

Statistical Bulletin

January to December

2019

March 2020

### **EDITORIAL TEAM**

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## **VISION**

A proactive, firm and fair energy regulator

### **MISSION STATEMENT**

"To regulate the energy sector, in order to ensure the efficient provision of reliable and quality energy services and products"



#### **FOREWORD**

It gives me great pleasure to present to you the 2019 edition of the Energy Regulation Board (ERB)'s Statistical Bulletin. The bulletin has been prepared in line with the Institution's strategic objective of improving communication with all stakeholders.

The bulletin complements the Energy Sector Report and provides statistics and information on the performance of the energy sector.

Specifically, it highlights statistics on licensing, pricing, electricity generation, petroleum consumption and other energy related statistics.

The report is tailored to be useful to policy makers, investors, Oil Marketing Companies, Independent Power Producers, utilities, researchers, academicians, and regulators. The report is available for free on the ERB website (<a href="www.erb.org.zm">www.erb.org.zm</a>).

I am grateful to all stakeholders that provided valuable contributions and data used in the publication of this report. Further, in order to serve you better we welcome your comments and suggestions on areas for improvements.

**—**.

Langiwe H. Lungu (Ms.) Director General March 2020

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#### LIST OF ABBREVIATIONS

ERB Energy Regulation Board

HFO Heavy Fuel Oil

INDENI INDENI Petroleum Refinery Company Limited

IPP Independent Power Producer

NFT Ndola Fuel Terminal

OMC Oil Marketing Company

SAPP Southern African Power Pool

SADC Southern African Development Community

TAZAMA Pipelines Limited

ZESCO ZESCO Limited

#### **UNITS OF MEASUREMENT**

Bbl Barrels of oil (159 litres)
GWh Giga-Watt hour (1,000 MWh)
K Zambian Kwacha (ZMW)

Km Kilometre kV Kilo Volt

kVA Kilo Volt Amperes (1,000 Volt Amps)

kW Kilo Watt kWh Kilo Watt Hour MW Mega Watt

MWh Mega Watt Hour (1,000 kWh)

MT Metric Tonne (in this document means a mass equivalent to 1,000 kg)

m<sup>3</sup> Cubic Meters

US\$ United States of America dollar

#### **ACKNOWLEDGEMENT**

We acknowledge the following organisations that provided data and information that has been used in the preparation of this bulletin:

- Copperbelt Energy Corporation Plc
- INDENI Petroleum Refinery Company Limited
- Lunsemfwa Hydropower Company Limited
- Maamba Collieries Limited
- Ndola Energy Company
- Oil Marketing Companies
- TAZAMA Pipelines Limited
- Itezhi –tezhi Power Corporation
- ZESCO Limited

#### **EXECUTIVE SUMMARY**

# Highlights of key developments in the Energy Sector during the period January to December, 2019

The national installed capacity of electricity stood at 2,981.31 MW as at 31<sup>st</sup> December 2019 compared to 2,892.91 MW as at 31<sup>st</sup> December 2018. The increase was mainly due to the commissioning of the 54 MW Bangweulu and 34 MW Ngonye solar power plants. This led to the increase of the solar energy share to 2.99 percent of the total installed capacity. Meanwhile, hydro generation still dominated at 80.45 percent of hydro generation, followed by 10.06 percent of coal. In addition HFO comprised 3.69 percent with diesel having the least at 2.80 percent.

Following the poor rainfall pattern recorded in the 2018/2019 rain season generation sent out by ZESCO large hydro power plants decreased from to 12,458 GWh in 2018 to 11,272.61 GWh in 2019. Similarly, the mini and small hydro power plants generation sent out decreased from 207.71 GWh in 2018 to 168.54 GWh in 2019. Meanwhile, generation from ZESCO's diesel power plants increased to 5.15 GWh from 4.53 GWh in 2018. Further, generation from Independent Power Plants also increased to 3,593.03 GWh in 2019 from 3,519.44 GWh in 2018.

The Government imports of petroleum feedstock increased to 704,657.11 MT in 2019 from 618,441 MT in 2018. Similarly, the importation of petrol by Government contracted suppliers increased from 184,971 M³ in 2018 to 257,719 M³. Similarly, low Sulphur gas oil also increased from 361,746 M³ in 2018 to 649,058 M³ in 2019.

Gas oil (Including Low Sulphur Gas Oil) remained the most consumed petroleum product in the period under review at 2,887,875 litres per day followed by petrol at 1,266,028 litres per day. The consumption of other products namely, Heavy Fuel oil, Jet A-1, Kerosene and LPG was 475,301 kgs per day, 99,956 litres, 37,091 litres and 34,846 kgs per day respectively. Total Zambia Limited and Puma Energy Plc continued to dominate the market for petroleum products in the country with a combined market share of 46.7 percent. However, this was a decline in market share compared to 49.8 percent in 2018.

### 1.0 LICENSING STATISTICS

### 1.1 ELECTRICITY AND RENEWABLE ENERGY SUB-SECTORS LICENSING

Table 1: Electricity and renewable energy sub-sectors licensing for 2019

Sub-		Number of
sector	Type of License	Licenses
	Generate, Distribute and Supply Electricity for Off-Grid system	1
	Generation of Electricity	2
Electricity	Manufacture, Wholesale Importation and Installation of Solar	
	Energy Systems	28
	Supply of Electricity	1
Total		32

### 1.2 PETROLEUM SUB-SECTOR LICENSING

Table 2: Petroleum Sub-sector licensing for 2019

		Number of
Sub-sector	Type of License	Licenses
	Blending and Packaging of Lubricants	1
	Distribute, Import and Export of Liquefied Petroleum Gas	9
	Distribute, Import and Export of Petroleum products	21
	Export of Liquefied Petroleum Gas	20
Petroleum	Export of Liquefied Petroleum Gas (Butane)	6
Petroleum	Importation of Lubricants	37
	Inclusion of Retail Sites	25
	Retail of Petroleum Products	5
	Retailing of Liquefied Petroleum Gas	1
	Road Transportation of Petroleum Products	24
Total		149

