COMMENTS ON ZESCO'S APPLICATION TO REVISE ELECTRICITY TARIFFS AND CONNECTION FEES FOR 2019

Submitted to the

THE ENERGY REGULATION BOARD (ERB)

By the

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Preamble

The purpose of this submission is to provide an analytical perspective on ZESCO's application to the Energy Regulation Board (ERB) to revise electricity tariffs and connection fees for the year 2019 and to offer recommendations. ZESCO has proposed to adjust the electricity tariffs (excluding mining and exports) by a weighted average rate of 113% for electricity tariffs and 213% for connection fees. While the adjustment has been proposed for both electricity tariffs and connection fees, this memorandum mainly analyses the proposed electricity tariff adjustment. More specifically, the memorandum is expected to cover but is not limited to, the following:

i. *A critical look at ZESCO's cited justifications for an upward adjustment of tariff and connection fees;*

ii. *Assessment of the basis/criteria for the determination of the 113% weighted average;*

iii. *Analysis of ZESCO's financial performance and efficiency; and*

iv. *Recommendations on the way forward.*

1 Introduction

On 22nd March 2019, ZESCO (the Utility) made an application to the Energy Regulation Board (ERB) for upward adjustments to electricity tariffs, new connections and overhead-lines upgrade connection fees. The application seeks ERB's approval for a 113% weighted average rate increase in electricity tariffs. With regard to the new connections and upgrade for overhead connection fees, ZESCO seeks an increase as high as 361% and 129% respectively (ranging from 156% to 361%, and 31% to 129%, respectively).

In the application, we (ZIPAR) also note that ZESCO has applied for the removal of Fixed Monthly Charge in the Residential and Commercial categories. However, in these two categories (which are also the largest consumers of electricity after the mining sector), ZESCO proposes the highest increases averaging 106% and 170% for the Residential and Commercial categories respectively.

We note that ZESCO endeavored to address some policy and operational concerns that have been proposed by various sections of society such as the removal of Fixed Monthly Charge and reduction of the life-line band amount. However, we submit that ERB should not approve this application. We elaborate on why we recommend that ERB should not approve these tariff adjustments proposals. We base our reasons on the motivation that ZESCO gave to support their application.

2 A critical look at ZESCO's cited justifications for the 2019 adjustments

In the application to ERB, ZESCO cited the following factors as necessitating the proposed tariff adjustments: (i) Prevailing macro-economic conditions; (ii) Need for system and customer base expansion; (iii) Rising cost of generating power from ZESCO's infrastructure and Independent Power Producers (IPPs); (iv) Suspension of the Cost of Service Study (CoSS); and (v) Rising cost of connecting customers to the grid. Our submission analyses each of these factors in order to ascertain whether ZESCO is substantially justified in its request or not. Other than these factors, our submission takes into consideration the salient issues such as the role of the mining sector in the development of the electricity sector in Zambia.

2.1 Macroeconomic Factors

ZESCO has submitted that **macro-economic factors** as measured by the Consumer Price Index (CPI), lending rates and the exchange rate have negatively impacted the operations of the Utility. We take a critical look at each of these identified factors.

Consumer Price Index as a macro factor: Based on Central Statistical Office (CSO) data, Table 1 below shows the levels of non-food and total CPI and inflation rates since the last ZESCO electricity tariff revisions in May and September 2017. Evidently, the 113% weighted average proposed tariff revision is unjustifiable given that inflation rates have been between 12% and 16% since the last tariff adjustment. We, therefore, submit that inflation is a significant but not sufficient macroeconomic factor over the period since the last revision to justify the proposed tariff increase.

