THE ELECTRICITY SUPPLY CORPORATION OF MALAWI LIMITED

BASE TARIFF APPLICATION FOR THE FUNCTIONS

OF

TRANSMISSION, DISTRIBUTION, SYSTEM MARKET OPERATOR

AND THE SINGLE BUYER

INCLUDING BULK CUSTOMER AND END USER TARIFFS

FOR THE PERIOD 2018/2019 TO 2021/2022

SUBMITTED ON 20th APRIL 2018

REFERENCE TABLES

REFERENCE FIGURES

ACRONYMS AND ABBREVIATIONS

CEO	Chief Executive Officer
Cost of Service	The cost of electricity supply at different voltage levels
DSM	Demand Side Management
ECA	Economic Consulting Associates
ESCOM	Electricity Supply Corporation of Malawi Limited
HV	High Voltage Supply which is Voltage over 650 Volts
IPP	Independent Power Producer
ISP	Integrated Strategic Plan
kWh	kilo Watt hour (1,000 Watt-hour)
LV	Low Voltage Supply at nominal up to 250 Volts
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MD[1]	Maximum Demand
MERA	Malawi Energy Regulatory Authority
MNREM	Ministry of Natural Resources, Energy and Mining
MV	Medium Voltage range from 250 Volts to 650 Volts
MW	Mega Watt (1,000kW or 1,000,000W)
MWh	Mega Watt Hour or 1,000 kW-hour
RAB	Regulatory Asset Base

[1] The highest amount of power recorded in a 30 minute period

RR	Revenue Requirement
SB	Single Buyer
SMO	System Market Operator

EXECUTIVE SUMMARY

The Electricity Supply Corporation of Malawi Limited (ESCOM) is a public utility incorporated as a private company under the Companies Act (Cap 46:03) of the Laws of Malawi in 1998.

Following the amendment of the Electricity Act in 2016, ESCOM was unbundled into two state owned power utilities: namely the Electricity Generation Company of Malawi Limited (EGENCO) and the Electricity Supply Corporation of Malawi Limited (ESCOM). The Amendment to the Electricity Act also resulted in the liberalization of the generation sector of the electricity industry by allowing new entrants/participants in the electricity generation business.

The functions of the Single Buyer and System Market Operator were added to ESCOM over and above the Transmission and Distribution functions. The role of the Single Buyer is to procure power and arrange payment for the power purchased while the role of the System Market Operator is to ensure fair access to the transmission network and to the electricity market.

ESCOM is currently implementing the Second Base Tariff which was approved by the Malawi Energy Regulatory Authority (MERA) for the period July 2018 to June 2018. Each of the four functions of ESCOM is required to submit new a Base Tariff application to MERA once every four years for consideration and approval. ESCOM is also required to submit to MERA a Bulk Customer Supply and End user tariff for review and approval. This Base Tariff Application covers the period July 2018 to June 2022.

The recommended tariffs contained herein will allow ESCOM to charge cost recovery tariffs required to support among others; settlements of energy purchases from power producers / sources , operation and maintenance costs of existing and new infrastructure, investment in system growth and improvement in customer service.

The preparation, implementation and monitoring of the Base Tariffs is guided by a number of regulatory policies and framework tools/documents which have been developed by the Ministry of Natural Resources, Energy and Mining (MNREM) with the support of Millennium Challenge Account – Malawi (MCA). These include among others; the new tariff methodology and Cost of Service Study and recently concluded Tariff Study.

The average purchase cost for energy from EGENCO, independent power producers and power imports is expected to move from MK 29.92 per kWh to MK 65.35 per kWh over 2018 -2022 Base Tariff period. This will result in a significant increase to the end user tariff in a form of a pass-through cost arrangement with the purchase cost accounting for around 55 % to the proposed end user tariff.

This Base build up to the end user tariff includes the following; the power purchase cost, Transmission tariff, Distribution tariff, Single Buyer tariff, System Market Operator tariff and levies and provision for bad debts.

The end user tariff is projected to increase from current average of MK73 per kWh to around MK 112 per kWh in the first year, representing 53% increase. Subsequently, the average tariff is projected to steadily increase at 2.5% per annum up to 2022 to reach MK 123 per kWh. The main drivers of the increase in end user tariff include the energy purchases in GWh which are e projected to more than double by the end of the Base Tariff period and the change in the methodology for the valuation of the Regulatory Asset Base (RAB) to Depreciated Optimized Replacement Cost has translated into a sharp increase in valuation of the RAB.

The determination of the end user tariff has been supported by a Cost of Service study which has established the cost of supplying individual customer category before taking into account economic and social factors in coming up with the end user tariffs and tariff structure. The study has established that current average

cost of supplying a customer with electricity in Malawi is MK 126 per kWh. This figure is on average 42% below existing average tariff. This current tariff cannot therefore support the electricity industry in Malawi in terms of increasing investments and improving customer service.

The proposed tariff structure includes a life line tariff for domestic customers to support low income households through cross subsidies within domestic customer category and for domestic customers in general. The levels of cross subsidies for domestic customers from non-domestic have been reduced and the contribution from capacity charge towards electricity charges for MD customer has also been reduced.

ESCOM plans to take a number of initiatives to contain cost escalations and these include efficient procurement of energy sources, outsourcing some services and automation / mechanization of processes , management of staff overtime , replacing ageing vehicles and demand side management initiatives.

This Base Tariff submission has entrenched the implementation of a cost recovery tariff which is key in ensuring financial sustainability of the business, attracting investment, increasing access to electricity and provision of quality service to customers. This includes a financially viable ESCOM whose cost recovery tariff can sustain the electricity sector by attracting investments for Independent Power Producers (IPPs) and availability of adequate electricity to meet current and future demand growth.

1.00 ESCOM PERFOMANCE DURING THE 2014-2018 BASE TARIFF

1.1 Background

The Second 2014-2018 Base tariff increase was granted to ESCOM prior to unbundling of ESCOM. The approved tariff was expected to support the Corporation in its operations and infrastructure development in generation, transmission and distribution. With the unbundling of ESCOM, into two autonomous companies, a revenue sharing model was adopted to apportion the tariff revenues between ESCOM and EGENCO. The process of unbundling of ESCOM, which initially was planned to be implemented after the MCC Malawi Compact, generated additional pressure on the limited human resources. Consequently, this significantly translated into resources both human and financial being diverted from some of the planned critical projects that were planned under the 2014-2018 Base Tariff. This had a negative impact in terms of business focus and performance on ESCOM side.

1.2 Technical Performance

Persistently throughout the period of base tariff, energy sales were 18% below target due to generation challenges as a result of the drought experienced in the country. ESCOM was thus, not able to realize adequate revenues to cater for planned system maintenance, new investment and increased customer connections.

Base Tariff Year	unit	2014	2015	206	2017	Total
Unit Sales - Actual	GWh	1,617	1,642	1,966	2,118	7,344
Unit Sales - Plannned	GWh	1,491	1,546	1,456	1,526	6,019
Difference	GWh	(126)	(96)	(511)	(592)	(1,325)
Difference	%	-8%	-6%	-26%	-28%	-18%

Table 1 Reduced sales due to power generation challenges

The implementation of the approved tariff was phased over the four years of the Base Tariff period. Some of the planned tariff adjustments were either delayed, reduced or not implemented at all. These resulted in the Corporation generating

less than MK 30.7 billion of planned revenues required to support its business operations and implement planned projects.

Base Tariff Year	Unit	2014	2015	206	2017	Total
Approved Tariff	MK/kWh	42.75	56.73	64.80	65.81	
Implemented Tariff	MK/kWh	37.65	48.00	59.47	64.61	
Difference	MK/kWh	(5.10)	(8.73)	(5.33)	(1.20)	(5.10)
Energy Sold	kWh'000	1490585	1546284	1455580	1526100	6,018,549.00
Lost Revenue	kWh'000	(7,601,984)	(13,499,059)	(7,758,241)	(1,831,320)	(30,690,604)

Table 2 : Lost revenue revenues due to delays in tariff implementation

Thus in general, ESCOM underperformed in some of the key result areas during the 2014-2018 Base Tariff Period. These includes among others, new connections, adherence to customer service charter commitments and implementation of some planned investments/projects.

Despite these challenges, the Corporation recorded significant improvement in system losses reduction, which went down from 23% to 17.8%. This strong performance was achieved against a constrained system which is very remarkable. Going forward, the Corporation expects to consolidate the gains achieved in loss reduction as the new Transmission and Distribution projects comes on line.

On the other hand, the Corporation registered marked progress in the installation of prepayment metering with around 95% of the customer Base on prepayment by the end of 2014-2018 Base Tariff period. In addition, ESCOM managed to open up new customer service outlets in line with the customer service Charter and engage the service of more third party vendors / small businesses in the selling electricity prepayment, in order to increase access to prepaid services to customers.

Following the amendment of the Electricity Act 2016, ESCOM assumed the new function of the Single Buyer, whose mandate is to attract and procure independent power producers (IPP) and sign Power Purchase Agreements to address the shortage of electricity generation capacity in the country. This new

critical role of ESCOM, will thus be one of the key performance indicator in the 2018-2022 Base Tariff. In addition to the aforementioned role, going forward, much focus and effort will be channeled towards increased electrification targeted at 30% electricity access by 2030 and improved customer service.

1.3 Financial Performance

ESCOM financial performance was adversely affected by the severe drought which persisted throughout the Base Tariff period which resulted in low energy sales. Furthermore, the last two tranches of the Base Tariff were not implemented as planned. ESCOM therefore could not implement some of the planned projects and maintenance on the system. The Corporation under-performed on debt collection largely due to high electricity payment defaults by Government and Quasi Government institutions.

	+30 days	+ 60 days	+ 90 days	Total	% Share
Govt Debtors (MK '000)	173,581	107,869	4,141,330	4,422,780	61%
Private Debtors (MK '000)	1,213,108	360,829	1,275,053	2,848,990	39%
Total	**1,386,688**	**468,698**	**5,416,383**	**7,271,769**	**100%**

Table 3 Current electricity Debtors (April 2018)

Government and Quasi Government debts accounted for 61% of debt while 39% is attributed to private institutions as shown in table 3 above. Over 90% of the funds that Government and Quasi Government institutions owe ESCOM are overdue for payment by more than three months. This has adversely effected ESCOM operations and its ability to timely meet its ongoing financial commitments such as payment for power purchases. Going forward, in order to address these challenges, the Corporation plans to procure, install and operate prepayment meters in Government Offices including customers who are metered on Maximum Demand (MD) tariff. ESCOM will also migrate the remaining non – MD customers to pole top split prepaid metering technology to curb non-technical losses on the system and enhance revenue collection. *Appendix 2 provides summary detailed financial performance of the Corporation.*

1.4 Projects Implementation

The extensive Distribution and Transmission investments implemented through MCC Malawi Compact and World Bank funding during the 2014-2018 Base Tariff period, provides an additional springboard for the new Base Tariff period in terms of improved service delivery. Furthermore, the implementation of the Management Information System with the funding of MCC – Malawi will greatly improve business process, monitoring, controls and customers service. It will also provide a platform for the setting up of a National Call/ Contact Center which will improve the handling of customer queries. The downside of taking-on these investments in this current base tariff, was that ESCOM had to allocate substantial financial resources and personnel, which were not provided-for in the 2014-18 base tariff, as a contribution to this particular project.

Due to financial challenges as explained above, only 4 out of 11 Transmission projects were successfully completed to commissioning during this base tariff period. The other remaining 7 planned projects are at various stages of implementation and these are expected to be fully completed and commissioned in this Base Tariff period. With regard to planned Distribution projects, the Corporation successfully completed and commissioned 5 projects out of 7 planned projects. Over and above those projects that currently are in progress, with the MCC Compact funding coming to a closure on 20th September 2018, the Corporation is expected to inherit any outstanding contracts and commitments which so far are estimated at US$2,353,919 in order to complete and commission any remaining works of the Compact. However, the remaining uncompleted projects are at various stages of implementation and these are planned to be completed and commissioned in the third base tariff period.

Detailed performance in the implementation of 2014 – 18 Base Tariff is summarized ***in Appendix 2 and 3***

2:00 OBJECTIVES OF THE 2018-2022 BASE TARIFF REVIEW

Following the unbundling of ESCOM and the liberalization of the generation business in Malawi, the main focus and objectives of ESCOM and the Base tariff are as follow:

I. To generate adequate revenues for procuring power /electricity to meet current demand and future demand growth.

II. To improve ESCOM's operations which will lead to reduction in system losses and improved revenue collection

III. To Increase access to electricity in line with government goals from the current 11% to 19% by 2022.

IV. To improve customer service in line with Customer service charter commitments.

V. Generate adequate revenue to support investment in system operation, maintenance and growth.

3:00 MAIN ASSUMPTIONS FOR THE 2018-2022 BASE TARIFF

3.1 Revenue capping arrangement.

This Base Tariff is to be reviewed on an annual basis so as to re-align the Revenue Requirement (RR) for each of the Businesses Units based on their plans with the assumptions made and agreed performance targets.

