



# 2016

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## Integrated Report

**"Third integrated report and a further step forward in our corporate reporting journey"**

# Who we are

ZESCO Limited is a vertically integrated electricity utility, which generates, transmits, distributes and supplies electricity in Zambia. It is a public utility, with the Government of the Republic of Zambia being the sole shareholder.

However, an integrated report identifies and aligns the corporation's objectives to its strategic elements:

## Mission

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ZESCO is committed to providing safe and reliable electricity to improve the quality of life for all.

## Vision

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To be an effective service provider through a highly motivated team, Driven by a passion for innovation and excellence.

## Values

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The Company embrace values of Integrity, Love, Health & Vitality, Wisdom and Success by:

- Being honest in all our dealings
- Supporting each other
- Having a balance in our lives
- Being open to new ideas
- Developing leaders

# Corporate Highlights

\*The Group uses a variety of key performance indicators ('KPIs') to monitor performance and measure the financial impact of the Group's strategy. Non-financial KPIs are shown in the Sustainability and CSR report on pages 46 to 51.

## Revenue

### +28 %

Revenue growth measures how well the Corporation is expanding its business.

2016	K8, 238 m
2015	K6, 426 m
2014	K4, 318 m

## Operating cashflow

### -48 %

Decline in operating cash flows due to high impairment of mining receivables.

2016	K1, 360 m ▼
2015	K2, 627 m ▲
2014	K1, 505 m

## Customer base '000

### +12 %

Growth in customer base due to high demand of electricity services.

2016	831 ▲
2015	740 ▲
2014	663

## Revenue growth

### +42 %

Growth in revenue on account of tariff increase.

2016	28% ▼
2015	49% ▲
2014	37%

## Debt level

### +15 %

The debt level has grown over time to finance capital projects.

2016	K14, 400 m ▼
2015	K12, 490 m ▼
2014	K8, 510 m

## Employee: Customer ratio

### +12 %

Measure the efficiency of serving customers by employees. The ratio should not below 1:100 customers as per ERB KPI.

2016	122 ▲
2015	109 ▲
2014	98

## Gross margin

### -15 %

Decline in Gross Profit Margin, due to high Cost of IPPs.

2016	53% ▼
2015	63% ▼
2014	68%

## Return on Investment

### +15 %

Revenue growth measures how well the Corporation is expanding its business. Ra nonet evendae quaerit ad

2016	1%
2015	0.4%
2014	0.5

## Consumption - Domestic

### +2 %

Indicates total consumption of electricity by domestic customers, over time in kWh.

2016	7, 217 kWh/customer ▲
2015	7, 030 kWh/customer ▼
2014	8, 066 kWh/customer

## Operating cashflow

### -88 %

Decline in operating cash flows due to high impairment of mining receivables.

2016	K1, 306 m ▼
2015	K2, 627 m ▲
2014	K1, 505 m

## Consumption - Mines 'million

### -9 %

Indicates total consumption of electricity by mining customers over time in kWh.

2016	628 kWh/Mine ▼
2015	691 kWh/Mine ▲
2014	656 kWh/Mine

## Net profit

### +50 %

Growth of net profit margin by over 50% due to tax credits in 2016 financial year.

2016	K1, 309 m ▲
2015	K868 m ▲
2014	K323 m

# AT A GLANCE

Committed to  
**providing safe and  
reliable electricity to  
improve the quality  
of life** for all.

## Health and Safety

The safety of our employees and customers remains our top priority. We are working towards **ISO certification** by 2017 as a commitment to health and safety.

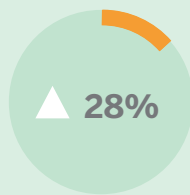
## Customer Care

Standardisation of Customer service centres countrywide to improve customer experience.

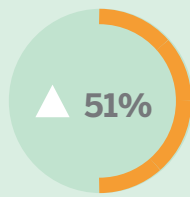
## Cost Controls

Decommissioned most Diesel Generation Power Stations in Northwestern Province.