### 2.0 ELECTRICITY SUB-SECTOR STATISTICS

### 2.1 NATIONAL INSTALLED GENERATION CAPACITY

**Table 3: National Installed Generation Capacity** 

Undertaking	Station	Machine Type	Installed Capacity MW)		
	Kafue Gorge	Hydro	990		
	Kariba North	Hydro	720		
	Kariba North Extension	n Hydro	360		
	Victoria Falls	Hydro	108		
ZESCO Limited	Lunzua River	Hydro	14.8		
	Lusiwasi	Hydro	12		
	Chishimba Falls	Hydro	6		
	Musonda Falls	Hydro	10		
	Shiwang'andu	Hydro	1		
Itezhi-tezhi Power Corporation	Itezhi-tezhi	Hydro	120		
Zengamina Limited	Ikelengi	Hydro	0.75		
	Mulungushi	Hydro	32		
Lunsemfwa Hydro Power Company	Lunsemfwa	Hydro	24		
	Total Hydro		2398.55		
Maamba Collieries Limited	Maamba Power Plant	Coal	300		
	Total Coal		300		
	Luano	Diesel	40		
Copperbelt Energy Corporation	Bancroft	Diesel	20		
Generation Plants	Kankoyo	Diesel	10		
	Maclaren	Diesel	10		
	Luangwa	Diesel	2.6		
<b>ZESCO Limited Generation Plants</b>	Shang'ombo	Diesel	1		
	Total Diesel	•	83.6		
Ndola Energy Generation Plants	Ndola	Heavy Fuel Oil	110		
	Total Heavy Fuel Oi		110		
Rural Electrification Authority Generation Plants	Samfya	Solar	0.06		
Copperbelt Energy Corporation	Kitwe	Solar	1		
Muhanya Solar Limited	Sinda Village	Solar	0.03		
Ngonye Power Limited	LSMFEZ	Solar	34		
Bangweulu Power Company Ltd	LSMFEZ	Solar	54		
Engie Power corner	Chitandika Village	Solar	0.028		
Solera Power	Luangwa bridge	Solar	0.0128		
Standard Microgrid	Kafue	Solar	0.0162		
Mugurameno	Chirundu	Solar	0.01		
	Total Solar		89.157		
Grand Total					

### 2.1.1 National Installed Electricity Generation Capacity by Technology

Figure 1: National installed electricity generation capacity by technology as at 31<sup>st</sup> December 2019

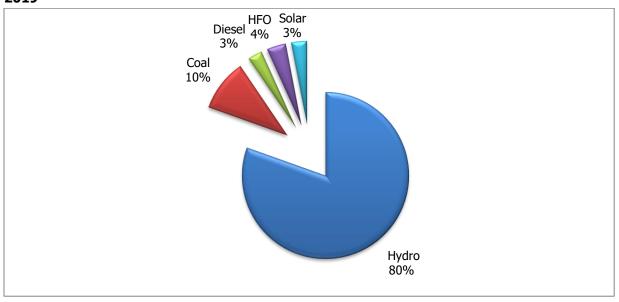
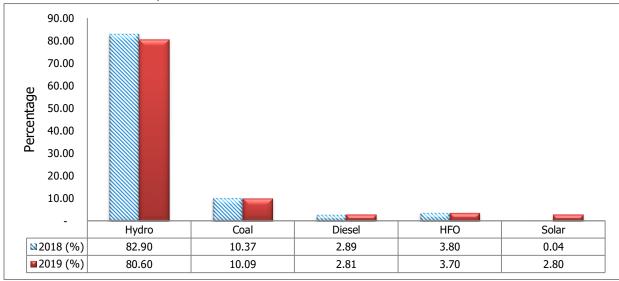


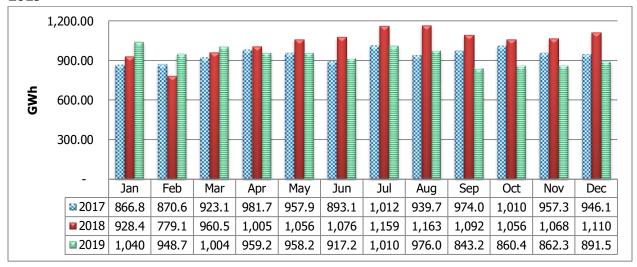
Figure 2: National installed electricity generation capacity by technology as at 31<sup>st</sup> December 2019 vs 31<sup>st</sup> December, 2018



#### 2.2 GENERATION SENT OUT

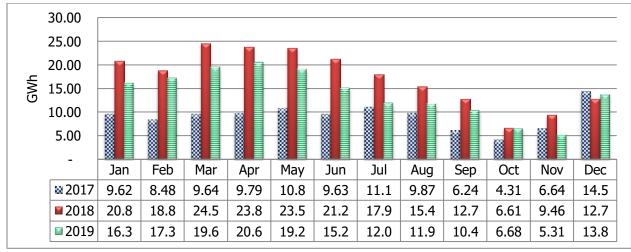
#### 2.2.1 ZESCO's Generation from Large Hydro Power Plants

Figure 3: Electricity Generation from ZESCO's large hydro power plants 2017, 2018 and 2019<sup>1</sup>



### 2.2.2 ZESCO's generation from small and mini hydro power plants

Figure 4: Generation sent out from ZESCO's small and mini hydro power plants, 2017, 2018 and  $2019^2$ 



<sup>&</sup>lt;sup>1</sup> ZESCO's large Hydro power plants refer to Kafue Gorge, Kariba North Bank, Kariba North Bank Extension Power Plants

<sup>&</sup>lt;sup>2</sup> The Small & Mini-hydro refers to Lusiwasi, Chishimba falls, Musonda Fall, Lunzua and Shiwang'andu Power Plants.

### 2.2.3 ZESCO's generation from diesel power plants

1.40 1.20 1.00 0.80 0.60 0.40 0.20 Jan Feb Mar May Jul Aug Sep Oct Nov Dec Apr Jun **≥** 2017 1.32 0.93 0.73 0.59 0.36 0.40 0.37 0.37 1.06 1.06 1.09 0.52 **2018 ≥** 0.39 0.34 0.38 0.36 0.38 0.37 0.35 0.35 0.40 0.41 0.39 0.41 **≅**2019 0.41 0.39 0.42 0.41 0.42 0.43 0.40 0.55 0.46 0.40 0.41 0.46

Figure 5: Generation sent out from ZESCO's Diesel Power Plants 2017, 2018 and 2019