3.2 Treatment of the power purchase cost on the end user tariff

The power purchase cost payable to power sources such as IPPs and power imports shall be treated as a pass through cost to the end user customer through tariff price adjustments on the actual commercial Operation Date (COD) for the project. The power purchase costs will be evaluated, negotiated and approved through the Power Purchase or Power Supply Agreements.

3.3 Treatment of tariff based outstanding arrears

Any arrears emanating by the delays in approving tariffs adjustment by MERA to a licensee shall result in an adjustment to the tariff during the subsequent annual tariff reviews.

3.4 Treatment of the Single Buyer (SB) Working Capital

The SB shall require a minimum Working Capital equivalent to three months energy purchase cost for setting and maintenance of the SB Escrow account.

3.5 Treatment of Grant Funded Assets

All grant funded assets such as those from MCA (Malawi), Malawi Rural Electrification and World Bank funded projects shall forms part of the Regulatory Asset Base for the purpose of a depreciation cost but shall not attract any financing cost in the electricity Revenue Requirement pricing arrangement.

3.6 Treatment of Capital Contribution connection Charges

Sums paid by customers as capital contribution towards new service connections for the purpose of creating a distribution assets shall be included in the

Regulatory Asset Base but for the purpose of depreciation cost but shall not form part of the financing cost in the Revenue Requirement pricing arrangement.

3.7 Pricing Methodology

This Base Tariff application is based on the New Tariff Methodology pricing developed in line with the new market rules where all licensed operators are required prepare and seek a tariff approval from MERA.

3.8 ESCOM's Integrated Strategic Plan 2017 - 2022

Most of the plans and strategies outlined in this Base Tariff are in line with ESCOM's Integrated Strategic Plan and Business plans for individual Business Units.

3.9 ESCOM's five year Investment plan

Most of the projects in this Base Tariff submission have been derived ESCOM's 2018 – 2023 investment plan.

3.10 The Integrated Resource Plan (IRP)

Most of the power generation plans , load forecasting and transmission investments plans included in this Base Tariff have been derived from the 2017-2037 Integrated Resource Plan that was developed by the Ministry of Natural Resources, Energy and Mining.

3.11 Financing for Investments

The investments will be funded through grants or concessionary loans

3.12 System Losses

Substantial gains were made during the 2014-2018 Base Tariff period where system losses were reduced from 23% to around 17.8%. System losses are projected to reduce to 16% by the end of 2018-2022 Base Tariff period.

3.13 Revenue Collection Efficiency

Potential gains will be made in collection efficiency by the adoption of new technologies and practices.

3.14 Automatic Tariff Adjustment Formula (ATAF)

The existing Automatic Tariff Adjustment formula (ATAF) shall include changes to liquid fuels prices as a variable parameter for triggering ATAF.

3.15 Treatment of Corporate / Head Office Cost

All Head Office costs shall be apportioned to the Single buyer, System Market Operator, Transmission System Operator and Distribution System Operator in this Base Tariff review and submission based on factors such as staff numbers, value of assets and required investments.

3.16 Valuation of Regulated Transmission power lines Asset Base

There has been a sharp rise in valuation of the regulated asset base from the base to the first period. The increase is largely driven by the change in method of valuation of assets [Depreciated Optimized Replacement Cost] in line with the new tariff methodology. On the other hand, ESCOM has relied extensive on Malawi Power System Studies – Final Feasibility report by ICF – Core as a basis for determining assets values as inputs into the regulated asset base. The following are the unit cost of transmission steel lattice overhead lines are as below:

Structure	Approximate ($/km)
66kV OHL Steel Lattice	116,510.04
132kV OHL Steel Lattice	165,429.47

Table 4 : valuation of transmission line assets

However, our submission has slightly toned down these values with around 10%. On the other hand, the cost of wooden overhead lines has been estimated at about 50% of the above costs for each voltage level. These costs include Engineering, Procurement and Construction (EPC) cost with a contingency of 7.5%.

3.17 Existing Distribution lines Re-Valuation

The same report has been used as the basis of our valuation of the distribution assert. The table below shows the cost estimates as presented in the report.

Structure type	Approximate Cost ($/km)
11kV T-Wooden Structure OHL	34,317.50
33kV T-Wooden Structure OHL	38,130.56

Table 5 : Valuation of Distribution power line assets per km

These figures have also been adjusted downwards based on the ongoing experience within ESCOM as the organization has been involved in constructing these kinds of lines for a long time (The amounts included in the application represent approximately 30% of the costs in the ICF report). Just like in the transmission assets re-valuation, the costs quoted in the table above include EPC costs with 7.5% contingency.

3.18 Existing Substation Re-valuation

Substations re-evaluation has also taken the same approach as for the lines stated above.

3.19 Revaluation Benchmarking

The re-evaluation process using the MCC report was benchmarked with figures that AZOROM provided to ESCOM in 2016 in the report entitled “Planning Guide”. These figures, though not comprehensive for the whole assert portfolio in question, compare favorably with those in the MCC report of 2010. An extract from the Planning Guide report by AZOROM shown in appendix 1

4.00 COST CONTAINMENT MEASURES

4.1 Review Organization Structure

Under ISP22 ESCOM recognizes the need to restructure the Organization as a key component required to support good corporate governance, with clear lines of accountability for the effective and efficient management of key processes and functions and the implementation of the strategic plan within the period 2018-2022. Some of the Head Office function, staff and decisions making processes will move to Business Units with the aim decentralizing operations, improve decision making and serve customers better.

4.2 Implementation of the Management Information System

Part of the process and organizational improvements are already being implemented through the ESCOM Management Information System (EMIS) by standardizing and streamlining processes / procedures across the enterprise. Most of the approvals will be done in the system and this includes processing of new connections, maintenance works and resolving customer queries/complaints. This will reduce cost associated with paperwork, printing and movement of documents. ESCOM will also meet some of the covenants in the customer service charter, adhere to budget lines and quick access to management reports to support decision making process.

4.3 Cost of Hiring Plant and Equipment and Motor Vehicles

ESCOM plans to replace the ageing fleet with a new on one so as to cut down the cost of hiring and serve its customers better. The hiring process delays new service construction and faults clearing at times resulting in poor customer service. At the begging of the base tariff period, ESCOM will have 143 vehicles with an average age of 6 years. ESCOM transport policy will require that these vehicles be replaced with the Base Tariff period (life span for a vehicle is 8 years).

ESCOM plans to replace these and the expected savings compared to hiring are estimated MK 4.1 bn.

4.4 Motor Vehicle Maintenance Costs

ESCOM will replace ageing fleet which has become non-economical to run. This will save around 10% in operational costs (maintenance and efficiency) at the end of the Base Tariff period. ESCOM also plans to contract out maintenance for most of its fleet.

4.5 Staff Costs

Staff will be encouraged to take time off in lieu of overtime worked. Overtime accounts 10% of salaries and wages and ESCOM plans to reduce to 8%. Furthermore more, ESCOM will allocate labor cost associated with maintenance and projects to their respective activities. Recruitment of additional staff will prioritize internal members of staff so as to optimize existing staff complement.

4.6 Procurement Measures

Where possible, ESCOM will procure directly from the manufacturer for major equipment / products such as transformers, meters to reduce margins paid to agents or middlemen. ESCOM is expected to save around 10% on materials costs. Implementation of a Computerized Procurement System through the EMIS is expected to reduce the time spent looking for documents, improve transaction speeds to save costs, and cuts down on human error (e.g. Sending wrong spec etc.). ESCOM will allow some customers to directly procure some of the materials from reputable suppliers based on ESCOM standards to minimize over stocking of materials and to speed up new service connections so as to achieved customer service connection targets.

4.7 Outsourcing of Major Construction Works.

ESCOM will outsource some of the construction works, maintenance works and services. It is estimated that with outsourcing of construction and maintenance works will save to around MK 920 million from staff benefits only. Potential savings from security and cleaning services for ESCOM offices is estimated at MK 1.98 billion at the end of the Base Tariff period for salaries and staff benefits.

4.8 Outsourcing of electricity products and Services.

ESCOM will continue to outsource and utilize third parties service providers such as banks and vendors / agents in providing in providing ESCOM products and services such as electricity payment collections and new service application. This will allow the corporation to focus on its core business and offer business opportunities to others in the economy. ESCOM will thus also save on related cost such as medical and welfare.

4.9 Operationalize of Capital Contribution Account

ESCOM will ring fence sums collected from customers as payment for new service connections and utilize to finance the procurement of materials with the support from financing institutions. ESCOM will thus meet its connection targets and customer service charter covenants.

4.10 Mechanization and Automation

ESCOM will automate some of its processes such as line construction and maintenance. This will save time, improve quality and allow ESCOM to meet its connection target of 90,000 per year. ESCOM will also offer new innovative products and services online and automate responses to some of the common customer queries through the National Contact / Call center. This will improve customer service and image for ESCOM.

4.11 Optimization of Office Use

Some of the offices will be redesigned or relocated to optimize usage space and cut costs.

4.13 Improved plant /system Utilization.

ESCOM through Demand Side Management (DSM) and energy efficiency initiatives will improve system utilization (Load factor) and provide an alternative investment to diesel peaking plant. The resulting virtual power station of 72 MW will save ESCOM around MK 95 billion in cost of running diesels for six hours per day during this Base Tariff period.

SAVINGS FROM DSM		2018/19	2019/2020	2020/21	2021/22
LED Bulbs	MW	12.50	20.00	30.00	40.00
LED Tubes	MW	5.00	10.00	15.00	20.00
MD Customers	MW	5.00	7.50	10.00	12.50
Total	MW	22.5	37.5	55.0	72.5

Table 6 : Savings from Demand Side Management (Virtual Power Station)

4.1 Treatment of Fiber Optics Business

Fiber optics system is an integral part electricity business. It in that it supports communication, system control, and SCADA and ICT activities. ESCOM will continue to ensure that the operations of the commercial aspect of the fiber business is self-sustaining with all the accounts and operations ring-fence from ESCOM electricity business.

	Unit	2014	2015	2016	2017
Revenue	MWK '000	808,752	1,744,527	1,743,579	1,324,300
Payroll Expenses	MWK '000	75,872	155,697	86,787	274,238
Services, supplies and sundries	MWK '000	353,328	1,032,464	361,259	588,792
Maintenance	MWK '000	9,737	20,249	22,355	420,844
Operations	MWK '000	13,026	11,727	15,069	-
Other Expenses	MWK '000	-	-	-	-
Depreciation		-	-	-	-
Operating expenditure	MWK '000	451,963	1,220,137	485,469	1,283,874
Profit for the Year	MWK '000	356,789	524,390	1,258,110	40,426

Table 7 : Accounts for fiber optics for the past 4 yrs.

5:00 SALES FORECASTING

5.1 Assumptions

The sales (MWh) forecasting will be based on system that is capacity constrained from the electricity generation.

5.2 Energy Sources

List of possible energy sources are shown in table 8 below. It is very likely other sources may identified and commissioned during this base tariff period.

Generation Source	Unit	2018/19	2019/20	2020/21	2021/22	1900
Kapichira	MW	130	130	130	130	130
Nkula A	MW	36	36	36	36	36
Nkula B	MW	100	100	100	100	100
Tedzani	MW	93	93	93	93	93
Wovwe	MW	4.35	4.35	4.35	4.35	4.4
EGENCO Diesel	MW	51.70	51.70	51.70	51.70	52
Zambia-Malawi Cross Boarder	MW	20.00	20.00	20.00	20.00	20
Mozambique-Malawi Cross Boarder - N	MW	1	10	10	10	7
Kammwamba Coal Fired Plant	MW	-	-	43	258	258
Salima -Solar PV Plants	MW	40	40	40	40	40
Nkhotakota -Solar PV Plants	MW	-	21	21	21	21
Golomoti -Solar PV Plants	MW	-	17.5	17.5	17.5	17.5
Kanengo -Solar PV Plants	MW	-	17.5	17.5	17.5	17.5
Kanengo -Atlas Solar PV Plants			20.0	20.0	20.0	20.0
AGGREKO Diesel	MW	78	78	-	-	-
Natural Gas Plant (Salima)	MW	-	-	30	30	40
Ndiza - Ruo Mini Hydro	MW	-	8	8	8	8
Gebis Waste to Energy Plant	MW	-	10	10	10	10
Mozambique-Malawi-Interconnector	MW	-	-	-	50	50
Bua Mbongozi Hydro	MW	-	-	-	25	41
Total Installed Capaity (MW)	**MW**	**553**	**656**	**651**	**941**	**965**

Table 8 : Existing and new energy sources (MW)

5.3 Electricity Capacity Gap forecast

Year	Unit	Base Year	2018/19	2019/20	2020/21	2021/22
National IRP - Forecast	MW	**529**	**621**	**719**	**878**	**962**
Escom Base Tariff Forecast	MW	**404**	**553**	**656**	**651**	**941**
Defiit		**-125**	**-68**	**-63**	**-227**	**-21**

Table 9 : The forecasted electricity capacity gap.

Table 9 shown that the capacity shortage is projected to increase in 2020/2021 financial year if no additional capacity is made available. Additional capacity may be made available through the interconnector, cross boarder suppliers and virtual power station (demand side management initiatives). The final phase for the commissioning of the coal fired plant will almost eliminate capacity shortage in 2021/2022 financial year.