Table 1: Non-Food and Total CPI Inflation (selected months)

CPI (2009 = 100)		
	Non-Food	Total CPI
May 2017	195.09	194.62
Sept 2017	200.10	196.33
Mar 2019	225.06	223.29
Inflation (% change in CPI) over the period		
May 2017-Jan 2019	15.4%	14.7%
Sept 2017-Jan 2019	12.5%	13.7%

Source: Author's own construction using CSO data

Lending rates as a macro factor: Table 2 below (based on Bank of Zambia fortnightly data) shows that lending rates have fallen by between 3-13% since the last tariff revisions of May and September 2017. This implies a favourable outcome if ZESCO holds any domestic debt from commercial banks. Contrary to ZESCO's view, interest rates were actually a positive macroeconomic factor over the period and therefore cannot be used as justification for the tariff increase.

Table 2: Average Lending Rates 2017-2019 (selected months)

	Average Lending Rate (ARL)
May 2017	28.20
Sept 2017	25.41
Feb 2019	24.64
	% Change in ALR
May 2017-Feb 2019	-12.6%
Sept 2017-Feb 2019	3%

Source: Author's own construction using BOZ data

Exchange rates as a macro factor: Table 3 below (based on BOZ fortnightly data) shows that the Kwacha has depreciated against the US Dollar by between 20-29% since the last tariff revisions of May and September 2017. Secondly, even though it is appreciated that ZESCO imports some of its services and products, and has US Dollar denominated loans whose costs increase with the depreciation of the Kwacha, we contend that such costs do not make the majority of ZESCO's OPEX. Further, exchange rate risk is a financial management and structural issue that an establishment like ZESCO should be able to manage through internal restructuring as opposed to passing on costs to its consumers.

From ZESCO's application, we do not see any details of US Dollar denominated CAPEX and OPEX to firmly ascertain the magnitude of this depreciation. Further, from 2017, ZESCO did not report any exchange rate loss which is a positive indication that the company started managing the exchange rate risk. Thus, it is our submission that the exchange rate depreciation does not require recourse via tariff adjustments and therefore does not justify the proposed tariff hike, particularly an adjustment in the magnitude of 113%.

Table 3: Exchange rate (K/USD) Depreciation 2017-2019 (selected months)

	Exchange rate (K/USD)
May 2017	9.20
Sept 2017	9.87
Feb 2019	11.89
	Exchange rate (% change)
May 2017-Feb 2019	-29.2%
Sept 2017-Feb 2019	-20.4%
Negative sign on exchange rate % change denoted depreciation	

Source: Author's own construction using BOZ data

2.2 Need for System and Customer Base Expansion

While we understand how increased tariffs could improve ZESCO's ability to invest in new infrastructure and thus improve the quality of service to existing customers, the proposed adjustments also have the potential to significantly shrink ZESCO's customer base, particularly those in the Residential category. An elaboration of the impact of these adjustments is given in ERB's Call for Comments document in sub-section 6.1 (ERB, 2019). Further, for ZESCO to effectively increase its revenue base, the tariff adjustments should not exclude the mining sector and export markets. Besides, the mining sector is the largest consumer of electricity.

The need for ZESCO and more generally the electricity sector to increase its reach is evident. Given that Zambias electrification rate stands at a paltry 31%, annual population growth rate estimated at 2.5% and urbanisation at 3.2% per annum, customer base expansion is cardinal. This is even more important in view of Vision 2030 that plans to reduce the share of wood fuel to 40% as a main energy source (currently, over 80% of Zambian households rely on wood fuel as their main source of energy).

2.3 Rising cost of generating power from ZESCO's infrastructure and Independent Power Producers (IPPs)

In their application, ZESCO rightly argue that increasing tariffs is essential to attract investment in the electricity sector. At the current tariff of less than USD0.10 per kWh, Zambia would struggle to attract new capital power generation projects. For instance, the President recently commissioned a solar project with an average generation cost of USD0.75 per kWh (reported as USD0.62 per kWh-dc)[1]. Thus, this adjustment would be a step forward to increasing the attractiveness of the Zambian electricity market, not just for ZESCO but also for the private sector.