### 2.2.4 Generation from Independent Power Producers (IPPs)

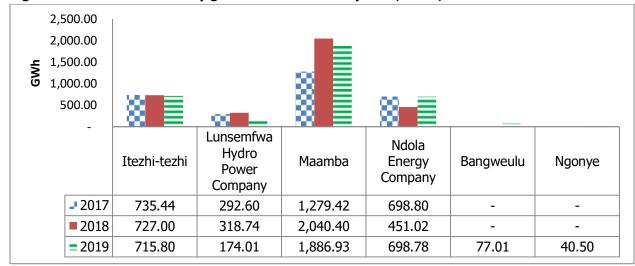


Figure 6: Trends in Electricity generation sent out by IPPs, 2017, 2018 and 2019

#### 2.3 PLANNED ELECTRICITY GENERATION PROJECTS

**Table 4: Expected Electricity Generation Projects, as at 31<sup>st</sup> December, 2019** 

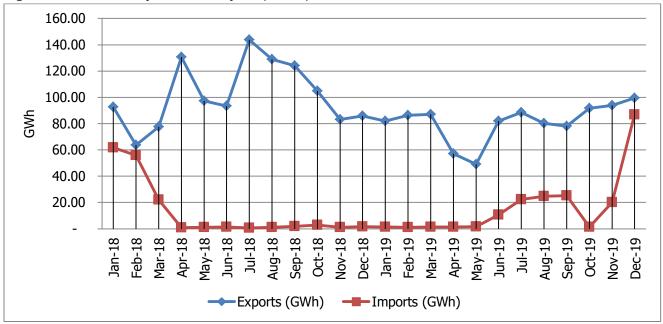
Project Name	Туре	Owner	Capacity (MW)	Expected Completion Date
Kafue Gorge Lower Hydro Power Project	Hydro	ZESCO	750	August, 2020
Chishimba Falls	Hydro	ZESCO	15	TBA
Batoka Hydro Power Project	Hydro	ZESCO	1,200	TBA
Luapula River	Hydro	ZESCO	1,200	TBA
Maamba coal fired power plant II	Thermal	Maamba Collieries Limited	300	ТВА
Kabompo Gorge	Hydro	CEC	34	TBA
Luisiwasi Upper	Hydro	ZESCO	15	TBA
Luisiwasi Lower	Hydro	ZESCO	86	TBA
Mkushi	Hydro	Lunsemfwa	65	TBA
MASEN	Wind/Solar	ZESCO/MASEN	200	TBA

### 2.4 ZESCO ELECTRICITY EXPORTS AND IMPORTS

Table 5: ZESCO's Imports and Exports, 2017, 2018 and 2019

ZESCO ELECTRICITY EXPORTS AND IMPORTS								
	2017			18	2019			
Month	Exports (GWh)	Imports (GWh)	Exports (GWh)	Imports (GWh)	Exports (GWh)	Imports (GWh)		
January	64.40	114.64	92.55	61.67	81.84	1.28		
February	67.96	65.22	63.67	55.97	86.26	1.19		
March	91.11	56.29	77.61	22.13	87.17	1.24		
April	111.05	41.44	130.58	0.86	57.16	1.38		
May	122.03	58.10	97.22	1.01	49.16	1.56		
June	97.56	58.82	93.39	1.35	81.99	10.60		
July	89.23	60.37	143.73	0.64	88.54	22.33		
August	76.91	57.65	128.87	1.23	80.35	24.79		
September	83.65	63.19	124.09	1.86	78.00	25.25		
October	85.73	64.40	104.73	2.84	91.58	1.38		
November	87.07	58.80	83.23	1.04	93.95	20.23		
December	86.22	54.02	85.81	1.63	99.56	86.93		
Total	1,062.92	752.94	1,225.48	152.23	975.56	198.16		





### 2.5 ELECTRICITY CONSUMPTION BY ECONOMIC SECTOR

Figure 8: Electricity Consumption by Economic Sector, 2017, 2018 and 2019.

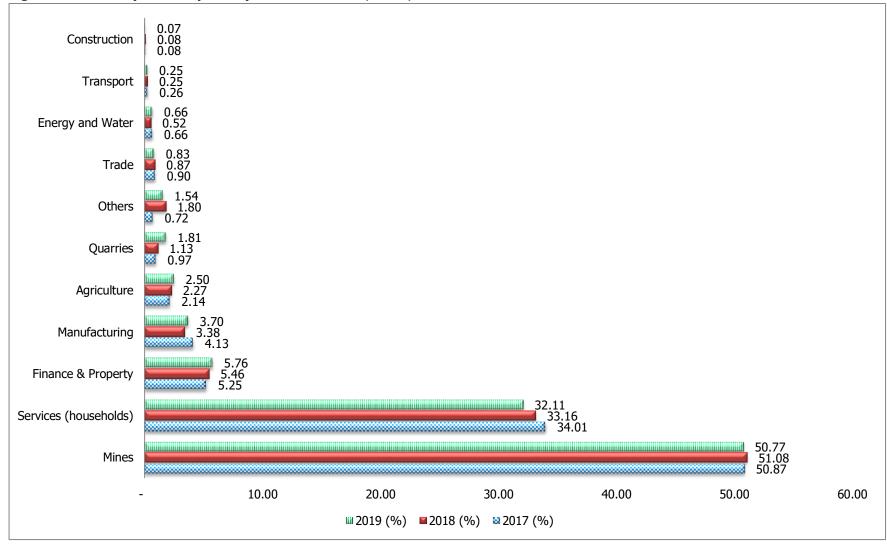


Table 6: Electricity Consumption by Economic Sector, 2017, 2018 and 2019.

Sector/Month	2017 (GWh)	2017 (%)	2018 (GWh)	2018 (%)	2019 (GWh)	2019 (%)
Mines	6,202.00	50.87	6,681.88	51.08	6,360.29	50.77
Services (Households)	4,146.85	34.01	4,336.92	33.16	4,022.54	32.11
Finance & Property	640.04	5.25	713.87	5.46	721.53	5.76
Manufacturing	503.39	4.13	442.15	3.38	463.71	3.70
Agriculture	261.49	2.14	297.03	2.27	312.56	2.50
Quarries	118.15	0.97	147.61	1.13	227.25	1.81
Others	87.29	0.72	235.08	1.80	193.25	1.54
Trade	110.21	0.90	113.85	0.87	103.36	0.83
Energy and Water	80.88	0.66	68.54	0.52	82.94	0.66
Transport	31.95	0.26	32.47	0.25	31.23	0.25
Construction	9.62	0.08	10.83	0.08	8.35	0.07
Grand Total	12,191.87	100.00	13,080.23	100.00	12,527.02	100.00

### 2.6 CUSTOMER BASE BY UTILITY

Table 7: Customer base by utility as at 31st December, 2019

SECTOR	ZESCO		NWEC	
	TOTAL	PERCENTAGE (%)	TOTAL	PERCENTAGE (%)
Residential	916,669.00	90.1	3234	97.2
Maximum Demand	8,460.00	0.8		
Commercial	80,144.00	7.9	89	2.8
Agriculture	815.00	0.1		
Social	11,253.00	1.1	3	0.1
Total	1,017,341.00	100.0		100.0