5.4: Energy Mix Forecast

ESCOM will address possible capacity challenges that may be caused by drought through diversification in alternative energy sources such as shown in figure 1 below. The plan is to reduce the contribution from Hydro generation to less than 50% from the current 82% and secure the rest from alternatives sources such as coal , solar and imports as shown in figure 1 below.

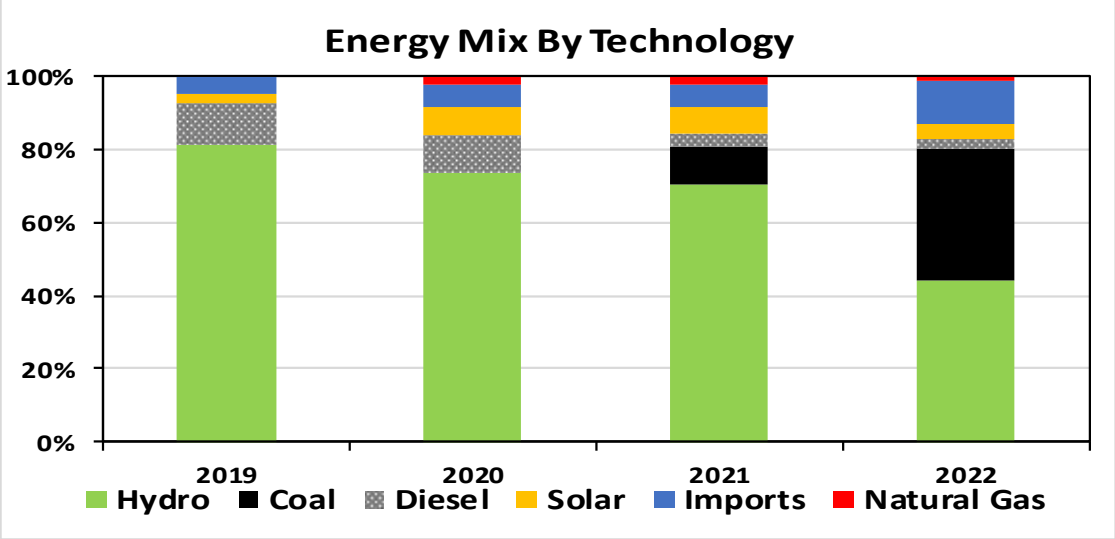

Figure 1: Energy Mix by Technology

5.5 Demand – Capacity Gap Mitigation measures

ESCOM plans to mitigate the capacity shortage by implementing demand side management and energy efficient measures through provision of efficient lighting technologies, the banning of incandescent bulbs, tariff incentives and penalties for use of non-efficient equipment. It is estimated that a saving of around 80 MW will be achieved at the end of the Base Tariff period.

5.6 Energy Purchases Forecast (kWh)

It is projected that ESCOM will procure 13,200 GWh of electricity over the four year Base Tariff period of which 60% of energy will be purchased during the last two years of the Base Tariff. This mainly due to the anticipated commissioning of

the coal fired power station and the interconnector which will greatly increase the available energy for purchases as illustrated in table 10 below.

Power Station	Unit	LF	2018/19	2019/20	2020/21	2021/22	Total
Kapichira	kWh	59%	664,715,808	664,715,808	664,715,808	664,715,808	2,658,863,232
Nkula A	kWh/year	76%	240,398,928	240,398,928	240,398,928	240,398,928	961,595,712
Nkula B	kWh/year	62%	542,857,200	542,857,200	542,857,200	542,857,200	2,171,428,800
Tedzani	kWh/year	70%	572,334,250	572,334,250	572,334,250	572,334,250	2,289,336,998
Wovwe	kWh/year	62%	23,743,849	23,743,849	23,743,849	23,743,849	94,975,394
Egenco Diesels	kWh/year	25%	113,223,000	113,223,000	113,223,000	113,223,000	452,892,000
Zambia-Malawi Cross Boarder	kWh/year	65%	113,880,000	113,880,000	113,880,000	113,880,000	455,520,000
Mozambique-Malawi Cross Boarder - Mandimba	kWh/year	45%	3,942,000	39,420,000	39,420,000	39,420,000	122,202,000
Coal Plant	kWh/year	78%	-	-	293,810,400	1,762,862,400	2,056,672,800
Salima -Solar PV Plants	kWh/year	21%	73,584,000	73,584,000	73,584,000	73,584,000	294,336,000
Nkhotakota -Solar PV Plants	kWh/year	21%	-	38,631,600	38,631,600	38,631,600	115,894,800
Golomoti -Solar PV Plants	kWh/year	21%	-	32,193,000	32,193,000	32,193,000	96,579,000
Kanengo -Solar PV Plants	kWh/year	21%	-	32,193,000	32,193,000	32,193,000	96,579,000
AGGREKO Diesel	kWh/year	25%	170,820,000	170,820,000	-	-	341,640,000
IPP New fuel source	kWh/year	45%	-	-	118,260,000	118,260,000	236,520,000
Ndiza	kWh/year	45%	-	31,536,000	31,536,000	31,536,000	94,608,000
Gebis Energy	kWh/year	80%	-	70,080,000	70,080,000	70,080,000	210,240,000
Mozambique-Malawi-Interconnector	kWh/year	80%	-	-	-	350,400,000	350,400,000
Bua Mbongozi Hydro	kWh/year	45%	-	-	-	98,550,000	98,550,000
Total Energy Purchase / year	kWh/year	1,822,298,462	**2,519,499,034**	**2,759,610,634**	**3,000,861,034**	**4,918,863,034**	**13,198,833,737**
Annual Share of energy purchased		%	**19%**	**21%**	**23%**	**37%**	**100%**

Table 10 Energy Sources (kWh)

5.7 Electricity Purchases forecast (Mk '000)

ESCOM plans to purchase around MK 710 billion worth of electricity by the end of this Base Tariff period. However, 65% of the purchases will occur during the last two years of the Base Tariff and this is mainly due to settlements for the coal fired plan and the interconnector. ESCOM will need to raise adequate funds through the end user tariff / customers to settle all purchase costs in full.

Electricity Purchase Cost	MK '000	2018/19	2019/20	2020/21	2021/22	Total
Kapichira	MK '000	17,894,661	17,797,030	17,580,198	17,752,483	71,024,372
Nkula A	MK '000	5,834,486	7,477,418	7,427,492	7,388,109	28,127,505
Nkula B	MK '000	18,914,377	19,067,620	19,077,053	18,831,697	75,890,748
Tedzani	MK '000	15,662,950	13,994,708	13,878,299	14,197,822	57,733,779
Wovwe	MK '000	5,849,710	5,820,997	5,812,391	5,810,261	23,293,360
Egenco Diesels	MK '000	2,575,339	2,499,000	2,492,838	2,472,160	10,039,338
Zambia-Malawi Cross Boarder	MK '000	7,114,653	7,434,812	7,769,379	8,119,001	30,437,845
Mozambique-Malawi Cross Boarder - Mandimba	MK '000	246,276	2,573,589	2,689,400	2,810,423	8,319,689
Coal Plant	MK '000	-	-	28,756,693	172,540,157	201,296,850
Salima -Solar PV Plants	MK '000	5,949,266	5,949,266	5,949,266	5,949,266	23,797,066
Nkhotakota -Solar PV Plants	MK '001	-	3,123,365	3,123,365	3,123,365	9,370,095
Golomoti -Solar PV Plants	MK '002	-	2,602,804	2,602,804	2,602,804	7,808,412
Kanengo -Solar PV Plants	MK '003	-	2,602,804	2,602,804	2,602,804	7,808,412
AGGREKO Diesel	MK '000	33,340,648	33,340,648	-	-	66,681,295
IPP New fuel source	MK '000	-	-	11,421,433	11,992,504	23,413,937
Ndiza	MK '000	-	3,407,307	3,577,672	3,756,556	10,741,536
Gabiz	MK '000	-	6,490,109	6,814,614	7,155,345	20,460,068
Mozambique-Malawi-Interconnector	MK '000	-	-	-	25,754,400	25,754,400
Bua Mbongozi Hydro		-	-	-	8,003,985	8,003,985
Total	MK '000	**113,382,367**	**134,181,479**	**141,575,703**	**320,863,143**	**710,002,692**
Share of Purchase Cost		**16%**	**19%**	**20%**	**45%**	**100%**

Table 11 : Projected electricity purchases in Mk '000

5.8 The average Purchase Cost per unit

It is projected that the purchase cost per kWh will move from MK 29.92 per kWh to MK 65.23 per kWh over the base tariff period. This current purchase cost per unit will double over the base tariff period to levels that are closer to the current

end user tariff of MK 73.23 per kWh. Considering that the purchase cost is a pass through cost to the end user customer, the impact of this increase to the end user tariff will be substantial. The actual pass through cost will thus be in the region of MK 80 per kWh after adjusting the purchase cost with system losses and a provision for bad debts.

Description	Unit	Base Year	2018/19	2019/20	2020/21	2021/22
Installed Capacity	MW	419.00	553.35	656.35	651.35	941.35
Energy Purchased	GWh	1,822.30	2,519.50	2,759.61	3,000.86	4,918.86
Energy Purchase Cost	MK Billion	54.52	113.38	134.18	141.58	320.86
Purchase price	MK/kWh	29.92	45.00	48.62	47.18	65.23
Purchase price	US Cents /kWh	4.07	6.12	6.62	6.42	8.87

Table 12 : Projected Average Purchase during the Base Tariff period

5.9 System Losses and Sales Forecast

System losses have an impact on end user tariff. Lower system losses tend to lead to lower end user tariff for customers. It is projected that system losses during this Base Tariff will further reduce at a rate lower than the previous Base Tariff (2014 -2018) due to the following factors

- Most of the quick and easy gains were realized during the 2014-2018 Base Tariff period.
- Planned extensive network extension in distribution and voltage transformation during this Base Tariff period will offset some of the gains

System losses are therefore projected to reduce from 17.8% to 16% as shown in table 13 below. The losses have been Brocken down into transmission and Distribution system.

Energy Flows	**Units**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Energy Entering Transmission	kWh	2,519,499,034	2,759,610,634	3,000,861,034	4,918,863,034
Transmission System Losses	%	4.500%	4.000%	4.000%	4.000%
Distribution System Losses	***%***	***13.00%***	***12.75%***	***12.25%***	***12.00%***
Total System Losses	%	17.500%	16.750%	16.250%	16.000%
Energy Entering Distribution	kWh	2,406,121,578	2,649,226,209	2,880,826,593	4,722,108,513
Energy Billed to customers	kWh	2,078,586,703	2,297,375,853	2,513,221,116	4,131,844,949

Table 13 : Electricity Sales forecast for the 2018 to 2022 Base Tariff period

5.10 Projected growth in customer base and access

The Government electrification target from the national grid is 30% access by 2030. The minimum new connections to be made by the end of the Base Tariff period is 360,000 which will result in access rate to *19% from the current 11%*.

Financial Year	Units	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Domestic Customers	No	374,000	459,020	541,975	627,000	713,890
General / Commercial Customers	No	64,200	70,000	77,000	82,000	85,000
Maximum Demand Customers	No	930	980	1,025	1,000	1,110
Customer Base	No	440,000	530,000	620,000	710,000	800,000
Additional Connections / Year	No		90,000	90,000	90,000	90,000

Table 14 : Projected growth in Customer Base and Connections for the 2018 to 2022 period

5.11 Revenue collection enhancements

ESCOM plans to install split prepayment meters in all non MD customer premises by end 2019/2020 and meter some 130 Government institutions on MD prepayment metering by year 2021/2022.

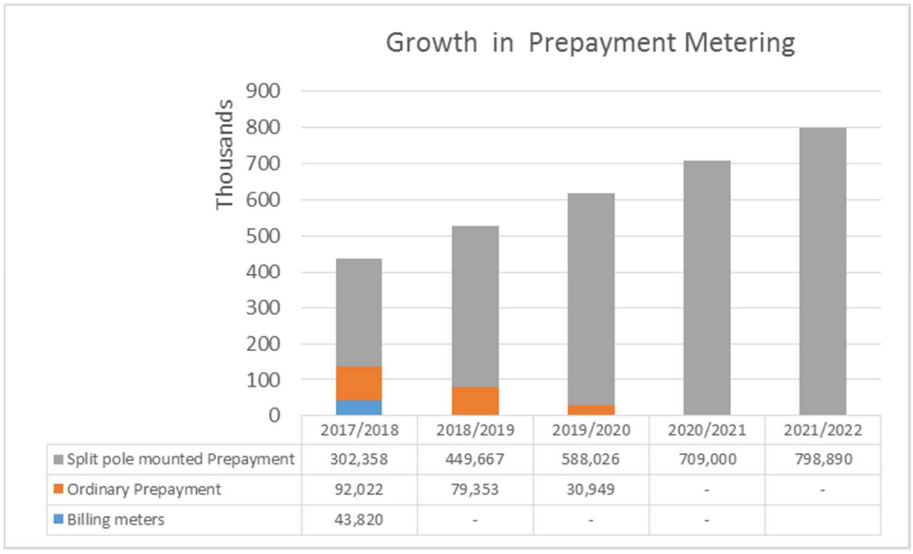

Figure 2 : Implementation of Split Prepayment metering Technology

6:00 TREATMENT OF HEAD OFFICE COSTS

6.1 Apportionment for Head Office Function

ESCOM is required to undertake Base Tariff reviews for the Single Buyer, System Market Operator, and Transmission, Distribution functions of ESCOM, the Bulk Supply Customer tariff and end user customers. For the purpose of this Base Tariff review, all head office costs have been allocated to the stated tariffs. All Head office costs which purely dedicated to customer service such as revenue management and district offices have been fully allocated to Distribution sector of the business.

