,484	15,588	9,417	8,627
Q2 2016	41,207	47,968	10,687	964	1,559	12,992	668	28,675	15,804	9,393	8,605

4.1.2 Bulk Supply Tariff (BST)

The annualized bulk supply costs have reduced from Ush 1,033,511 million in Q1 2016 to Ush 954,691 million in Q2 2016. As a result, the Bulk Supply Tariffs have reduced from Ush 363.5/kWh, Ush 279.6/kWh, and Ush 170.3/kWh at Peak, Shoulder and Off-peak respectively, to Ush 354.0/kWh, Ush 272.3/kWh, and Ush 165.6/kWh at Peak, Shoulder and Off-peak for the respective Time of Use periods in Q2 2016, as shown in Table 12.

Table 12: BULK SUPPLY COSTS AND RESULTANT BULK SUPPLY TARIFFS (BST)

	Peak price	Shoulder price	Off-peak price		Sales to distributors	Total costs		Power Purchase Costs		Transmission costs	Total O&M component	Other
	USh/kWh	USh/kWh	USh/kWh		GWh	USh mill		USh mill		USh mill	Ush mill	Ush mill
Q1 2016	363.5	279.6	170.3		3,353	1,033,511		929,189		104,322	67,395	36,927
Q2 2016	354.0	272.3	165.6		3,094	954,691		854,141		100,550	68,395	32,155

5 RETAIL TARIFFS

In accordance with the Amendment No. 2 of the Umeme Limited License No. 48 for Supply of electricity, the retail tariff charges for electric service shall be subject to and liable for automatic fuel cost charges, foreign exchange rate fluctuation adjustment, and an automatic adjustment for inflation that will be calculated in accordance with such formulae as determined by the Authority.

The quarterly adjustment factors and the resulting end-user tariffs across the customer categories for Q2 2016 are as shown in Table 13.

Table 13: Q2 2016 Adjustment Factors and resultant End-User Tariffs

	End-User Retail Electricity Tariffs (Shs/kWh)					
	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Weighted average
2016 Base Tariff	651.0	587.0	544.9	369.4	628.4	491.7
Tariff Adjustment Factors (Shs/kWh) for Q2 2016						
Inflation Rate Adjustment Factor (IRAF)	1.2	1.0	1.0	0.6	1.0	0.8
Exchange Rate Adjustment Factor (FERFAF)	(1.2)	(1.0)	(1.0)	(0.8)	(1.0)	(1.0)
Fuel Price Adjustment Factor (FPAF) – (a + b)	(10.8)	(8.7)	(8.7)	(8.1)	(8.9)	(8.9)
(a) Fuel Price Adjustment Factor	(5.2)	(4.2)	(4.2)	(3.9)	(4.3)	(4.3)
(b) Energy Mix Adjustment factor	(5.6)	(4.5)	(4.5)	(4.2)	(4.6)	(4.6)
Total Tariff Adjustment	(10.8)	(8.7)	(8.7)	(8.3)	(8.9)	(9.1)
Approved Q2 2016 Tariff	640.2	578.3	536.2	361.1	619.5	484.6
Percentage Change from Q1 2016	-1.7%	-1.5%	-1.6%	-2.3%	-1.4%	-1.5%

ANNEX 1: ENERGY DISPATCH AND GENERATION MIX

a) Energy purchase

A review of the Q1 2016 energy purchase outturn indicates that Uganda Electricity Transmissions Company Limited purchased 847.37 GWh compared to 823.54 GWh for Q1 2016. This represents an increase in generation of 2.89%. While determining the 2016 base tariff, it was projected that the Q1 energy purchases would be 905.7GWh. The outturn, therefore, represents a 6.4% reduction in energy purchases compared to the assumptions used in the base tariffs. This reduction in energy purchases is partly attributed to the slowdown in economic activity and therefore reduced energy consumption in the first quarter of 2016.

b) Mini Hydro Generation

The mini hydro power plants (Mpanga, Bugoye, Kasese Cobalt Company Limited, Kilembe Mines Limited, Eco Power, Hydromax) registered a reduction in energy generation in Q1 2016 compared to Q4 2015. The low generation from the mini hydro power plants is mainly attributed to unfavorable hydrology in the first quarter of 2016. The deficit was bridged through increased generation from the large hydro power plants of Eskom Uganda Limited and Bujagali Energy Limited.

The hydrology is expected to improve in the subsequent quarters of 2016 and therefore increased generation from the mini-hydros.

c) Large Hydro Generation

The water release at the Nalubaale/Kiira Power Plant during the first quarter of 2016 was 950 Cumecs. At the water release of 950 Cumecs, Eskom Uganda Limited and Bujagali Energy Limited increased generation from the expected dispatch of 710.2 GWh to the projected Q1 2016 outturn of 715.8 GWh.

The generation from Eskom Uganda Limited and Bujagali Energy Limited is expected to increase in the following quarters when Kakira Sugar is shut down for planned maintenance in the second quarter of 2016.

d) Co-generation

The Kakira co-generation Plant experienced a reduction in generation in the first quarter of 2016. The plant is expected to start its annual maintenance between May and June 2016. As a result of this, the plant is projected to generate 45.76 GWh in the second quarter of 2016 compared to 52.6 GWh assumed in the determination of the 2016 base retail tariffs.

Kinyara Sugar Limited also experienced a reduction in generation from 4.4 GWh assumed in the determination of the base tariffs to the projected Q1 2016 outturn of 2.3 GWh. A similar level of generation in Q2 2016 is expected from the co-generation power plants.

e) Thermal Generation

The two HFO thermal plants; Jacobsen and Electro-Maxx were projected to dispatch a minimum of 15 GWh each in the respective quarters of 2016 following a decision by the Authority to maintain the minimum capacity dispatch at 7 MW.

In the second quarter of 2016, it is expected that the minimum capacity dispatch at 7 MW will be maintained.

f) Imported Power

At the determination of the Base Tariffs, it was assumed that UETCL would import 9.7 GWh per quarter of 2016. However, in Q1 2016, the actual energy imported by UETCL was 10.9 GWh. This is generally close to the baseline projected import which was generally intended for system stability across Kenya and Uganda or tie line capacity.

Table A1 shows the energy generation from the respective plants.

Table A1: Energy Purchases by UETCL

Generation Plant	Energy (GWh)	Cost (Ush Bn)	Energy (GWh)	Cost (Ush Bn)
	2016 Base Assumptions		Q1 2016 outturn	
Eskom	337.8	11.96	340.8	11.99
Bujagali Energy Limited	372.4	139.53	375.0	139.18
KCCL	14.2	2.68	9.4	1.77
KML	5.3	0.47	5.8	0.51
Bugoye-Tronder	17.5	5.06	9.2	2.64
Mpanga	19.7	5.95	11.7	3.54
Electro- Maxx	15.3	8.69	15.4	8.72
Jacobsen Plant- Namanve	21.0	11.41	-	-
Ishasha Ecopower	6.6	1.61	7.4	1.80
Kakira Sugar Works	52.6	16.85	45.8	14.66
Kinyara	4.4	1.20	2.3	0.62
Sugar and Allied Limited	12.8	4.07	6.3	1.26
Mayuge Sugar Limited	7.6	2.44	-	0.75
Buseruka Hydromax	8.8	2.81	7.6	2.41
Import KPLC -Kenya	8.8	8.02	9.9	9.04
Import Rwanda	0.9	0.30	1.0	0.31
Total	905.7	223.03	847.37	199.20