However, we note that ZESCO has not been diligent in the negotiations in the past with both their end-use customers such as the mining companies and their suppliers such as Maamba Collieries, Aggreko and Karpower Ship. For instance, it was reported in the 2015/2016 financial year that ZESCO's average electricity tariff was USD0.06 per kWh. However, in that same period, ZESCO imported electricity from Aggreko and Karpower Ship at not less than USD0.15 per kWh. These imports, interestingly, were meant to ensure that supply to the mining sector was secured. Similarly, ZESCO currently has running Power Purchase Agreements with Maamba Collieries, Itezhi-Tezhi Hydro and Ndola Energy, whose purchasing price is higher than the average tariff for ZESCO.

Thus, even though we agree, in principle, with the argument advanced by ZESCO, we contend that the intention of the increase may not be solely to facilitate increased investment but to cover up for the poor contract negotiation agreements that ZESCO has previously undertaken [agreements they have found themselves in]. We are of the view that there is more that ZESCO has not communicated to the public about why they are pushing for these adjustments.

2.4 Suspension of the Cost of Service Study (CoSS)

"ZESCO contends that suspension of the CoSS, which would have determined the benchmark cost reflective tariffs has necessitated ZESCO to make a tariff application" (ERB, 2019). It is our assessment that this is and should not be a substantive reason for upward adjustment of both the tariffs and connection fees.

How would the tariff application, if granted, ensure cost-reflective tariffs? For instance, if the CoSS later established that the tariff adjustment should have been in the region of say 20-30% given 2017s 75% hike, would ZESCO then reduce its tariffs and compensate consumers for the erroneously higher than cost-reflective tariffs. How can ZESCO propose any further adjustment after the 75% hike in 2017 (50% in May and 25% in September) when back then they promised to make no more revisions without the CoSS?

We implore the ERB to first deliver the study (CoSS) before contemplating approving any further tariff revisions. This will help build public trust. Further, this ad-hoc tariff setting is worrying and comes at a time when many socio-economic hardships

[1]At this generation cost (of USD0.62 per kWh-dc) it was one of the worlds lowest cost projects. We however note that this project was a low risk project because the State through IDC is a key player and also that World Bank through the IFC has offered considerable guarantees that would otherwise not be available to an average private sector investor.

are emerging. ZESCO should think about the extra socio-economic strain its proposed tariff revisions will cause.

We therefore submit that instead of creating foreseeable problems, ERB should rather push for a speedy re-activation and conclusion to the CoSS. This will ensure that all stakeholders (including mining and exports) pay a fair price for the electricity they consume.

2.5 Rising cost of connecting customers to the grid

We do not have a firm position on this factor. However, we note that having removed the Fixed Monthly Charge, ZESCO might be seeking to recover the connection cost upfront. We are of the view that such a mechanism would limit ZESCO's push to increase its customer base as it will be considerably expensive for new customers to connect to the ZESCO grid. We further note that ZESCO does not give a full break-down for us to assess if the proposed adjustments are justified, but we keenly observe that these new connection adjustments substantially focus on the customers in the Residential category.

3 Criteria for determination of an upward weighted average rate of 113%

One thing that is unclear in ZESCO's application for an upward tariff and connection fees adjustments especially in the light of the lack of the CoSS, is how the 113% weighted average was arrived at. The criteria used for its determination seems to have been arrived at completely arbitrarily, with a significant burden being put on the customers in the Residential and Commercial categories.

We, therefore, submit that there is need for ZESCO to prepare a transparent tariff schedule if ZESCO is to convince its stakeholders that these adjustments are necessary. Until this is done, their application and its structure should not be approved.

4 Analysis of ZESCO's financial performance and efficiency

On average, ZESCO's gross revenue from 2015 to 2018 increased by 24%. This in comparison with an average increase of operating and maintenance cost by 21% for the same period. The average percentage net profit for the same period is 3%. However, this net profit margin was largely driven by past tariffs adjustment and therefore does not necessarily equate to improvements in ZESCO's performance.