6.2 New Administrative Assets planned for this Base Tariff

The Head office is responsible for planning and management of the Administrative assets. ESCOM plans to construct an new ESCOM House , a new Regional Head office in Mzuzu, SCADA and National Contact Center in Lilongwe , new Customer Service Centers , two warehouses for handling of materials, staff and Houses for some of the new substations created under MCA –Malawi projects.

6.3 New Head Office Plant and Equipment for the 2014 -2022 Base Tariff

The Head Office is also responsible for the planning and management of plant and equipment. ESCOM plans to procure plant and equipment that will support mechanization of construction works, replace old fleet of vehicles and improve on the security of its installations / assets.

List of head office projects are provided in the appendix 5. These have also been allocated to their respective business units.

7:00 BASE TARIFF APPLICATION: THE TRANSMISSION LICENSEE

7.1 The functions of the Transmission Licensee

The duties and functions of the Transmission licensee are to build, operate and maintain the transmission network in Malawi. The existing Transmission network system comprises of the 66 kV power lines, 132 kV power lines, switchgear, primary substations, SCADA equipment and metering equipment. The 400 KV system/ network will be added during this Base Tariff period.

7.2 General Expenses for Transmission

Substantial investment has been made in the financing and construction of Transmission network infrastructure by the MCA-M project. This will result in the doubling of the capacity, improved voltages and allow more power producers to invest in Malawi.

Transmission Licensee plans to recruit and train more engineers to effectively operate and manage the existing and newly created assets. Provision has been made in this Base Tariff for an increases in payroll, training and operational costs under general expenses as shown in table 15 below. Telecommunications Licenses payable to Malawi Communications and Regulatory Authority and for the contract to maintain the newly installed SCADA system

GENERAL EXPENSES	Unit	Base Year	2018/19	2019/2020	2020/2021	2021/22	Total
Payroll	MK '000	1,416,254	1,699,504.65	2,039,405.58	2,284,134.25	2,558,230.36	8,581,275
Services, supplies and sundries	MK '000	38,813	46,575.07	52,164.07	58,423.76	65,434.61	222,598
Maintenance	MK '000	219,903	263,884.16	295,550.26	331,016.29	370,738.25	1,261,189
Operations	MK '000	1,480,309	1,776,371.27	2,131,645.52	2,387,442.98	2,673,936.14	8,969,396
Others expenses licences	MK '000	-	260,670	291,950.55	326,984.61	366,222.76	1,245,828
Training expenses	MK '000	43,981	57,174.90	74,327.37	96,625.58	125,613.26	353,741
Share of head office expenses	MK '000	4,184,061	3,740,585	4,016,335	4,228,290	4,451,339	16,436,550
Total	**MK '000**	**7,383,321**	**7,844,766**	**8,901,379**	**9,712,917**	**10,611,514**	**37,070,576**

Table 15 : Transmission System Operator General Expenses

7.3 Major Transmission Investment Plans

Transmission Licensee plans to replace existing 132 kV and 66 kV wooden pole structures transmission lines with steel structures or concrete pole structures to improve system availability , construction of the 400 kV, Malawi – Mozambique

interconnector will allow the country to participate in power trading within the Southern African Power Pool , the upgrading of the Nanjoka substation in Salima will support water pumping and irrigation projects and the provision of the transmission connection power lines for the evacuation of power from IPPs.

Detailed list of transmission projects in appendix 4

7.4 Depreciation Cost

The depreciation cost covers transmission assets (ESCOM and grant funded) and share of head office assets. The cost includes grant funded assets from MCA-Malawi and the World Bank Funded ESSP projects. The fiber Optic Commercial Business which uses some of the transmission power lines will also make a contribution towards the depreciation cost as illustrated in table 16 below.

Depreciation Cost	Unit		2018/19	2019/2020	2020/2021	2021/22	Total
Existing network Assets - Escom Fund	MK '000		8,676,571	8,676,571	8,676,571	4,471,807	30,501,519
New network Assets- Escom funded	MK '000		248,815	497,630	800,522	3,159,428	4,706,394
New network Assets- Grant funded	MK '000		1,209,152	2,418,304	2,418,304	2,418,304	8,464,063
Share of Head Office	MK '000		290,453	290,453	290,453	290,453	1,161,811
Contribution from Fiber Business	MK '000		(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
Total	**MK '000**		**10,274,990**	**11,732,957**	**12,035,849**	**10,189,991**	**44,233,787**

Table 16: Transmission Asset Depreciation Costs.

7.5 Transmission Regulatory Asset Base (RAB)

The Transmission RAB includes share of head office and grant funded projects. The financing cost is charged on non-grant funded RAB only. As noted, there is substantial increase in Transmission RAB from the third year of the Base Tariff (ref table 17). This is attributed to the commissioning of projects such as the Malawi-Mozambique Interconnector and system reinforcement projects which will lead to improve quality of supply.

Regulatory Asset Base	Unit	2018/19	2019/2020	2020/2021	2021/22	Total
Existing Network Assets -Grant Funded	MK '000	-	-	-	-	-
Existing Network Assets - Escom Funded	MK '000	78,827,217	70,150,646	61,474,076	52,797,505	52,797,505
New Network Assets - Grant Funded	MK '000	83,431,478	81,013,175	78,594,871	76,176,567	76,176,567
New Network Assets - Escom Funded	MK '000	17,168,227	27,520,623	109,779,453	153,791,279	153,791,279
Share of New head office assets- Grant Funded	MK '000	2,486,368	1,593,750	1,406,250	1,218,750	1,218,750
Share of New head office assets- Escom Funded	MK '000	2,195,915	1,905,463	1,615,010	1,324,557	1,324,557
Working Capital	MK '000	6,345,573	5,855,581	5,615,670	5,352,937	5,352,937
Total RAB	MK '000	190,454,779	188,039,238	258,485,329	290,661,596	290,661,596
Total Regulatory Asset Base - less grant funded	MK '000	104,536,933	105,432,313	178,484,208	213,266,279	213,266,279

Table 17 : Transmission Regulatory Asset Base (RAB)

7.6 Transmission Revenue Requirement Tariff

Transmission energy sales are based on energy entering distribution system as shown in table 13 above. Energy sent out from all power purchased is adjusted by 4% to reflect transmission losses and in order to derive the energy delivered to the distribution network.

Revenue Requirement (RR) breakdown totals are shown in table 18 below. The Average transmission revenue requirement tariffs is around MK 9.92 per KWh. The average price falls after 2019/2020 because of increased unit sales from coal fired power plant.

Transmission Revenue Requirement Tariff	*Unit*	*2018/19*	*2019/2020*	*2020/2021*	*2021/22*	*Total*
General Expenses	MK '000	7,844,766	8,901,379	9,712,917	10,611,514	37,070,576
Depreciation	MK '000	10,659,416	12,460,103	13,066,522	11,525,130	47,711,172
Financing cost	MK '000	6,029,690	6,081,336	10,294,969	12,301,199	34,707,194
Taxation	MK '000	1,240,107	1,250,728	2,117,333	2,529,947	7,138,115
Total Revenue Requirement	MK '001	25,773,979	28,693,546	35,191,741	36,967,790	126,627,057
Sent out energy	kWh	**2,406,121,578**	**2,684,546,529**	**2,916,146,913**	**4,757,428,833**	**12,764,243,852**
Average Transmission tariff	MK/KWh	10.71	10.69	12.07	7.77	9.92

Table 18 : Transmission Revenue Requirement and Base Tariff

8:00 BASE TARIFF APPLICATION: SYSTEM MARKET OPERATOR (SMO)

8.1 The Functions and Responsibilities of the SMO

The function of the System Market Operator is to provide power producers / sources a fair access to the transmission system, plan and control daily operations of the interconnected system, dispatch generation in line with the market rules, settle transactions between licensees and supervise the real time operations of the market.

8.2 General expenses for the SMO

The SMO staff plans to train its staff so as to build skills / competence and trust from all players in the industry. The unit will have highly skilled / qualified personnel.

GENERAL EXPENSES	Unit	2017/18	2018/19	2019/2020	2020/2021	Total
Payroll	MK '000	350,523	420,627	462,690	508,959	1,742,800
Services, supplies and sundries	MK '000	88,945	97,840	107,624	118,386	412,796
Maintenance	MK '000	47,327	52,060	57,266	62,992	219,645
Operations	MK '000	366,377	403,014	443,316	487,647	1,700,354
Other expenses	MK '000	110,000	121,000	133,100	146,410	510,510
Training expenses	MK '000	52,578	68,352	82,022	90,225	293,177
Share of head office expenses	MK '000	209,185	224,606	236,459	248,933	919,183
Total	**MK '000**	**1,224,935**	**1,387,499**	**1,522,477**	**1,663,552**	**5,798,464**

Table 19 : SMO General Expenses

8.3 Regulatory Asset Base for the SMO

The component of the System Control and Data Acquisition (SCADA) monitoring and controlling equipment/assets that is housed in the SMO premises at the ESCOM Chichiri Offices. These assets and including the National Control Building are owned by the SMO. The SCADA and inter-Business metering equipment housed outside the SMO premises form part of the Transmission Licensee.

The current SCADA has been funded by MCA (Malawi) and has been taken out of the RAB for financing costs as shown in table 20. There will be an average of 6% increase in RAB under SMO due to mostly SCADA-related system reinforcements. There will be a relative low increment compared to the other licensees because the main asset investment (SCADA) has been handled under MCC projects.

Total Assets	Unit	2018/19	2019/2020	2020/2021	2021/22	Average
ESCOM funded	MK '000	-	-	-	-	
Assets Grant Funded (SCADA)	MK '000	1,609,650	1,545,264	1,480,878	1,416,492	1,513,071
Share of head office assets -Escom Funded	MK '000	2,832	15,042	13,067	11,093	10,509
Share of head office assets -Grant Funded	MK '000	71,250	63,750	56,250	48,750	60,000
Working Capital	MK '000	1,802,276	1,802,276	1,802,276	1,802,276	1,802,276
Total Assets	MK '000	**3,486,009**	**3,426,332**	**3,352,472**	**3,278,611**	3,385,856
Total Assets less Grant Funded Assets	MK '000	**1,805,109**	**1,817,318**	**1,815,344**	**1,813,369**	**1,812,785**

Table 20 : SMO Regulatory Asset Base

8.4 Revenue Requirement Tariff for System Market Operator

The depreciation cost for SMO is mainly for the SCADA monitoring and control system which is housed in the National Control Center in Blantyre .The depreciation cost for the head office asset is based on a 4.5% share of head office assets. The average Base Tariff for SMO is MK 0.65 per kWh

REVENUE REQUIREMENT	Unit	2017/18	2018/19	2019/2020	2020/2021	Total
General Expenses	MK '000	1,224,935	1,387,499	1,522,477	1,663,552	5,798,464
Depreciation cost on head office assets	MK '000	160,965	154,526	148,088	141,649	605,228
Depreciation cost on SMO assets	MK '000	94,478	156,168	210,803	265,606	727,055
Financing Charge	MK '000	216,860	216,624	216,389	216,154	866,026
Taxation	MK '000	53,955	53,896	53,838	53,779	215,469
Revenue Requirement	**MK '000**	**1,751,193**	**1,968,714**	**2,151,594**	**2,340,741**	**8,212,242**
Energy entering distribution	kWh	2,406,121,578	2,649,226,209	2,880,826,593	4,722,108,513	12,658,282,892
Revenue Requirement Tariff	**MK/KWh**	**0.73**	**0.74**	**0.75**	**0.50**	**0.65**

Table 21 : SMO Revenue Requirement and Base Tariff

9: 00 THE BASE TARIFF APPLICATION: THE SINGLE BUYER

9.1 The Functions and Responsibility of the Single Buyer (SB)

The functions of the Single Buyer are to prepare long term demand and generation forecast, rank generation and transmission projects, procure

electricity from energy sources and sign Purchase Agreements (PPAs) with generation licensees.

9.2 Cost related to the operation of the Single Buyer Account

The Single Buyer is required to open and maintain an Escrow Bank account for the settlement of electricity power purchase costs. The account shall have a minimum balance equivalent to three months electricity power purchases costs all times. The assumption is that the SB shall finance and maintain the account from borrowed funds as shown in table 16 below. The annual purchase costs are from table 3 above. All costs relating to the operation of the SB account are mainly interest charges.