### 2.7 REGIONAL AND DOMESTIC ELECTRICITY TARIFFS

### **2.7.1 Domestic Electricity tariffs**

Table 8: ERB approved electricity tariffs as at 31st December 2019

Customer category	Tariff components	Approved Tariffs as at 31st December 2019	Approved Tariffs Effective 1 <sup>st</sup> January 2020
1. METERED RESIDENTIAL (Prepaid) (capacity 2	L5 kVA)		
R1 – Consumption from 1 - 100 kWh in a month	Energy charge/kWh	0.15	0.47
R2 – Consumption between 101kWh - 300 kWh in a month	Energy charge/kWh	0.89	0.85
R3 – Consumption above 300kWh	Energy charge/kWh	Nil	1.94
	Fixed Monthly Charge	18.23	Abolished
2. Commercial Tariffs (capacity 15kVA)			
C1 – Consumption up to 200kWh	Energy charge/kWh	0.54	1.07
C2 – Consumption above 200kWh	Energy charge/kWh	Nil	1.85
	Fixed Monthly Charge	96.41	Abolished
3. Social Services			
Schools, Hospital, Orphanages, churches, water	Energy charge K/kWh	0.49	1.19
pumping & street lighting	Fixed Monthly Charge	83.84	203.73
4. Maximum Demand Tariffs			
	MD Charge (K/kVA/Month)	24.45	42.79
	Energy Charge (K/kWh)	0.35	0.61
MD1- Capacity between 16 - 300 kVA	Fixed Monthly Charge (K/Month)	239.44	419.02
THE Capacity Section 10 500 KVA	Off Peak MD Charge (K/KVA/Month)	12.22	21.39
	Off Peak Energy Charge (K/kWh)	0.26	0.46
	Peak MD Charge (K/KVA/Month)	30.56	53.48
	Peak Energy Charge (K/kWh)	0.44	0.77
	MD Charge (K/kVA/Month)	45.73	80.03
	Energy Charge (K/kWh)	0.3	0.53
	Fixed Monthly Charge (K/Month)	478.84	837.97
MD2- Capacity 301 to 2,000 kVA	Off Peak MD Charge (K/KVA/Month)	22.87	40.01
	Off Peak Energy Charge (K/kWh)	0.23	0.39
	Peak MD Charge (K/KVA/Month)	57.17	100.03
	Peak Energy Charge (K/kWh)	0.37	0.66
	MD Charge (K/KVA/Month)	73.06	126.39
	Energy Charge (K/kWh)	0.25	0.43
MD2 Garagha 2 224 - T TOCKY	Fixed Monthly Charge (K/Month)	1,014.55	1,755.17
MD3- Capacity 2,001 to 7,500kVA	Off Peak MD Charge (K/KVA/Month)	36.52	63.2
	Off Peak Energy Charge (K/kWh)	0.18	0.32
	Peak MD Charge (K/KVA/Month)	91.33	157.99

	Peak Energy Charge (K/kWh)	0.3	0.54
	MD Charge (K/KVA/Month)	73.47	127.39
MD4-Capacity 7500kVA to 25,000 kVA	Energy Charge (K/kWh)	0.21	0.36
	Fixed Monthly Charge (K/Month)	2,029.13	3,510.39
	Off Peak MD Charge (K/KVA/Month)	36.73	63.55
	Off Peak Energy Charge (K/kWh)	0.16	0.27
	Peak MD Charge (K/KVA/Month)	91.84	158.88
	Peak Energy Charge (K/kWh)	0.25	0.45
Bulk Distributors tariff	Maximum Demand customers - MD Charge/KVA/month	Nil	58.6
(Purchasers of Power for distribution)	Retail customers – Energy charge / kWh	Nil	0.49
NOTE; The above tariffs are:-			

- (a) Exclusive of 3% Government excise duty
- (b) Exclusive of 16% Value Added Tax (VAT)

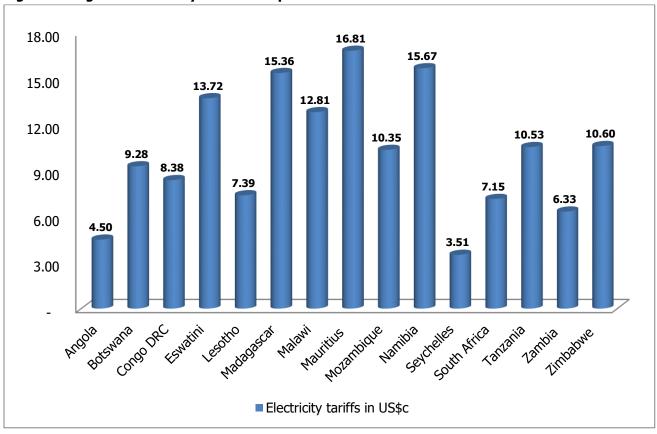
### 2.7.2 Northwestern Energy Corporation (NWEC) Electricity tariffs

Table 9: NWEC 2019 tariff schedule

CUSTOMER CATEGORY	2019 TARIFF
Residential Customers Tariffs	
R1-Consumption up-to 200KWh in a month	0.35
R2-Consumption above 200KWh in a month	0.89
Fixed Monthly Charge	18.23
Commercial Customers (15KVA)	
Energy Charge	0.71
Capacity Charge	45.72
Fixed Monthly Charge	131.25
Social Services	
Energy Charge	0.71
Capacity Charge	131.25