Receivables at the end of 2018 constituted 73% of the revenue, which demonstrates poor working capital management. It shows that ZESCO has failed to collect revenue from its customers by 267 days. If ZESCO were to improve its working capital management, it would further help the company to reduce its payable days and improve on its credit rating and avoid strained supplier relationships.

The projected revenue increase from this upward tariff adjustment is ZMW16,088 million. Based on the efficiency receivables performance for 2018 with ZMW7,000 million (73%) uncollected, by extrapolation only ZMW4,300 million (27%) will be collected from the projected revenue increase of ZMW16,088 million. This income can be realised by improving the working capital management and turn ZMW 7,000 million into cash.

The breakdown of receivable days (in sub-section 9.4, pg 16) shows that the Mining customers especially are being financed by the Domestic[2] customers who are taking fewer days to pay for the provision of products and services. This is particularly important because ZESCO's mining customers are not impacted by this tariff adjustment application.

According to Table 4 (Gross Revenue and Profitability Trend, Figure 1) in the ERB PCP's Section 9 (pg. 14), ZESCO aims to increase its revenue by 63% in 2019 from the proposed tariff and connection fees' hike and then by 4% in 2020 (most likely from a marginal number of new customers). But net profit margin will continue to shrink, from 2.5% in 2019 to 0.7% in 2020.

Table 4: ZESCO Gross Revenue and Profitability (K m) 2015-2020

	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Revenue(K m)	6,426	8,238	7,425	9,543	15,537	16,088
Rev. change (%)		28%	-10%	29%	63%	4%
Profit (K m)	868	1,309	346	-1,693	389	119
Profit change (%)		51%	-74%	-589%	-123%	-69%

Source: ERB PCP's Section 9 (pg.14)

Apart from the servicing of the debt stock that has accumulated since the 2015/2016 drought season, the shrinking of profit seems to indicate that operational inefficiencies (including among others, over-staffing and undue reward of excessive electricity units to employees) of the firm may remain unaddressed.

[2]In this application, domestic customers are all customers that are not mining and export consumers. Basically, all customers to whom are affected by this proposed tariff and connection adjustments by ZESCO.

In particular, the World Bank (WB, 2016)[3] estimates that ZESCO is overstaffed by over 71%. This further constrains ZESCO's already tight liquidity challenge.[4] Additionally, ZESCO provides its employees electricity units worth USD450,000 every month. If this was to be halved, for example, it would free about USD2.9 million per annum.[5]

We therefore submit that should the tariff adjustment be accepted, the planning and budgeting document (including project appraisals for all special projects) for the additional 67% revenue be provided for independent scrutiny.

5 Recommendations on the way forward

Undoubtedly, in principle a case does exist for moving ZESCO towards cost reflective tariffs: to motivate greater private sector participation. However, it should be highlighted that cost reflective tariffs alone will not solve ZESCO's operational inefficiencies. More sustainable solutions include:

i. Internal restructuring reforms at the management, governance, and general Human Resource levels.

ii. Improvement in the working capital management.

iii. Listing of ZESCO on the LuSE for more sustainable recapitalisation.

Overall, ZIPAR submits that no tariff adjustment should be approved at least until a more sound basis for the revision (among others, the CoSS) is provided. In the meantime, ZESCO would do well to focus on addressing key operational issues without recourse to tariff adjustments.

[3] World Bank, (2016). Financial Viability of the Electricity Sector in Developing Countries: Recent Trends and Effectiveness of World Bank Interventions: IEG Learning Product. Washington D.C.: World Bank

[4] We note however that the over-staffing estimate would be reduced if the World Bank study took into consideration the technology type that ZESCO uses and also the age of the infrastructure stock that ZESCO has, among others.

[5] These calculations are based on ZESCO's total staff numbers of 6,785 employees with an entitlement of 1,100 kWh per month.

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