SB Account Costs	Unit	2018/19	2018/19	2018/19	2018/19	**Total**
Electricity Purchased	GWh	2,519	2,760	3,001	4,919	13,199
Annual Purchase Cost	**MK '000**	**113,382,367**	**134,181,479**	**141,575,703**	**320,863,143**	**710,002,692**
3 Months Purchase Cost	MK '000	28,345,592	33,545,370	35,393,926	80,215,786	177,500,673
Interest Charges	24%	6,802,942	8,050,889	8,494,542	19,251,789	42,600,162
Interest Earnings	11%	(3,118,015)	(3,689,991)	(3,893,332)	(8,823,736)	(19,525,074)
Bank Guarantee charges	1%	283,456	335,454	353,939	802,158	1,775,007
Net Cost	**MK '000**	**3,968,383**	**4,696,352**	**4,955,150**	**11,230,210**	**24,850,094**

Table 22 : Expenses related to SB Escrow account

9.3 The SB General Expenses

The SB plans to training more of its staff in 2018/2018 so as to build capacity and necessaey skills. The SB software licence for settlement of payments to power producers has been included . The cost related to the SB account stated in 9.2 above is also included.

GENERAL EXPENSES	Unit	2018/19	2019/2020	2020/2021	2021/22	**Total**
Payroll	MK '000	551,841	557,359	562,933	568,562	2,240,695
Services, supplies and sundries	MK '000	342,650	346,076	349,537	353,032	1,391,295
Maintenance	MK '000	58,075	58,656	59,242	59,835	235,808
Operations	MK '000	36,865	37,234	37,606	37,982	149,687
SB Account operation cost	MK '000	3,968,383	4,696,352	4,955,150	11,230,210	24,850,094
SB Licenses	MK '000	80,000	88,000	96,800	106,480	371,280
Training expenses	MK '000	110,368	111,472	122,619	134,881	479,340
Share of Head Office Cost	MK '000	104,593	112,303	118,230	124,466	459,591
Total	**MK '000**	**5,252,774**	**6,007,451**	**6,302,116**	**12,615,448**	**30,177,789**

Table 23 : SB General Expenses

9.4 The Single Buyer Regulatory Asset Base

The major cost for SB's RAB is the working capital for settling electricity purchase costs. The trend for the increase in RAB under SB represents the increase in purchase costs. Mostly, the costs that contribute to the hike in RAB relate licenses

and software and system reinforcement to allow for the new functions embedded in the licensee.

RAB	Unit	2018/19	2019/2020	2020/2021	2021/22
Share of Head Office Assets - Escom Funded	MK '000	18,415	15,629	12,843	10,057
Share of Head Office - Grant funded (.5%)	MK '000	58,440	144,946	228,702	265,794
Working Capital (SB Account)	MK '000	38,345,963	45,284,519	47,754,834	107,522,943
Total RAB	MK '000	38,422,818	45,445,093	47,996,379	107,798,794
Total RAB excluding grant funded	MK '000	38,364,378	45,300,148	47,767,677	107,533,000

Table 24 : SB Regulatory Asset Base

8.6: The SB Revenue Requirement Tariff

The financing cost for the Escrow account relates to the working capital for the SB account. The average price for the SB is MK 5.31 per kWh. The energy sales are derived from the energy billed to customers as in Table 13 above.

SB -REVENUE REQUIREMENT	Unit	2018/19	2019/2020	2020/2021	2021/22	Total
General Expenses	MK '000	5,252,774	6,007,451	6,302,116	12,615,448	30,177,789
Depreciation Cost	MK '000	2,631	2,786	2,786	2,786	10,989
Financing Cost (SB plus Head Office)	MK '000	4,515,813	5,353,141	5,657,488	12,785,606	28,312,048
Total	MK '000	9,771,218	11,363,378	11,962,390	25,403,841	58,500,826
Energy Billed to Customers	kWh	2,078,586,703	2,297,375,853	2,513,221,116	4,131,844,949	11,021,028,621
SB Tariff	MK /KWh	4.70	4.95	4.76	6.15	5.31

Table 25 : SB Revenue Requirement and Base Tariff

9.5: The Bulk Customer Tariff

The bulk tariff covers all the costs incurred by the SB before selling the power to the Distribution System Operator. This include the electricity purchase costs from all power sources. The average Bulk Customer Tariff is estimated at MK 82.57 per kWh. These are mainly customers supplied at 11 kV and above.

SB BULK TARIFF	Unit	2018/19	2018/19	2018/19	2018/19	Total
Purchased energy from power plants	MK '001	113,382,367	134,181,479	141,575,703	320,863,143	710,002,692
Transmission Own Cost	MK '000	25,773,979	28,693,546	35,191,741	36,967,790	126,627,057
SMO Own cost	**MK '000**	1,751,193	1,968,714	2,151,594	2,340,741	8,212,242
SB's own costs	**MK '000**	10,798,033	12,597,511	13,272,388	28,487,178	65,155,111
Total Bulk Cost	**MK '000**	151,705,572	177,441,250	192,191,427	388,658,853	909,997,102
Energy Billed to Customers	kWh	2,078,586,703	2,297,375,853	2,513,221,116	4,131,844,949	11,021,028,621
Bulk Tariff	**MK /kWh**	**72.98**	**77.24**	**76.47**	**94.06**	**82.57**

Table 26 : Bulk Customer Tariff.

10:00 BASE TARIFF APPLICATION: DISTRIBUTION LICENSEE

10. 1 Functions of Distribution Licensee

The function of the Distribution Licensee is to build, operate and maintain the distribution network in Malawi. The Distribution network covers 33 kV, 11 kV, 400 Volts and 230 Volts network and associated substations and switchgear. Distribution also provides services such as billing, retailing of electricity, new connections, handling of customers queries / complaints management, business development and marketing

The System provides the interface between the Transmission network and customers installations. Distribution Licensee also provides customer service functions such as billing, retailing of electricity, new connections, handling of customers queries / complaints and business development/marketing.

10.2 Planned New Service Connections

Distribution plans to connect at least 360,000 new customers during the 2018-2022 Base Tariff period. This will move the access levels from 11% to 19% and grow the customer base by 80% as shown in table 27 below.

Financial Year	Units	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Domestic Customers	No	374,000	459,020	541,975	627,000	713,890
General / Commercial Customers	No	64,200	70,000	77,000	82,000	85,000
Maximum Demand Customers	No	930	980	1,025	1,000	1,110
Customer Base	No	440,000	530,000	620,000	710,000	800,000
Additional Connections / Year	No		90,000	90,000	90,000	90,000

Table 27 : Planned Distribution Connections

The growth in connection will be facilitated by the outsourcing of some construction works to third parties, increased marketing, and providing new connection incentives for customers, streaming of new application/connection procedures and review of electricity capital contribution connection charges.

10.3 Major Distribution Investment Plans

Distribution plans to connect at least 360,000 new customers, increase access rate from 11% to 19% and reduce system losses from 13% to 12% over the 2018-2022 Base Tariff period. This will require substantial capital investments which have been included in this Base Tariff application. Assets finance through the MCA -M, the Energy Sector Support Project (World Bank) and Malawi Rural Electrification fund have provided ESCOM a platform for business growth and system reliability.

In this base tariff, Distribution will implement projects on system development, rehabilitation works, Demand Side Management, new customer service centers, a national call / contact center and installation of 11 KV underground cable and associated switchgear to ease congestion. Detailed list of projects is contained in appendix 5.

Distribution will outsource some network projects and services to improve efficiency:- construction works , maintenance works, retailing , processing of new application , on site revenue collection using banks, office security and office cleaning .

The Distribution Business unit will also streamline customer procedures / processes, mechanize and automatic construction and maintenance works, market its services / products and review of electricity capital contribution connection charges. The Distribution business unity will also Investment in Demand Side Management initiatives expected to save 72 MW to bridge the gap between generation capacities. Installation of the SCADA system in Lilongwe and Mzuzu will improve the system control and restoration of power to customers. The setting up of a toll free National Call / Contact Center to improve resolution of customer complaints and installation of 11 KV underground network system in central districts of Lilongwe and Mzuzu to improve quality of supply.

Distribution Business will invest and install feeder meters to monitor system loading, system losses and take corrective measures. The installation of smart metering will provide more data about the customer / supply and allow ESCOM to serve the customer better.

10.4 Distribution Network Regulatory Asset Base

Distribution Licensee plans to undertake major system expansion and rehabilitation in to accommodate the additional connections. Such investments are included in the Distribution plans in appendix 4. The Division also plans to finance such investment using its own resources as well. The projected growth in the value of the regulatory network asset base is shown in table 28 below which will support growth in customer base. It shows that RAB will rise in the Base Tariff period. The increase in mostly to do with accelerated electrification and system reinforcement as detailed in the table.

REGULATORY NETWORK ASSETS	Unit	2018/19	2019/2020	2020/2021	2021/22
Existing Network Assets -Grant Funded	MK '000				
Existing Network Assets - Escom Funded	MK '000	51,610,266	42,933,695	34,257,124	25,580,554
New Network Assets - Grant Funded	MK '000	23,367,585	22,413,806	21,220,027	20,026,248
New Network Assets - Escom Funded	MK '000	65,444,386	99,878,579	138,380,777	174,442,453
Grand Total	MK '000	**140,422,236**	**165,226,080**	**193,857,929**	**220,049,254**
Total RAB excluding grant funded	MK '000	117,054,651	142,812,274	172,637,902	200,023,006

Table 28 : Growth in distribution network regulatory asset base

10.5 Distribution Sales Forecast

Distribution retail sales will depend on the available energy from energy sources and system losses as shown in table 29 below. Distribution system losses will be reduced from 13.1% to 12% over the Base Tariff. This will be achieved through increased use of split prepayment metering, separation of MD meters from customer installation, system upgrading and increased meter inspections.

Energy Flows	Units	Base Year	2018/19	2019/20	2020/21	2021/22
Energy Entering Transmission	kWh	1,822,298,462	2,519,499,034	2,796,402,634	3,037,653,034	4,955,655,034
Transmission System Losses	%	4.700%	4.500%	4.000%	4.000%	4.000%
Distribution System Losses	***%***	***13.10%***	***13.00%***	***12.75%***	***12.25%***	***12.00%***
Total System Losses	%	17.800%	17.500%	16.750%	16.250%	16.000%
Energy Entering Distribution	kWh	1,841,349,508	2,406,121,578	2,684,546,529	2,916,146,913	4,757,428,833
Energy Billed to customers	kWh	1,480,672,800	2,078,586,703	2,328,005,193	2,544,034,416	4,162,750,229

Table 29 : Distribution sales forecast for the 2018-2022 period

10.6 Distribution General Expenses

The growth in customer base will have be supported by availability of adequate resources and costs. All costs elements are expected to increase by 20% per annum except for payroll which is expected to increase by 30% in 2018/19 to accommodate new call center staff, longer operating hours for customer care centers , increase faults centers which will be located close to customer locations the transfer of some head functions to Distribution.

Staff electricity benefits will be paid in cash so as to balance monthly energy purchases and sales. Distribution will buy off staff electricity benefits that have accumulated over the years.

Non-physical asset creating projects such demand side management/ energy efficiency and customer connection incentives have been provided under general expenses.

GENERAL EXPENSES	Unit	2018/19	2019/2020	2020/2021	2021/22	Total
Payroll	MK '000	10,849,853	13,019,824	14,582,203	16,332,067	54,783,947
Services, supplies and sundries	MK '000	3,371,173	3,775,714	4,228,800	4,736,255	16,111,942
Maintenance	MK '000	6,405,350	7,173,992	8,034,871	8,999,055	30,613,267
Operations	MK '000	1,439,199	1,583,119	1,741,430	1,915,573	6,679,321
Non asset creating projects	MK '000	4,775,000	4,775,000	4,775,000	4,775,000	19,100,000
Staff Electricity Benefits	MK '000	3,200,000				3,200,000
Training expenses	MK '000	605,781	787,515	882,017	1,146,622	3,421,936
Share of Head Office cost	MK '000	18,471,149	19,832,812	20,879,451	21,980,876	81,164,287
Total	**MK '000**	**49,117,505**	**50,947,975**	**55,123,771**	**59,885,450**	**215,074,700**

Table 30 Distribution General Expenses

10.7 Distribution Depreciation Cost

Distribution bears the largest share asset for head office assets as shown in table 23.

DEPRECIATION COST	Unit	2018/19	2019/2020	2020/2021	2021/22	Total
Existing Network Assets - Escom Funded	MK '000	8,676,571	8,676,571	8,676,571	8,676,571	34,706,283
New network assets - Escom Funded	MK '000	1,335,599.71	2,671,199	4,101,991	5,699,311	13,808,101
New network assets - Grant Funded	MK '000	476,889.49	953,779	1,193,779	1,193,779	3,818,226
Share of Head office	MK '000	1,834,564	1,834,564	1,834,564	1,834,564	7,338,256
Total	**MK '000**	**12,323,624**	**14,136,113**	**15,806,905**	**17,404,224**	**59,670,866**

Table 31 : Distribution Assets Depreciation cost

10.8 Distribution Regulatory Assets Base

There will be a substantial increase in distribution regulatory assets is shown table 32 due to increased connection targets. The financing cost is based on the Non-grant funded RAB. Most of the head office assets (88%) have been allocated to Distribution and this includes the operations for Revenue Management assets.