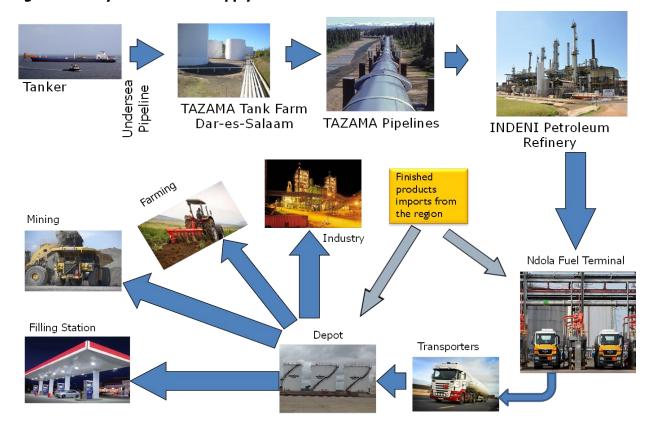
Regional tariffs at 31st December 2019

**Figure 9: Regional Electricity Tariffs Comparison** 



### 3.0 PETROLEUM SUB-SECTOR STATISTICS

Figure 10: Players in the fuel supply chain



### 3.1 RETAIL SERVICE STATIONS PROVINCIAL DISTRIBUTION

### **Table 10: Retail Service Stations Distribution by Province, as at 31st December, 2019**

OMC/Dealer	Central	Copperbelt	Eastern	Luapula	Lusaka	Muchinga	Northern	Northwestern	Southern	Western	Grand Total
Collum Lunm Tian Ltd					1						1
Eco Petroleum Limited		4		1		1	1				7
Endrone Petroleum					1		1	1	1	1	5
Enigma Petroleum Ltd	1										1
Hashi Energy Zambia Ltd	3				1	1					5
Hass Petroleum Zambia Ltd		2			2					1	5
Kobil Zambia Ltd	2	7	3		11				5	1	29
Lake Petroleum Ltd	3	9			9	1		1	1		24
LBM Investments Limited		1		1		1	3				6
Luapula Oils				1							1
Mount Meru Petroleum Zambia Ltd	7	6	2	1	18	1		2	4		41
Ngucha energy Corporation				1	5			1		1	8
Oasis Oil Ltd			4		3						7
Oilbay Zambia Limited	1										1
Oryx oil Zambia Limited		6	2	1	4				2		15
Petroda Zambia Ltd		6			13			1			20
Puma Energy	3	15	5	1	22	1	1	2	6	3	59
Ravasia Petroleum					1						1
SGC Investments		12	2		8	1	1	1	2		27
Spectra Oil Corporation					4						4
StarOil		1									1
Suban Petroleum (Z) Ltd.		1									1
Total Zambia Limited	7	15	1	1	25	2	1	2	3	1	58
Tribute Investments Ltd								2			2
Ufuel Zambia	1										1
Vivo Energy (Engen Petroleum)	1	7	1		18		2		3		32
WWW Investments	1										1
ZHONGKUANG Zambia Services Co. Ltd		1									1
Grand Total	30	93	20	8	146	9	10	13	27	8	364

### 3.2 PETROLEUM UPLIFTS BY OIL MARKETING COMPANIES

Table 11: Actual Quantities of Petrol Uplifted at Government Fuel depots, 2017, 2018 & 2019

Petrol	20	019	2018		2017		
Month/ Product	Quantity (m³)	Average No Trucks/Day	Quantity (m³)	Average No Trucks/Day	Quantity (m³)	Average No Trucks/Day	
January	34,848.771	32	37,919	35	24,082	22	
February	32,547.835	33	31,130	32	29,188	30	
March	36,122.639	33	35,482	33	35,182	32	
April	35,680.084	34	36,101	34	30,650	29	
May	40,410.714	37	40,355	37	40,066	37	
June	36,422.110	35	37,842	36	34,019	32	
July	38,512.669	36	35,624	33	37,257	34	
August	41,125.671	38	42,119	39	40,062	37	
September	43,048.924	41	36,206	34	39,687	38	
October	39,621.112	37	38,085	35	35,067	32	
November	41,562.993	40	37,137	35	38,559	37	
December	38,070.325	35	38,037	35	40,514	37	
<b>Grand Total</b>	457,973.847	36	446,036	35	424,332	33	

Table 12: Actual Quantities of Diesel Uplifted at Government Fuel depots, 2017, 2018 & 2019

Diesel <sup>3</sup>	20	019		2018	2017		
Month/ Product	Quantity (m <sup>3</sup> )	Average No Trucks/Day	Quantity (m³)	Average No Trucks/Day	Quantity (m³)	Average No Trucks/Day	
January	51,696.466	48	61,660	57	38,182	35	
February	48,387.230	49	47,687	49	42,589	43	
March	53,056.958	49	51,279	47	46,274	43	
April	55,795.152	53	58,092	55	48,703	46	
May	65,583.723	60	66,802	62	62,013	57	
June	61,442.394	59	66,282	63	60,297	57	
July	65,731.455	61	69,873	64	63,345	58	
August	67,847.356	63	91,823	85	68,329	63	
September	72,752.304	69	88,108	84	71,471	68	
October	73,430.749	68	90,038	83	66,327	61	
November	74,235.140	71	78,208	74	66,248	63	
December	65,344.076	60	71,747	66	62,120	57	
<b>Grand Total</b>	755,303.003	59	841,599	66	695,898	54	

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<sup>&</sup>lt;sup>3</sup> Includes low Sulphur Gas Oil

### 3.3 GOVERNMENT IMPORTATION OF PETROLEUM FEEDSTOCK

Table 13: Volumes of Petroleum Feedstock Imports, 2017, 2018 & 2019

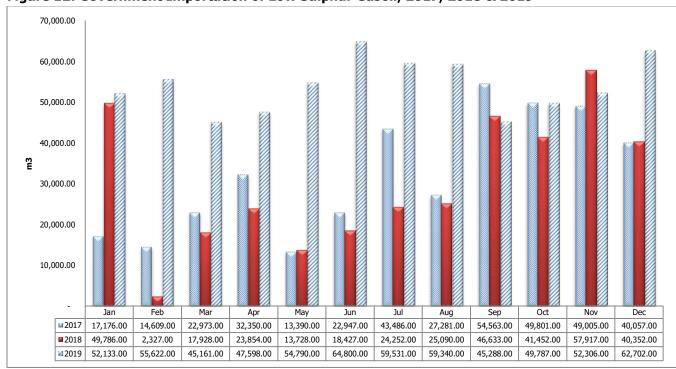
Year	Cargo Name	Month	Tonnage (MT)
	MT. Desh Samman III	Jan-19	102,916.04
	MT. Desh Samman IV	Mar-19	102,799.17
	MT. Fos Picasso	May-19	105,078.95
19	MT. Fos Picasso 2nd	Jun-19	102,124.99
2019	MT. Stride	Aug-19	97,643.87
	MT Al Jalaa	Oct-19	100,154.56
	MT. Alba	Dec-19	93,939.52
	Total		704,657.11
	MT DESH MAHIMA IV	Jan-18	103,700.68
	MT DESH MAHIMA V	Mar-18	104,125.92
80	MT DESH SAMMAN	May-18	104,099.81
2018	MT DESH SURAKSHA	Jul-18	103,215.69
7	MT DESH MAHIMA VI	Sep-18	102,610.08
	MT DESH SAMMAN II	Nov-18	100,688.68
	Total		618,440.86
	MT. Desh Mahima II	Apr-17	105,506
	MT. Desh Garima	May-17	104,802
17	MT. Desh Mahima III	Jul-17	105,000
2017	MT. Desh Garima II	Sep-17	102,129
	MT. Desh Garima III	Dec-17	102,000
	Total		519,437.00