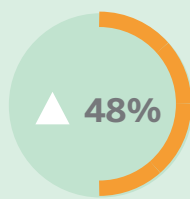
## Financial Performance



Revenue increased by 28%.



Net profit increased by 51%.



Operating cashflows reduced by 48%.

## Customer Care

Own Generation(Hydro) was 70%, 18% for Independent Power Producers(IPP's) and 12% from imports.

## Focus On Cashflow, Capital Discipline And Debt Reduction

Operating Cashflow expected to improve by the end of 2017 once Mining debt is settled.

## Customer Care



Kafue Gorge Lower power project: Contractor mobilised and currently on site.

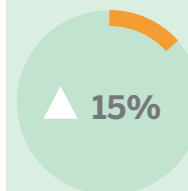


**91, 000**  
Customers connected in 2016.

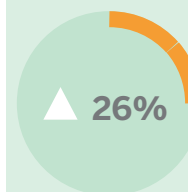


Commission of Pensulo - Kasama **380km** 330kV Transmission line at a cost of US\$154 million.

## Financial Performance



Total Debt increased by 15% to K14 million in 2016.



Total Assets increased by 26% to K30 billion.

Design and layout: Dalitso Mwanza demwanza@zesco.co.zm

Paper: Books printed full colour cover on 250gsm matt +matt laminated, text on 135gsm matt paper.Perfect bound. Size: A4

Photo and editor: Dalitso Mwanza

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# Strategic Report

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“ Our commitment to our customers is to provide reliable and safe power. This has placed a demand on us to re-invest in our network and build more infrastructure, equipping our staff with necessary skills while delivering a return to our shareholders.”

# Our Businesses

## Our Strategy

The energy industry in Zambia has seen the opening up of the sector to more Independent Power Producers (IPPs) and consequently affecting ZESCO's cost structure, as it is a single off-taker. Government's move to ensure that the nation shifts to cost reflective tariffs in the next few years has led to the entry of new players in the market such as Ndola Energy and Maamba Coal Limited (MCL) and this trend is expected to continue.

In our quest to ensure that we operate sustainably, we are pursuing a number of projects such as the gradual shedding off of the costly diesel generation stations. The exercise is in progress in the northwestern part of our country and is expected to be complete by mid-2017, after which it shall roll out to Western and Eastern Provinces. Our commitment to our customers is to provide reliable and safe power. This has placed a demand on us to re-invest in our network and build more infrastructure, equipping our staff with necessary skills while delivering a return to our shareholders.

Going forward we remain focused on embracing cost cutting measures such as switching from costly diesel generation to cheaper and renewable energy sources. We also continue to shift our dependence from water bodies in the southern part of the country which have been hardly hit by low rainfall and water levels in the past few years. To this end a number of projects are being explored in the northern part of Zambia such as the Luapula River Basin and Kalungwishi Hydro Power Projects. Further on the demand side we aim to achieve considerable savings by encouraging our customers to shift to Light emitting diode (LED) bulbs.

Our telecommunications footprint will also expand as we intend to explore the possibility of joining the retail market with our Fibrecom unit. Fibrecom currently only sales bulk bandwidths to Internet Service Providers (ISPs).

We are also dedicated to improving our customer experience through the delivery of an exceptional service in all our customer and call centres.

As a corporation, we remain resolute in facing the challenges that lie ahead.

## Operational Revenue

# K 8,238 m

### Mining



### Residential



### Industrial & Agriculture



### Commercial (Retail outlets)



### Exports



## Cost of Sales

# K 3,888 m

### Power purchases



### Labour costs



### Maintenance costs



### Generation water usage



### Wheeling



# Chairperson's Statement

"The challenges of low water levels in our reservoirs continued into 2016 affecting the execution of our strategy."



"Our plans for growth have been centered on our customer needs, and exceeding their expectations is what has defined our legacy and tightened the brand. Our corporate management and its employees understand what drives customer value, hence putting the customers at the center of everything they do."