Regulatory Assets	Unit	2018/19	2018/19	2018/19	2018/19	Average
Existing Network Assets -Grant Funded	MK '000	-	-	-	-	-
Existing Network Assets - Escom Funded	MK '000	51,610,266	42,933,695	34,257,124	25,580,554	38,595,410
New Network Assets - Grant Funded	MK '000	23,367,585	22,413,806	21,220,027	20,026,248	21,756,916
New Network Assets - Escom Funded	MK '000	65,444,386	99,878,579	138,380,777	174,442,453	119,536,549
Head Office Assets - Escom Funded	MK '000	16,411,362	14,576,798	12,742,233	10,907,669	13,659,515
Head Office Assets - Grant Funded	MK '000	3,560,383	3,236,712	2,913,041	2,589,369	12,299,505
Working capital	MK '000	6,345,573	5,855,581	5,615,670	5,352,937	5,792,440
Total Regulatory Assets	MK '000	166,739,554	188,895,169	215,128,873	238,899,230	202,415,707
Regulatory network assets - less Grant Assets	MK '000	139,811,586	163,244,652	190,995,805	216,283,613	168,359,286

Table 32 : Distribution Regulatory Asset Base for the 2018 to 2022 period

10.9 Distribution Revenue Requirement Tariff

Summary of distribution revenue requirement is shown in table 33 below and the corresponding average tariff of MK 25.19 per KWh. This is the highest in ESCOM business unit reflecting the scale of the existing network, future investments and associated operations required for the system

Revenue Requirement cost	Unit	2018/19	2019/2020	2020/2021	2021/22	Average
General Expenses	MK '000	49,117,505	50,947,975	55,123,771	59,885,450	215,074,700
Depreciation Cost	MK '000	12,323,624	14,136,113	15,806,905	17,404,224	59,670,866
Financing Charge	MK '000	930,627	952,044	1,022,271	1,420,196	4,325,138
Taxation	MK '000	191,399	195,804	210,247	292,087	889,537
Revenue Requirement	MK '000	**62,563,154**	**66,231,936**	**72,163,195**	**79,001,957**	279,960,242
Energy Billed	kWh	2,078,586,703	2,328,005,193	2,544,034,416	4,162,750,229	11,113,376,541
Average tariff	**MK/KWh**	**30.10**	**28.45**	**28.37**	**18.98**	**25.19**

Table 33 : Distribution Revenue Requirement and Base Tariff

11 .0 END USER TARIFF

11.1 Treatment of levies and bad debts

The MERA and MAREP levies have been applied to purchase costs and to the four business units costs before adding bad debts as shown in table 34 below.

Around MK 63 billion of the sums revenue requirement will be sums paid by customers towards levies during this Base Tariff period.

End User Revenue Requirement	Unit	2018/19	2019/2020	2020/2021	2021/22	Total
Purchase Cost	MK '000	113,382,367	137,156,112	144,550,336	323,837,776	718,926,592
Transmission Own Cost	MK '000	25,773,979	28,693,546	35,191,741	36,967,790	126,627,057
SMO Own Cost	MK '000	1,751,193	1,968,714	2,151,594	2,340,741	8,212,242
SB Own Cost	MK '000	10,798,033	12,849,222	13,524,099	28,738,889	65,910,243
Distribution Own Cost	MK '000	62,563,154	66,231,936	72,163,195	79,001,957	279,960,242
Subtotal 1	***MK '000***	***214,268,727***	***246,899,529***	***267,580,966***	***470,887,154***	***1,199,636,375***
MAREP Levy (4.5%)	4.50%	9,642,093	11,110,479	12,041,143	21,189,922	53,983,637
MERA Levy (1%)	1.00%	2,142,687	2,468,995	2,675,810	4,708,872	11,996,364
Subtotal 2		226,053,507	260,479,003	282,297,919	496,785,947	1,265,616,376
Bad Debts	3%	6,781,605	7,814,370	8,468,938	14,903,578	37,968,491
RR for end user	MK '000	232,835,112	268,293,374	290,766,856	511,689,526	1,303,584,867

Table 34 End user or Retail tariff progression during the 2018 – 2022 period

11.2: Revenue Requirement Tariff for end user customers

The Average end user tariff is MK 117.30 per kWh over the Base Tariff period. The projected tariff at the end of the Base Tariff period is MK 122.92 per kWh.

End User Tariff	Unit	2018/19	2019/2020	2020/2021	2021/22	Total
End User Revenue Requirement	MK '000	232,835,112	268,293,374	290,766,856	511,689,526	1,303,584,867
Energy Billed	kWh	2,078,586,703	2,328,005,193	2,544,034,416	4,162,750,229	11,113,376,541
End User Tariff	**MK/kWh**	**112.02**	**115.25**	**114.29**	**122.92**	**117.30**
End User Tariff	US Cents / kWh	15.24	15.68	15.55	16.72	15.96

Table 35: End User Tariff

11.3 Contribution to Retail Tariff

The energy purchase cost contributes around 55% of the end user tariff as shown table 36. Efficient procurement of energy sources is critical to the provision of affordable and value for money electricity tariffs in the Country. Being a pass through cost, ESCOM business will not be affected by changes to the purchase cost. The end user customer will however directly be impacted by the changes.

Distribution is the second major contributor to the end user tariff, accounting for 21.5% of the total. In total, all levies account around for 5% of the end user tariff which is mainly in support of rural electrification.

Levies account for 6% of the end user tariff. ESCOM Business contribution to the end user tariff is around 40% of customers' payment. An increase or reduction in purchase costs will not affect ESCOM revenue requirement but may only its share towards the customers end user tariff.

Retail Tariff Component	RR (MK bn)	MK /kWh	US Cents / kWh	%
Purchase Cost	718.93	64.69	8.80	55.1%
Distribution Own Cost	279.96	25.19	3.43	21.5%
Transmission Own Cost	126.63	11.39	1.55	9.7%
SB Own Cost	65.91	5.93	0.81	5.1%
MAREP Levy (4.5%)	53.98	4.86	0.66	4.1%
MERA Levy (1%)	12.00	1.08	0.15	0.9%
Bad Debts	37.97	3.42	0.46	2.9%
SMO Own Cost	8.21	0.74	0.10	0.6%
Total	1,303.58	117.30	15.96	100.0%

Table 36 : Contribution to the end user tariff by business entities

11.4 End User Tariffs adjustment in US Cents

The highest tariff adjustment is in 2018/2019 due to the increase in purchase cost for energy from the emergency diesel generation, the commissioning of most of the grant funded projects and additional power purchase costs from new power sources. This tariff is expected to will stabilize from year 2019/2020 with the commissioning of the Coal fired power station.

The current tariff is expected to move from 9.96 US Cents to 16.72 US Cents per kilowatt-hour.

Unit	2018/19	2019/2020	2020/2021	2021/22
MK/kWh	112.02	115.25	114.29	122.92
US Cents /kWh	15.24	15.68	15.55	16.72
% Annual Adjustment	53.0%	2.9%	-0.8%	7.5%

Table 37 Average end user tariffs in US Cents

The average tariff is expected to move from MK 73.23 per kWh to K 122.92 per kWh over this Base Tariff period. This represents a tariff adjustment of 60%.

12:00 TARIFF STRUCTURE RECOMMENDATION

12.1 Cost of Service study

A Cost of Service Study (CoS) was conducted as part of this Base Tariff review with the support of ECA consulting. The study has established that:-

The current average tariff is around 42 % lower cost reflective/cost recovery tariff and tariff categories are not cost reflective. The existing Maximum Demand Customers are around 38% below cost and the existing domestic tariff is around 68% lower than the cost of service. Details of the findings are summarized in the table below.

Tariff Category	Existing Tariff (MK /kWh)	Cost Of Service (MK/kWh)	Existing Tariff % Below Cost of Service
Domestic 1-Phase (Prepaid)	49.66	155.41	-68%
Domestic 1-Phase (Postpaid)	49.66	155.41	-68%
Domestic 3-Phase (Prepaid)	80.39	155.41	-48%
Domestic 3-Phase (Postpaid)	80.39	143.94	-44%
General 1-Phase (Prepaid)	85.86	152.57	-44%
General 1-Phase (Postpaid)	85.86	152.57	-44%
General 3-Phase (Prepaid)	93.75	152.57	-39%
General 3-Phase (Postpaid)	93.75	152.57	-39%
LV Industrial (400V)	71.12	121.21	-41%
LV Industrial (11kV, 33kV)	63.80	103.71	-38%
Public 3-Phase (Prepaid)	103.00	118.30	-13%
Total	**73.23**	**125.9**	-42%

Table 38 : Existing vs Cost recovery tariff.

12.2 Proposed Tariff Setting

The proposed tariff is based on full in cost reflective and cost recovery. This is the only way that the electricity industry in Malawi can invest and provide quality service to its customers and allow ESCOM to generate adequate funds to settle energy purchase costs from power sources.

Cross subsidies will still continue with the Domestic customers benefiting from Commercial and Maximum Demand customers. However, the levels of cross subsidies will be reduced to minimize over burdening the Commercial and

Maximum Demand Customers who may in turn pass on such a cost to consumers through their products and services.

ESCOM will introduce a cross subsidy within the Domestic customer category by allowing the first 50 units consumed by each customer per month to be charged at a lower rate so as to support the basic social needs for low income households .ESCOM will make up for the lost revenue by charging the electricity consumed over and above the first 50 units at a higher price. This will reduce the cross domestic tariff receives from non-domestic customers such as the industry.

The burden of MD customers paying for capacity and demand charges during periods of lows low distribution system availability will be reduced.

12.3 Proposed Tariff Structure

The current tariff structure will be maintained with some changes as stated below:-

The Domestic tariff will be based on life-line to provide for low income households limited social basic needs at a low rate for the first 50 units each month. This will result is less than 10% increase over the existing tariff. The units consumed over and above 50 units will attract an increase over 60% which is the average tariff increase recommended for this Base Tariff. Such an increase will provide an inter-domestic tariff subsidy.

The fixed charges for Maximum Demand Customers will be removed considering that there is already a Capacity Charge which is also a fixed cost.

The share of revenue from Capacity and Demand charges toward revenue requirement from Maximum Demand customers will be reduced to around 35% from 45%. This will allow MD customers to pay less in the event of a low production and low electricity supply availability.

The time of use energy charges for Maximum Demand Customers will be maintained. The energy ratio of the on peak to off peak unit charges will be increased by around 4% higher so as to encourage customers to increase production during off peak hours and utilize the available spare capacity and low cost energy. The proposed tariff structure is in table 39 below.

EXISTING AND PROPOSED TARIFF STRUCTURE					
Tariff Code	Description	Type of Charge per month	Exixting Rate (Mk)	New Rate (MK)	% Change
	Domestic , Prepaid , Single Phase Supply	First 50 units	46.30	50.00	8%
ET1		Each unit above 50 units	46.30	90.00	94%
ET2	Domestic , Postpaid , Single Phase supply	Fixed Charge	3,131.25	3,400.00	9%
		Unit charge per KWh	40.10	80.00	100%
ET3	Domestic , Prepaid , Three Phase Supply	Unit charge per KWh	74.95	150.00	100%
ET4	Domestic , Postpaid , Three Phase Supply	Fixed Charge	9,345.75	20,000.00	114%
		Unit charge per KWh	67.10	130.00	94%
ET5	General , Prepaid , Single Phase Supply	Unit charge per KWh	80.05	160.00	100%
ET6	General , Postpaid , Single Phase Supply	Fixed Charge	6,290.40	12,500.00	99%
		Unit charge per KWh	74.05	145.00	96%
ET7	General , Prepaid ,Three Phase Supply	Unit charge per KWh	87.40	170.00	95%
ET8	General , Postpaid , Three Phase Supply	Fixed Charge	9,345.75	20,000.00	114%
		Unit charge per KWh	83.30	165.00	98%
ET9	Maximum Demand - Low Voltage Supply (Large power for industrial users , supplied at three phase supply and metered at 400 Volts)	Fixed Charge per Month	33,819.50	N/A	
		On peak unit charge per KWh	94.95	150.00	58%
		Off peak unit Charge per KWh	26.00	35.00	35%
		Capacity Charge per kVA based on the customer's annual declared demand	4,001.45	6,000.00	50%
		Demand Charge per kVA based on actual monthly demand reading	6,475.20	9,700.00	50%
ET10	Maximum Demand - Medium Voltage Supply (Large power for industrial users , supplied at three phase supply and metered at 11 kV or 33 kV)	Fixed Charge per Month	33,819.50	N/A	
		On peak unit charge per KWh	84.55	130.00	54%
		Off peak unit Charge per KWh	23.40	32.50	39%
		Capacity Charge per kVA based on the customer's annual declared demand	3,626.05	5,600.00	54%
		Demand Charge per kVA based on actual monthly demand reading	6,140.45	9,500.00	55%
ET11	Essential Service, Prepaid, Three Phase Supply, High Current Metering	Unit charge per KWh	103.70	160.00	54%
Off peak hrs are from Monday to Friday from 00:00 hrs to 7:00 hrs , from 12:00 hrs to 17:00 hrs and from 20:00 hrs to 24:00hrs: **On peak** Hrs are from Monday to Friday from 7:00 hrs to 12:00hrs and from 17:00 hrs to 20:hrs , All Saturdays , Sundays and Public holidays are Off peak hours					