#### 3.4 GOVERNMENT IMPORTATION OF PETROL AND LOW SULPHUR GAS OIL

50,000.00 40,000.00 30,000.00 m3 20,000.00 10,000.00 **■**2017 9,524.00 9,082.00 17,189.00 21,260.00 8,834.00 15,916.00 | 41,761.00 | 22,071.00 27,059.00 34,792.00 34,427.00 9,465.00 **≥**2018 6,541.74 5,450.47 27,671.70 15,533.24 16,612.43 17,308.52 18,612.87 11,646.52 4,652.12 20,552.00 20,552.03 19,732.75 №2019 17,049.00 17,475.00 26,707.00 26,794.00 21,310.00 22,034.00 21,577.00 17,593.00 20,931.00 20,341.00 21,882.00 24,026.00

Figure 11: Government Importation of Petrol, 2017, 2018 & 2019

Figure 12: Government Importation of Low Sulphur Gasoil, 2017, 2018 & 2019



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### 3.5 INDENI REFINERY PRODUCTION OF PETROLEUM PRODUCTS

Table 14: Monthly refinery production trends, 2019<sup>4</sup>

Month/Products	Gasoil (MT)	Unleaded Petrol (MT)	Kerosene (MT)	Jet A1 (MT)	LPG/Commercial Butane (MT)	HFO (MT)
January	32,135.47	15,152.25	1,283.68	8	1261.82	15,644.60
February	23,108.63	11,179.07	1,778.97	235.58	859.68	13,630.38
March	26,176.73	11,464.70	966.14	703	722.4	13,995.42
April	26,266.34	14,416.19	1,253.94	1,252.31	1307.32	11,039.75
May	18,523.94	9,260.81	1,180.08	-9	981.76	6,724.32
June	28,116.57	13,255.77	924.99	7	1309.62	13,830.59
July	26,249.67	13,253.43	1,274.21	-2	1090.84	16,590.68
August	27,643.24	12,364.12	1,239.31	2	1070.3	17,576.80
September	27,373.60	10,574.81	1,039.30	-18.82	818.22	18,551.64
October	20,894.51	9,577.70	853.55	-19.67	278.9	16,635.85
November	25,948.08	11,520.47	531.22	-245	808.04	20,131.74
December	11,664.54	5,816.54	312		423.28	8,052.50
<b>Grand Total</b>	294,101.32	137,835.86	12,637.39	1,913.40	10,932.18	172,404.27

Table 15: Monthly refinery production trends, 2018

Month/Products	Gasoil (MT)	Unleaded Petrol (MT)	Kerosene (MT)	Jet A1 (MT)	LPG/Commercial Butane (MT)	HFO (MT)
Jan	27,952.00	12,809.00	3,379.00	-	1055	10,094.00
Feb	24,951.00	9,344.00	1,684.00	1,243.00	848	8,874.00
Mar	27,022.00	12,556.00	1,578.00	2,492.00	964	8,848.00
Apr	23,430.00	9,608.00	1,572.00	1,436.00	785	9,724.00
May	29,062.00	12,814.00	886	1,061.00	983	11,334.00
Jun	25,485.00	15,140.00	1,973.00	1,503.00	1232	13,278.00
Jul	26,754.00	16,415.00	2,133.00	2,293.00	1246	13,065.00
Aug	23,292.00	14,610.00	1,893.00	-6	867	13,157.00
Sep	24,340.00	14,780.00	2,130.00	922	744	12,483.00
Oct	11,462.00	4,629.00	309	17	100	4,358.00
Nov	4,089.00	1,344.00	-99	-3	-169	1,857.00
Dec	26,453.00	11,684.00	3,100.00	-10	372	11,679.00
Grand Total	274,292.00	135,733.00	20,538.00	10,948.00	9,027.00	118,751.00

<sup>&</sup>lt;sup>4</sup> A negative figure indicates quantities of a product that was upgraded or downgraded into another product

Table 16: Monthly refinery production trends, 2017<sup>5</sup>

Month/Product	Gasoil (MT)	Unleaded Petrol (MT)	Kerosene (MT)	Jet A1 (MT)	LPG/Commercial Butane (MT)	HFO (MT)
Jan	12,049.00	6,921.00	1,049.00	-	350.00	6,615.00
Feb	18,814.00	10,809.00	564	386	812.00	13,682.00
Mar	18,026.00	11,244.00	1,487.00	1	664.00	13,961.00
Apr	21,430.00	13,548.00	1,540.00	-	1,024.00	16,379.00
Мау	17,402.00	11,358.00	2,545.00	-	625.00	17,994.00
Jun	23,666.00	11,401.00	1293	1	956.00	16,204.00
Jul	19,394.00	11,166.00	1,284.00	-	601.00	19,246.00
Aug	24,074.00	12,626.00	3,740.00	-	904.00	21,246.00
Sep	18,438.00	9,354.00	1,090.00	-	630.00	13,588.00
Oct	1,793.00	1,764.00	699	-	150.00	8,271.00
Nov	18,770.00	11541	1133	ı	917.00	18,806.00
Dec	22,816.00	11,859.00	1,706.00		1,135.00	10,239.00
<b>Grand Total</b>	216,672.00	123,591.00	18,130.00	386	8,768.00	176,231.00

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<sup>&</sup>lt;sup>5</sup> A negative figure indicates quantities of a product that was upgraded or downgraded into another product

### 3.6 NATIONAL CONSUMPTION OF PETROLEUM PRODUCTS<sup>6</sup>

Table 17: Total National Consumption of Selected Petroleum Products as 31st December, 2019