**Board Chairperson**

Mr. Dillion Chipungu

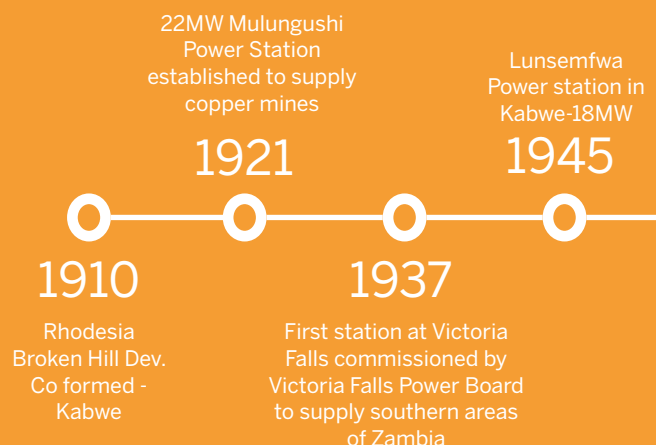
The challenges of low water levels in our reservoirs continued into 2016 affecting the execution of our strategy. Despite this challenge we continued to deliver on our promises to the customers albeit at great cost.

Our firm has been in existence since 1970 and the people that founded this corporation acted in the conviction to succeed by creating a lasting legacy. This brand is dependent on the actions of our employees who continue valuing integrity and keeping the promise, which has been carried forward by each new generation of employees. Employees who honour the past while working actively to build a sustainable business for the future.

## Transformation of Energy Sector

ZESCO Limited was formed in 1970 after the Zambia Electricity Supply Act was passed in Parliament. This Act brought together the electricity undertakings that were previously managed by the local authorities. The Corporation traces its origins to 1906 when a small thermal station was established in Livingstone to serve a small section of the town.

In 1994, the name of Zambia Electricity Supply Corporation Limited was changed to ZESCO Limited. This was to reflect the recommitment to providing a high quality of customer service.



Investing in our employees in the virtues and skills is at the core of our strategy, our new and old employees will continue learning from those who came before them and are expected to pass the baton of knowledge to those who will come after. We believe that the continuous transfer of knowledge fuels the success of the corporation and subsequently improves the well-being of society.

Over time, value has been generated and the company has remained a fundamental kingpin to unravelling the economic equation of the country. The role we have played in stimulating the economic activities of the country threatened our financial sustainability. The company's generation is predominantly hydro based. Due to low water levels resulting from the adverse rainfall pattern in 2015/2016, our generation reduced by 17% , and we had to procure power from Independent Power Producers (IPPs) and emergency power imports at a cost above the selling price.

The IPPs increased their generation power capacities while some set up new energy infrastructures which meant Zesco Limited as a single off-taker had to buy all the generated power. In 2016 expenditure on power purchases from IPPs and emergency power imports increased by 141%. This eroded our gross margins.

Our growth plans have been centred on our customer needs and exceeding their expectations is what has defined our legacy and brightened the brand. Our corporate management and its employees understand what drives customer value, hence putting the customers at the centre of everything they do. To this effect the Board has set up the Customer Services Directorate dedicated to enhancing customer value. We believe that meeting our customer's expectation through quick fault resolutions, minimal fault incidences and providing safe and reliable supply impacts positively on our financial metrics. To this end we wish to pay glowing tribute to our customers for their unwavering support and patience at the peak of load shedding.