Table 39 : Proposed tariff structure

Appendix 1: Benchmarked prices for Transmission

BoQ Equipment Ref	Unit	Materials and Equipment (Including Transport, Insurance, Storage, Handling, and Clearing Charges)	Installation, Commissioning, and Site Establishment
Batteries_110V DC_95Ah	ea	33,477	4,411
Batteries_50V DC_95Ah	ea	20,000	3,000
Batteries_110V DC_32Ah	ea	15,636	2,060
Battery Charger _ 20A_110V DC	ea	9,806	1,768
Battery Charger _ 20A_50V DC	ea	6,592	1,189
Battery Charger _ 10A_110V DC	ea	6,592	1,189
Cable_400mm_3x1Core_Al_XLPE_33kV/metre	m	90	130
Cable_185mm_3Core_Al_XLPE_11kV/metre	m	50	130
Cable_240mm_3x1Core_Al_XLPE_11kV/metre	m	60	130
Cable_400mm_3x1Core_Al_XLPE_11kV/metre	m	70	130
CB_66kV	ea	50,000	14,936
CB_11kV	ea	30,000	10,571
CB_11kV_1250A_25kA_B-S_I/D	ea	30,000	6,526
CB_11kV_1250A_25kA_INC_I/D	ea	30,000	7,144
CB_11kV_630A_25kA_FDR_I/D	ea	30,000	5,847
11kV_Auto_Recloser	ea	20,000	5,000
CB_33kV	ea	50,000	12,286
33kV_Auto_Recloser	ea	30,000	5,000
33kV_Fuse_Set	ea	2,000	500
11kV_Fuse_Set	ea	1,000	300
Ring_Main_Unit_11kV_N Ext	ea	18,000	1,500
Bus-Zone_Protection_Panel	ea	90,000	13,000
Control protection Panel 66kV	ea	48,000	9,100
Control_Building/sq. metre	m2	1,905	236
Control_Protection_ Panel_Trf_<66kV_&_TCCP	ea	48,000	9,863
Control_Protection_Panel_33kV	ea	48,000	6,871
CT_1p_66kV	ea	12,000	2,811
CT_1p_33kV	ea	10,000	2,000
CT_1p_11kV	ea	7,000	1,000
Earthing_Earth_Mat/sq. metre	m2	16	8
Fence_Concrete_Palisade/metre	m	269	43
Fence_Concrete_chain_link/metre	m	150	30
Install floor duct/existing building/metre	m		
Isolator + e/s_11kV	ea	12,710	2,443
Isolator + e/s_33kV	ea	15,609	3,000
Isolator + e/s_66kV	ea	23,103	4,393
33kV_'T'-Wood_ACSR_Dog(100 sq mm)_SC/km	km	20,000	15,686
33kV_'T'-Wood_ACSR_Wolf(150 sq mm)_SC(or e	km	22,000	15,686
Restrict._access_33kV_'T'-Wood_ACSR_Wolf_S	km	25,000	15,686
66kV_Steel_Lattice_ACSR (300 mm2)_(or equiv.	km	60,000	65,000
66kV_Steel_Pole_ACSR (300 mm2)_(or equiv. A	km	110,000	75,000
11kV_'T'-Wood_ACSR_Wolf(150 sq mm)_SC(or e	km	17,000	14,117
SA_11kV_1p	ea	372	71
SA_33kV_1p	ea	877	169
SA_66kV_1p	ea	2,002	381
Substation_Stoning/sq. metre	m2	4	1
TR_15MVA_66kV_33kV_OLTC	ea	740,128	136,350
TR_15MVA_66kV_11kV_OLTC	ea	740,128	136,350
TR_10MVA_66kV_33kV_OLTC	ea	600,000	100,000
TR 10MVA 66kV 11kV OLTC	ea	600,000	100,000
TR_10MVA_33kV_11kV_OLTC	ea	500,000	98,103
TR_7.5MVA_33kV_11kV_OLTC	ea	380,000	85,000
TR_5MVA_33kV_11kV_OLTC	ea	300,000	72,745
TR_1MVA_33kV_11kV	ea	70,000	20,000
TR_AUX_0.050MVA_66kV_0.4kV	ea	12,000	2,000
TR_AUX_0.050MVA_33kV_0.4kV	ea	6,337	1,294
TR_AUX_0.050MVA_11kV_0.4kV	ea	5,434	1,110
TR_AUX_0.1MVA_33kV_0.4kV	ea	8,393	1,714
VT_1p_11kV	ea	4,186	786
VT_1p_33kV	ea	7,000	1,800
VT_1p_66kV	ea	8,000	2,636

Appendix 2 : 2014-2018 Performance against MERA Targets

0	For Reporting purposes only	Year 1		Year 2		Year 3		Year 4		REMARKS
		2014-2015		2015-2016		2016-2017		2017-2018		
	Description	Actual	Target	Actual	Target	Actual	Target	Actual	Target	
	Description	Actual	Target	Actual	Target	Actual	Target	Actual	Target	
2.1	Net Surplus /Revenue (%)	43%	20%	31%	20%	47%	20%	17%	20%	The target has not been achieved due to the fact that we are buying electricity and this cost is eating away income.
2.2	Payroll Costs/Total costs (%)	34%	30%	25%	30%	30%	30%	20%	30%	The target was met due to the fact that we have not made enough recruitments within the period as planned due to expected unbundling, plus improved cost control measures
2.3	Maintenance Costs /Operational Costs	12%	43%	47%	29%	13%	27%	13%	27%	The target was not met due to the fact that most of the outsourced maintenance works had run out of materials like meters and poles.
2.4	Average Debt Collection Period	78	60	73	60	122	60	95	60	The target was not achieved due to default by Government and Quasi Government institutions. The corporation was in the process of procuring High Current Prepaid Meters for installation in Government Offices. The Corporation was also intensifying migration of non MD customers from post-paid to pole top split prepaid metering as a mitigation measure.
2.5	Bad Debt – Receivable / Turnover	5%	5%	11%	5%	24%	5%	18%	5%	The target was not achieved due to payment default by Government and Quasi Government institutions.
2.6	Trade Receivable /Turnover	47%	20%	25%	20%	38%	20%	32%	20%	The target was not met due to default by Government and Quasi Government Institutions.
2.7	Return on Capital Employed	17%	24%	16%	24%	8%	24%	4%	24%	Target was not met due to the fact that electricity has now become a cost to the Corporation thereby reducing revenue.

2.8	Return on Shareholder Funds	17%	24%	25%	24%	19%	24%	8%	24%	Target was not met due to the fact that electricity has now become a cost to the Corporation thereby reducing revenue.
2.9	Current Ratio	9.93 to 1	2 to 1	4 to 1	2 to 1	2 to 1	2 to 1	2 to 1	2 to 1	The targets was achieved.
2.1	Acid Test	7.85 to 1	1 to 1	2 to 1	1 to 1	1 to 1	1 to 1	2 to 1	1 to 1	The target was achieved. This is within target, the Corporation needs to keep on strictly managing liquidity levels especially with coming in of commitments to IPPs for the procurement of power.
2.11	Gearing ratio (%)	30%	40%	24%	64%	44%	64%	24%	64%	The Corporation has no interest bearing debt. The proportion of debt capital reflected in the Financial Statements is comprised of Deferred Income & Deferred Tax liability.
2.12	Debt /Equity Ratio	44%	60%	31%	66%	77%	66%	83%	66%	The Corporation has no interest bearing debt. The proportion of debt capital reflected in the Financial Statements is comprised of Deferred Income & Deferred Tax liability.
2.13	Interest Coverage	0 times	3 times	0 times	3 times	0 times	3 times	0 times	3 times	The Corporation has no interest bearing debt. This ratio is therefore not applicable to the Corporation's current zero debt leverage position.
2.14	Interest /PBIT (%)	33%	0%	25%	0%	25%	0%	25%	0%	The Corporation has no interest bearing debt. This ratio is therefore not applicable to the Corporation's current zero debt leverage position
2.15	Trade Payables (Days)	20 days	30 days	37 days	30 days	52 days	30 days	160 days	30 days	Target has not been met. This is due to miss-procurements that took time to be resolved and eventual payments made.
SCHEDULE NO.3: PRODUCTIVITY RATIOS										
3.1	Customer Per Employee	142	99	138	99	162	99	189	99	Higher due to the moving of some work force to EGENCO hence lower work force against same number of customers

3.2	System Losses (Technical and Non-technical)	24.2%	20%	16.7%	20%	23.7 %	20%	17.8%	20%	On target as at the end of the reporting period
3.3	Average Frequency of Interruption Per Installed KVAs (AFIK)	9.5	9.4	15	9.4	6	9.4	4.4	9.4	On target throughout the period
3.4	Total Time of Interruption Per Installed KVAs (TTIK) [Hrs]		25.8		25.8		25.8		25.8	On target throughout the period
3.5	Energy Generated per employee (MWh)	204	150	199	150	N/A	N/A	N/A	N/A	No longer applicable due to unbundling and as ESCOM is no longer responsible for generation of power
3.6	Fault per 100 customers	5.3	20	5	20	6	20	6	20	
3.7	New Connections	10,245	11,250	8,977	12,250	3,254	15,000	13,312	15,000	The underperformance was due to inadequate flow of materials such as the various conductors and meters affected the performance.
3.8	Customers Connection on Prepayment	169,615		272,421		332,430		395,923		
3.9	Electrification	9.8%	10.04%	10.39%	11.74%	10.73%	13%	10.99%	13%	Below target throughout the period
3.1	Quotation days	21days	14 days	21 days	14 days	13 days	14 days	17 days	14 days	Lack of personnel and vehicles in Planning section
3.11	Service Charter	Under development	Under development	Under development	Under implementation	Under implementation	Under implementation	Under implementation	Under implementation	Under implementation, however requires to be monitored separately in terms of implementation rate.

APPENDIX 3: SUMMARY OF PROGRESS ON PROJECTS AS AT END FO DECEMBER, 2017

Transmission Projects	
Project	**Status as at December 2017**
Malawi - Mozambique Interconnector	Phase 1, which included Feasibility Study, Detailed Design and Tender Documents Preparation, plus ESIA and RPF (Resettlement Policy Framework) was completed. Phase II comprises the construction of the Interconnector and is expected to be completed by 2021 at an estimated cost of USD 127 Million split 75/25 between the two countries. This is for a Double Circuit Configuration (strung on one side) which is a departure from what was previously reported as Single Circuit Configuration costing USD100 Million. The Double Circuit option has been reached after a number of consultations and discussions between the two countries and the other stakeholders including Financiers.
Chatroom, Kanyuka and Shayona:	Implementation of the project is expected to commence in the next financial year.
Karonga - Kayelekera **Telegraph Hill - Bwengu (66kV):**	The proposed Telegraph Hill -Bwengu – Karonga- Kayerekela wood pole 66 kV was replaced with 132kV Chintheche-Bwengu Transmission being funded by the MCC Malawi Compact. Based on technical assessment and guidance provided by the MCA-M and their Consulting Engineer, the Corporation resolved to suspend the temporary/interim solution of upgrading and reinforcing the Telegraph Hill – Bwengu from 33 kV to 66 kV as this option was deemed not to yield the full-anticipated benefits as compared to the 132kV Transmission line
Area 48 Substation Upgrade (Lilongwe)	The project is 100% complete- the transformer was installed and energized, and customers are currently being fed from it.
Chichiri and Blantyre West Substation Upgrade	The project is 100% complete- the transformer was installed and energized, and customers are currently being fed from it.
Golomoti- Monkey bay	Due to change of priorities and needs re-assessments, the line was replaced with the Blantyre West - Fundis cross 132kV Line. So far, tender documents for the project are being finalized.
Radio and Carrier Communication Switch to Digital	The project is 100% complete, and was commissioned

78 MW Emergency Power Supply, 2017-2019	55MW of the planned 78MW were installed and commissioned (representing 71% completion rate). The procurement process for the remaining 23MW was in progress.
Solar IPPs	Procuring of 70MW solar power from Independent Power Producers (IPPs); Contracts were offered and completion was expected latest May 2019
Substation automation	The project is 100% complete, and was commissioned
Distribution Projects	
Project	**Status as at December 2017**
Additional Faults Centres:	Monkebay, Nsanje, Bunda and Fatima faults centres were fully established and operational
Capacitor Compensation	The project is expected to commence in the first quarter of the FY2017-18
Demand Side Management – **(CFLs or LEDs)**	Project was 100% completed. Door to door free exchange of about 513,728 Light Emitting Diode (LED) bulbs with ordinary incandescent bulbs to 100,217 households nationwide. This managed to save 24.15 MW.
Prepaid and meter repositioning	95% completion rate was achieved as at end of reporting period.
Switchgear Replacement:	This has been completed at Nkula,Tedzani, Lilongwe A, Kwacha, Queens, Kasinthula and David Whitehead substations.
Pre-stressed Concrete Poles:	Procurement process stalled as there has been indications that ESCOM may not need to manufacture the concrete poles but rather leave it to other players on the market to supply. The funds will be transferred
Mechanical Diggers & Pole Handling Equipment:	2 x Pole handling equipment were procured. ESCOM developed specifications for pole hole drilling machines, to commence in 2018-2019FY