Month/ Product	Domestic Kerosene	Gas Oil	Heavy Fuel Oil	Industrial Kerosene	Jet A-1	Low Sulphur Gas Oil	LPG	Unleaded Petrol	Grand Total
Jan-19	965,645.89	52,009,772.62	8,418,824.12	35,000.00	3,041,016.00	22,207,359.19	626,507.35	35,334,720.18	122,638,845.35
Feb-19	1,062,341.27	48,336,653.85	9,924,404.27		1,756,666.00	20,670,102.26	478,151.30	31,563,200.62	113,791,519.58
Mar-19	1,010,201.95	50,153,296.90	3,505,171.76	35,000.00	3,176,970.00	22,104,427.10	485,328.29	35,318,993.65	115,789,389.65
Apr-19	1,027,575.90	56,214,110.80	19,870,147.28	36,000.00	3,288,450.00	22,628,176.79	630,483.68	35,579,038.67	139,273,983.12
May-19	974,085.69	68,411,888.79	22,110,576.22	41,000.00	2,832,142.00	24,627,627.43	654,898.57	42,894,671.07	162,546,889.76
Jun-19	1,247,433.02	62,876,004.25	12,630,427.57	7,007.00	2,926,782.00	24,523,185.72	804,727.44	38,033,536.20	143,049,103.19
Jul-19	1,781,479.71	70,439,682.05	20,752,840.63	56,222.00	3,320,455.00	25,202,091.25	822,014.07	40,081,976.80	162,456,761.50
Aug-19	1,281,785.78	72,616,263.06	12,275,579.85	271,203.00	3,418,082.00	26,387,876.90	759,550.31	42,413,288.66	159,423,629.56
Sep-19	1,153,121.81	71,984,896.32	12,328,319.00	163,797.69	3,165,982.00	25,427,682.45	775,321.85	41,945,249.69	156,944,370.80
Oct-19	826,905.05	70,917,753.01	18,139,960.93	56,000.00	3,083,078.00	27,435,272.67	632,510.77	39,949,240.11	161,040,720.54
Nov-19	748,387.10	75,504,723.76	16,690,249.65	71,332.00	2,736,955.00	25,479,896.01	545,104.24	40,291,823.41	162,068,471.17
Dec-19	639,775.80	70,592,238.95	16,838,678.79	46,924.00	3,737,534.00	17,360,119.99	626,214.39	38,694,698.59	148,536,184.52
<b>Grand Total</b>	12,718,738.97	770,057,284.36	173,485,180.05	819,485.69	36,484,112.00	284,053,817.76	7,840,812.25	462,100,437.66	1,747,559,868.74

Table 18: Total National Consumption of Selected Petroleum Products as at 31<sup>st</sup> December, 2018

Month/ Product	Domestic Kerosene	Gas Oil	Heavy Fuel Oil	Industrial Kerosene	Jet A-1	Low Sulphur Gas Oil	LPG	Unleaded Petrol	Grand Total
Jan-18	1,789,450.81	54,174,337.19	15,722,540.62	55,000.00	2,637,972.00	20,768,219.73	419,718.53	34,683,288.22	130,250,527.10
Feb-18	1,349,493.66	47,724,193.95	16,255,734.54	76,502.00	1,965,133.00	17,933,518.89	592,036.96	32,339,551.54	118,236,164.54
Mar-18	1,236,283.74	50,712,956.75	15,456,764.72	55,000.00	2,784,184.00	22,516,029.62	525,367.57	36,142,807.60	129,429,394.00
Apr-18	1,456,226.43	56,965,160.45	3,306,086.97	55,000.00	3,300,512.00	20,363,117.57	671,345.64	34,952,444.01	121,069,893.07
May-18	1,713,528.96	62,695,183.19	4,929,286.74	107,621.00	3,637,423.00	22,662,623.89	741,352.49	37,684,455.28	134,171,474.55
Jun-18	1,619,130.63	64,862,244.69	2,808,906.00	42,888.00	3,051,749.00	21,568,771.18	882,219.12	37,314,221.22	132,150,129.84
Jul-18	1,426,665.26	64,337,734.67	3,288,233.96	43,490.00	2,071,485.00	23,764,501.07	660,018.55	37,815,276.43	133,407,404.94
Aug-18	1,944,556.27	67,249,334.54	37,722,716.79	36,000.00	3,761,637.00	24,152,613.22	647,815.10	38,925,088.79	174,439,761.71
Sep-18	1,826,162.79	64,100,848.90	13,871,677.72	107,111.00	3,038,409.00	23,106,618.84	575,631.21	37,240,470.09	143,866,929.55
Oct-18	1,481,791.43	63,101,349.28	6,866,336.86	177,835.00	3,127,912.00	25,222,079.93	527,656.96	37,562,788.70	138,067,750.16
Nov-18	1,346,026.61	75,194,930.04	13,926,296.81	5,000.00	2,010,518.00	8,352,447.02	430,930.13	35,186,816.00	136,452,964.61
Dec-18	1,302,503.03	58,685,605.97	10,750,458.73	36,000.00	2,708,195.00	20,525,732.54	448,945.62	36,191,524.41	130,648,965.30
<b>Grand Total</b>	18,491,819.62	729,803,879.62	144,905,040.47	797,447.00	34,095,129.00	250,936,273.50	7,123,037.87	436,038,732.29	1,622,191,359.38

<sup>&</sup>lt;sup>6</sup> All products are in litres except for LPG and HFO which are in kgs

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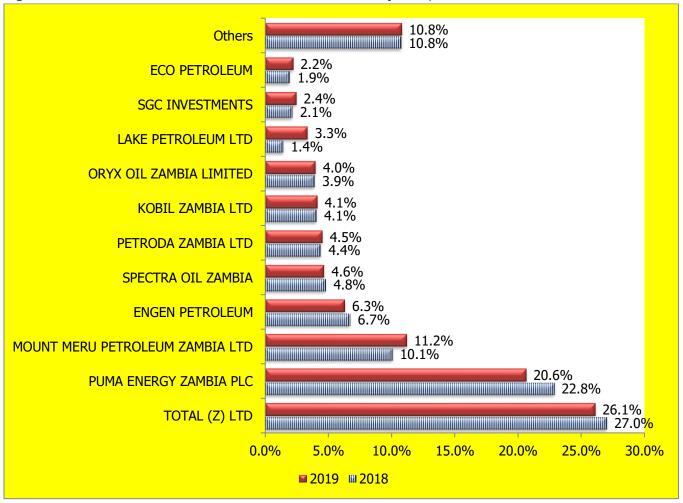
Table 19: Total National Consumption of Selected Petroleum Products as at 31st December, 2017<sup>7</sup>