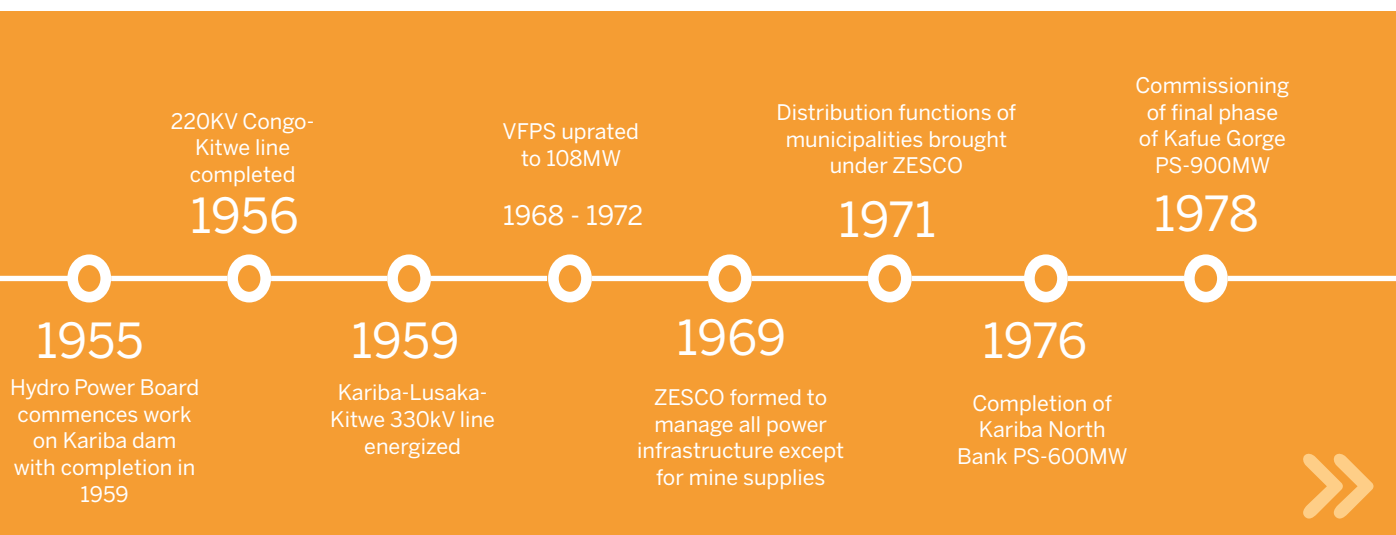
Innovation using technology has always been at the core of our strategy, we are investing and maintaining SCADA, GIS and e-business oriented technologies. Through technology we consistently provide efficient supply of power to meet customers' needs.

We are also cognisant to the dilemma of cost reflectivity versus affordability, hence, the corporation expects a tariff migration path that is not going to negatively impact on the well-being of our customers. To mitigate against any negative impact, we shall always engage our customers in the public policy platforms.

The Board has the responsibility to drive strategy that creates value over a period of time, the team understand the importance of vision. The board shall continue providing the needed tone at the top.

The electricity penetration rate is under 30% and this is a testimony of how much investment is required if the majority of our citizens are to access safe and reliable power. To achieve this, the company is working with stakeholders such as Rural Electrification Authority to accelerate the penetration rate to electricity.

We extend gratitude to the Government of the Republic of Zambia for its unwavering support on both capital investment and the financial cushion offered on the cost of emergency power.



# Managing Director's Statement

“Despite the volatility in the operating environment, we remain committed to satisfying our ever changing customer needs and sustaining economic activities”