APPENDIX 4: TRANSMISSION PROJECTS / INVESTMENTS

	NEW TRANSMISSION NETWORK PROJECTS	Cost	Funding	Comment	2018/19	2019/20	2020/21	2021/22
T1	400 kV, Phombeya-Nkhoma	MK '000	Grant	MCA - Full project cost	43,920,742			
T3	Bwengu substation 132/66/33KV	MK '000	Grant	MCA - Full project cost	1,993,299			
T4	Bunda substation 132/66KV	MK '000	Grant	MCA - Full project cost	1,993,299			
T5	Chintheche rehabiltation and extension	MK '000	Grant	MCA - Full project cost	1,900,103			
T6	Chintheche-Luwinga 132KV OHL 80	MK '000	Grant	MCA - Full project cost	7,369,204			
T8	Luwinga-Bwengu 132KV OHL 50	MK '000	Grant	MCA - Full project cost	4,605,753			
T9	Bunda-Nkhoma 132kv OHL 32 km	MK '000	Grant	MCA - Full project cost	2,947,682			
T10	Lilongwe 66KV OHL ring 31 km	MK '000	Grant	MCA - Full project cost	2,151,457			
T11	New Bwengu-Bwengu 66kVOHL 1.6 km	MK '000	Grant	MCA - Full project cost	111,043			
T17	LLC 66/33	MK '000	Grant	MCA - Full project cost	1,453,672			
T18	BWENGU 66/33	MK '000	Grant	MCA - Full project cost	1,453,672			
T7	Golomoti 132/33/11 KV (50 MVA)	MK '000	Grant	ESSP -Full Project cost	1,724,386			
T19	Fundis Cross Substation works - World Bank funded	MK '000	Grant	ESSP -Full Project cost	2,389,854			
T23	NCC SCADA	MK '000	Grant	MCA - Full project cost	9,121,350			
T2	400 kV, Mozambique - Malawi Interconnector	MK '000	ESCOM	ESSP -Full Project cost			57,862,200	-
T14	Karonga substation (66/33)	MK '000	Grant	ESSP -Full Project cost	1,453,672			
T15	Kang'oma substation (66/11)	MK '000	Grant	ESSP -Full Project cost	1,154,827			
T16	Kauma 66/11 KV (15 VA)	MK '000	Grant	ESSP -Full Project cost	1,444,073			
T20	Nkula 66/33 kv Substation upgrade - World Bank	MK '000	Grant	ESSP -Full Project cost	1,413,753			
T21	Dwangwa 132/33/11 kV substation - World Bank financed	MK '000	Grant	ESSP -Full Project cost	2,130,530			
T22	Katoto 66/11 KV Substation	MK '000	Grant	ESSP -Full Project cost	2,221,813			
T24	Inter BU metering - ESSP	MK '000	ESCOM	Ready for IPPs	158,495		9,555	
T25	Check MD Meters for IPPs	MK '000	ESCOM	Ready for IPPs	28,665	17,199	11,466	5,733
T26	66 kV Concrete overhead power lines rehab	MK '000	ESCOM	Escom Financing	1,050,000	4,120,000.00	2,700,000	
T27	Protection system upgrade	MK '000	ESCOM	Escom Financing	1,200,000			
T28	Radio and Communication Equipment	MK '001	ESCOM	Escom Financing	1,655,330			
T29	Phombeya 200MVA Transformer & Associated Switchgear	MK '000	ESCOM	Escom Financing			5,145,000	
T30	Nanjoka Substation Upgrade	MK '000	ESCOM	Escom Financing		4,094,012		
T31	New Blantyre Substation	MK '000	ESCOM	Escom Financing			11,833,500	
T32	Eastern Backbone 132kV (central – North)	MK '000	ESCOM	Escom Financing				43,365,000
T33	Chintheche 20 MVAr Voltage Compesation	MK '000	ESCOM	Escom Financing	1,911,000			
T34	66 /33 KV Substation at Nsanama	MK '000	ESCOM	Escom Financing		1,470,000.00		
T35	Chinyama 15 MVAr Voltage Compesation	MK '000	ESCOM	Escom Financing				
T36	66 KV Mbongozi Hydro IPP Interconnection	MK '000	ESCOM	Escom Financing			5,000,000	
T37	66 KV Nkhota-kota Solar IPP Interconnection	MK '000	ESCOM	Escom Financing -for transmission connector		900,000.00		
T38	132 KV Salima Solar IPP Interconnection	MK '000	ESCOM	Escom Financing -for transmission connector	1,200,000.00			
T39	132 KV Golomoti Solar IPP Interconnection	MK '000	ESCOM	Escom Financing -for transmission connector	1,000,000.00			
T40	132 KV Kanengo Solar IPP Interconnection	MK '000	ESCOM	Escom Financing -for transmission connector	900,000.00			
T41	Reserve IPP	MK '000	ESCOM	Escom Financing -for transmission connector				3,000,000
T42	Phombeya – Zomba – New Blantyre 132kV	MK '000	ESCOM					
T43	Provision for MCA grant funded project to be completed by ESCOM	MK '000	ESCOM	10% of MCA projects	8,313,551			
	Additional Assets - Annual							
	Total ESCOM-funded	**MK '000**		**ESCOM funding**	**17,417,042**	**10,601,211**	**82,561,721**	**46,370,733**
	Total grant-funded	**MK '000**		**MCA & ESSP projects**	**84,640,630**	-	-	-
	CUMMULATIVE				**102,057,672**	**112,658,884**	**195,220,605**	**241,591,338**

APPENDIX 5: DISTRIBUTION PROJECTS / INVESTMENTS

No	NEW DISTRIBUTION INVESTMENTS			2018/19	2019/20	2020/21	2021/22
D1	Lilongwe & Mzuzu Peri-urban (ESSP)	MK '000	Loan Finacing from WB	2,130,529			
D2	Peri-urban - Center and North (World Bank financed)	MK '000	Loan Finacing from WB	2,584,127			
D3	Advance Metering Infrastructure (AMI) - ESSP	MK '001	Loan Finacing from WB	1,516,775			
D4	11 km underground cable rehabilitation for Blantyre	MK '000	Loan Finacing from WB	1,273,789			
D5	33 KV Nkhatabay - Mzuzu reinforcement (15 km)	MK '000	Loan Finacing from WB	300,000			
D6	MZUZU SONDA 33/11KV S/S	MK '000	Grand Financing from MCA	1,154,827			
D7	Telegraph Hill -Sonda - Katoto - Luwinga	MK '000	Grand Financing from MCA	643,500			
D8	Karonga - Songwe		Grand Financing from MCA	536,250			
D9	New City Center (33/11)	MK '000	Grand Financing from WB	1,453,672			
D10	AREA 25 33/11	MK '000	Grand Financing from WB	1,154,827			
D11	Marep 8 & 9	MK '000	Grand Financing from MAREP	18,000,000	6,000,000		
D12	Peri Urban Mzuzu & Lilongwe	MK '000	ESCOM financing	3,894,765			
D13	Dzenza - KIA 11 KV (12 km)	MK '000	ESCOM financing	120,000			
D14	Area 49 Substation	MK '000	ESCOM financing	2,940,000			
D15	4 km Underground cable for LL	MK '000	ESCOM financing		308,797		
D16	Mzuzu City 11kV Upgrade	MK '000	ESCOM financing		578,995		
D17	Malosa Substation	MK '000	ESCOM financing	2,940,000			
D18	Bangwe substation 33/11 KV Substation upgrade - World Bank	MK '000	ESCOM financing	901,399			
D19	Central & Northern Region SCADA	MK '000	ESCOM financing	4,950,000			-
D20	Southern Region SCADA	MK '000	ESCOM financing	2,940,000			
D21	Electrificaction (360,000 new connnections)	MK '000	ESCOM financing	19,800,000	19,800,000	22,770,000	22,770,000
D23	Smart Metering	MK '000	ESCOM financing			2,500,000	
D24	Lilongwe 33kV Ring	MK '000	ESCOM financing		882,000	1,305,000	
D25	15 km Underground cable for LL	MK '000	ESCOM financing			1,157,990.32	578,995
D26	MD prepayment metering	MK '000	ESCOM financing	2,500,000	2,500,000		
D27	Prepayment Meter migration and repositioning	MK '000	ESCOM financing	5,000,000			
D28	Nkula - Chileka 33 KV	MK '000	ESCOM financing		600,000		
D29	General system reinforcements	MK '000	ESCOM financing	7,500,000	8,250,000	9,075,000	9,982,500
D30	System Development	MK '002	ESCOM financing	2,500,000	2,750,000	3,025,000	3,327,500
D31	Sengabay Substation	MK '000	ESCOM financing	2,940,000			
D32	Relocation of powelines and services in major cities to pave way for developments	MK '000	ESCOM financing	100,000	100,000	100,000	1,000,000.00
D33	Chipata - Mchinji cross boarder	MK '000	ESCOM financing	650,000			
D34	33 KV Mulanje mini hydro IPP (8 MW)	MK '000	ESCOM financing	105,000			
D35	33 KV Waste to Energy - Blantyre 10 MW IPP	MK '000	ESCOM financing	45,000			
D36	33 KV Kanengo Solar (20 MW with storage)	MK '000	ESCOM financing	50,000			
D38	DSM – (LED bulbs)	MK '000	ESCOM financing - Direct Expenses	1,050,000	1,050,000	1,050,000	1,050,000
D22	Accelerate Electrification	MK '000	ESCOM financing - Direct Expenses	2,600,000	2,600,000	2,600,000	2,600,000
D39	DSM – LED tubes (3.6 Million)	MK '000	ESCOM financing - Direct Expenses	1,125,000	1,125,000	1,125,000	1,125,000
	Added Cumulative						
	ESCOM Funded			**66,779,985**	**102,549,778**	**142,482,768**	**180,141,763**
	Grand Funded			**23,844,474**	**29,844,474**	**29,844,474**	**29,844,474**
	TOTAL			**90,624,460**	**132,394,252**	**172,327,243**	**209,986,238**

ANNEX 6: HEAD OFFICE INVESTMENTS

HEAD OFFICE ASSEST				Funding
HO1	Furniture and Computers	MK '000	Managed by Head Office but shared	ESCOM
HO2	Vehicles	MK '000	Managed by Head Office	ESCOM
HO3	Single Buyer Plexos software	MK '000	Purely Single Buyer	ESCOM
HO4	Call Center and SCADA equipment	MK '000	Purely Distribution	ESCOM
HO5	ICT equipment and network assets	MK '000	Managed by Head Office but shared	ESCOM
HO6	Security Cameras	MK '000	Managed by Head Office but shared	ESCOM
HO7	Tools and test equipment - Distribution	MK '000	Purely Distribution	ESCOM
HO8	Tools and test equipment - Transmission	MK '000	Purely Transmission	ESCOM
HO9	Plant and automation equipment - Distribution	MK '000	Purely Distribution	ESCOM
HO10	Plant and automation equipment - Transmission	MK '000	Purely Transmission	ESCOM
HO11	EMIS and related projects	MK '000	Purely managed at Head Office- but shared	Grant
HO12	EMIS and related projects	MK '000	Purely managed at Head Office- but shared	ESCOM
HO13	Land & Buildings	MK'000	Managed at Head Office but shared	ESCOM
HO14	Office Equipment	MK'000	Managed at Head Office but shared	ESCOM
HO15	Motor Vehicles	MK'000	Managed at Head Office but shared	ESCOM
HO16	Working capital (General stores, transport, oil/fuel)	MK'000	Managed at Head Office but shared	ESCOM
HO17	Construction of new ESCOM House Offices	MK '000	Purely Head Office but shared	ESCOM
HO18	New Mzuzu ESCOM Office	MK '000	Managed by Head office but for Distribution	ESCOM
HO19	5 Staff Houses at Nhoma S/S	MK '000	Managed by Head office but for Transmisison	ESCOM
HO20	5 Staff Houses at Phombeya S/S	MK '000	Managed by Head office but for Transmisison	ESCOM
HO21	Warehouse - delivery and collection	MK '000	Purely Head Office but shared	ESCOM
HO22	New National Call Center and SCADA Building in Lilongwe	MK '000	Purely Distribution but managed by Head Office	ESCOM
HO23	Rehabilitation of Mangochi Cottage	MK '000	Purely Head Office but shared	ESCOM
HO24	Rehabilitation of Lilongwe Transformer Workshop	MK '000	Purely Distribution but managed by Head Office	ESCOM
HO25	New Office Building at Power Station - (Transmission and Distribution)	MK '000	Managed by Head office but for Transmisison	ESCOM
HO26	Golomoti	MK '000	Purely Distribution but managed by Head Office	ESCOM
HO27	Renovation and Branding of existing customer care offices	MK '000	Purely Distribution but managed by Head Office	ESCOM
HO28	New Nchalo Office	MK '000	Purely Distribution but managed by Head Office	ESCOM
HO29	New Dwangwa Office	MK '000	Purely Distribution but managed by Head Office	ESCOM