Month/ Product	Domestic Kerosene	Gas Oil	Heavy Fuel Oil	Industrial Kerosene	Jet A-1	Low Sulphur Gas Oil	LPG	Unleaded Petrol	Grand Total
Jan-17	997,276.29	46,112,431.41	5,660,637.64	89,949.00	2,423,818.00	20,521,310.55	495,685.27	34,169,650.53	110,470,758.69
Feb-17	1,126,920.02	43,594,157.62	8,149,469.36	113,000.00	2,264,885.00	17,878,072.16	331,463.16	31,209,592.20	104,667,559.52
Mar-17	1,343,386.74	46,732,573.76	9,102,244.43	101,197.00	2,327,304.00	19,942,423.68	378,099.76	35,214,245.32	115,141,474.69
Apr-17	1,376,898.54	48,241,879.44	12,055,577.90	125,000.00	2,675,283.00	21,909,049.51	371,950.78	33,442,619.69	120,198,258.86
May-17	1,726,067.90	60,625,268.32	14,525,690.05	121,869.00	2,951,903.00	21,236,089.49	376,861.07	36,904,097.09	138,467,845.92
Jun-17	1,728,442.10	58,516,699.74	15,308,042.76	96,874.00	2,614,064.00	24,862,341.49	352,698.70	36,422,371.09	139,901,533.88
Jul-17	1,581,539.74	64,051,250.61	14,834,996.52	121,976.00	3,115,165.00	19,803,809.52	354,078.91	36,308,603.97	140,171,420.27
Aug-17	2,267,137.37	72,769,002.49	21,368,345.97	127,703.00	3,127,298.00	16,456,654.65	404,362.31	39,086,192.90	155,606,696.69
Sep-17	2,104,933.48	67,695,821.29	16,298,371.02	204,705.00	2,949,932.00	19,980,597.95	411,946.87	36,977,812.00	146,624,119.61
Oct-17	1,713,209.41	69,285,550.97	13,725,818.73	324,250.00	2,700,166.00	22,011,830.48	330,226.39	38,765,096.97	148,856,148.95
Nov-17	1,530,171.73	65,173,187.14	15,777,771.71	234,911.00	2,393,433.00	20,081,190.00	503,788.65	37,387,120.85	143,081,574.08
Dec-17	1,236,498.27	59,476,519.42	14,959,400.97	35,848.00	3,248,889.89	18,857,882.57	407,878.47	38,699,443.53	136,922,361.12
<b>Grand Total</b>	18,732,481.59	702,274,342.20	161,766,367.10	1,697,282.00	32,792,140.89	243,541,252.00	4,719,040.34	434,586,846.10	1,600,109,752.22

 $^{7}$  All products are in litres except for LPG and HFO which are in kgs

#### 3.7 MARKET SHARE FOR WHITE PETROLEUM PRODUCTS

Figure 13: Market Share for White Petroleum Products<sup>8</sup> by OMC, 2018 & 2019



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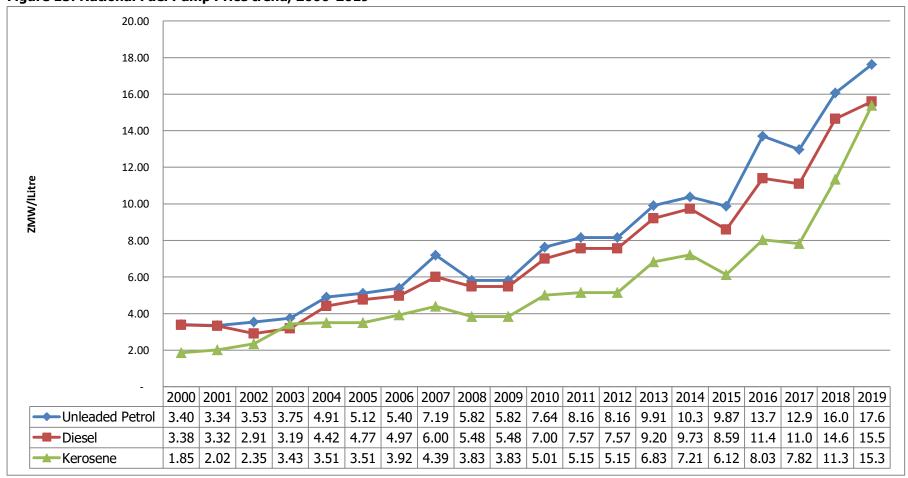
 $<sup>^{\</sup>rm 8}$  Used to refer to Unleaded Petrol, Diesel (including low Sulphur gas oil) and Kerosene

#### 3.8 **OMCs MARKET SHARE FOR JET A-1**

47.2% TOTAL (Z) LTD 40.6% 59.8% 52.2% PUMA ENERGY ZAMBIA PLC 58.9% 39.2% 0.5% MOUNT MERU PETROLEUM ZAMBIA LTD 0.5% 1.0% 0.1% **ECO PETROLEUM** 0.0% 0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 0.0% **≥** 2019 **≥** 2018 **≥** 2017

#### 3.9 NATIONAL FUEL PUMP PRICE AND REGIONAL COMPARISON

Figure 15: National Fuel Pump Price trend, 2000-2019



### 3.9.1 REGIONAL COMPARISON OF PRICES FOR PETROL AND DIESEL

Figure 16: Regional prices of Petrol and Diesel as at 31st December, 2019

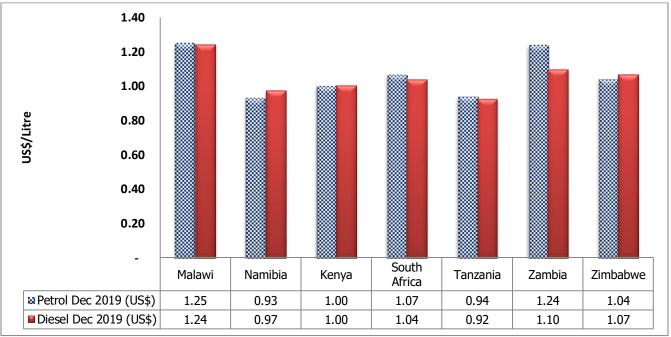


Table 20: Regional Comparison of Prices for Petrol and Diesel as at end of 2018 & 2019

Fuel prices in USD per litre - Dec 2019 vs Dec 2018				
	Petrol Dec 2018	Petrol Dec 2019	Diesel Dec 2018	Diesel Dec 2019
Malawi	1.25	1.25	1.29	1.24
Namibia	0.89	0.93	0.97	0.97
Kenya	1.11	1.00	1.10	1.00
South Africa	1.06	1.07	1.02	1.04
Tanzania	1.06	0.94	1.06	0.92
Zambia	1.34	1.24	1.23	1.10
Zimbabwe	1.38	1.04	1.34	1.07

Figure 17: Regional prices of Petrol as at end of 2018 & 2019