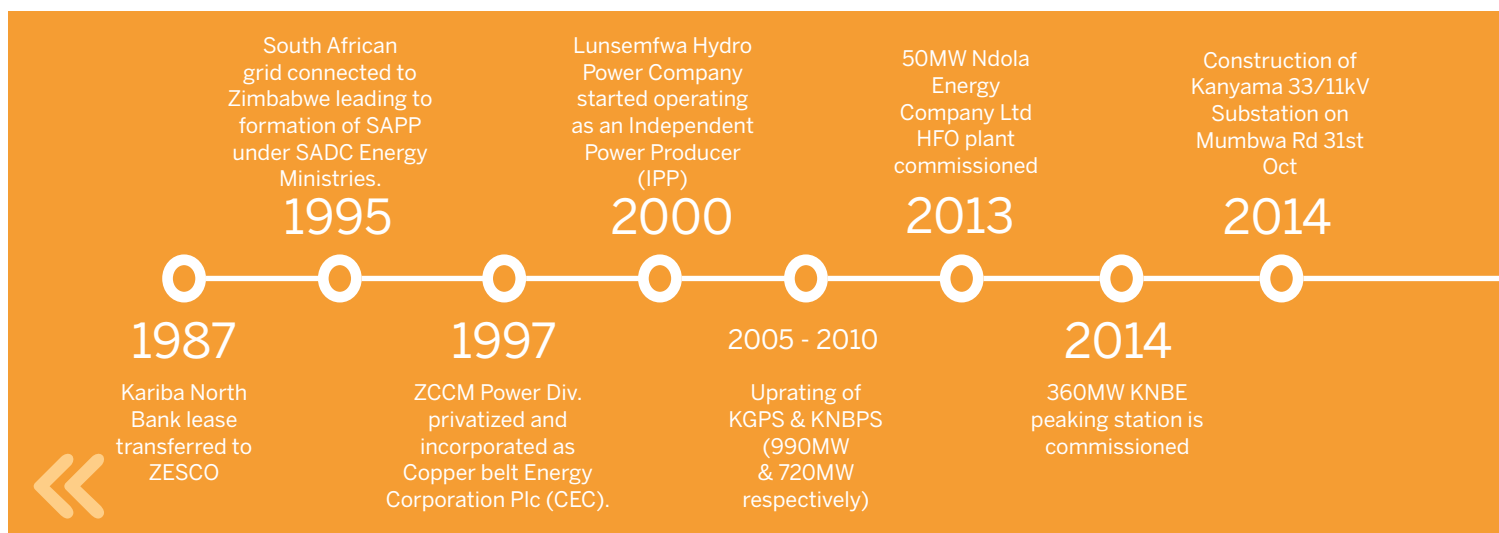


“We were able to connect new customers in line with our growth strategy, and our customer base increased by 12% to 831,476.

**Managing Director**

Victor M. Mundende

2016 provided a challenging environment for ZESCO. With continued low water levels in our reservoirs, the pressure to satisfy our customers' demand increased. To meet this demand, we were left with little option but to import power. The power imports eroded our earnings as the average selling price of US\$0.06/kWh is lower than the average price of the imports of US\$0.15/kWh. The situation was further compounded by the reversal of the tariff awarded in early 2016, due to public outcry, to allow for a gradual tariff escalation to cost reflective levels. Further



the Government engaged a number of private contractors to explore possibilities of setting up renewable energy sources, which have relatively shorter gestation periods. However, these remained unrealised by the end of 2016.

In order to address these challenges, we implemented a number of short to long term measures. Amongst the measures implemented were the immediate contracting of emergency power imports from EDM, Aggreko and Karpowership in Mozambique, and ESKOM in South Africa. Further, we also sourced additional power from IPPs such as ITPC, Maamba and Ndola Energy. Several load management initiatives were also adopted which include; the distribution of energy saving CFL bulbs and sensitization on Power Factor Quality monitoring. These measures were aimed at reducing the impact of load shedding on our customers.

## 2016 PERFORMANCE

The overall operational performance was below our stakeholders' expectations during the year. This was mainly due to reduced generation as a result of the factors highlighted above. Generation reduced by 15% to 10,909 GWh compared to 12,815 GWh in 2015. Our total power consumption during the year was 14,770 GWh of which 21% was imported while 13% was from IPPs.

Despite the 28% increase in turnover, the actual consumption of energy marginally reduced by 1%. This was mainly because of the restricted power supply to the mining customers as ZESCO evoked the force majeure contract clause, which saw supply restricted to 70% of required demand to the mines. The above challenges coupled with non-cost reflective tariffs, led to an operating loss during the year of K 137 million.

Our asset base grew to K 30 billion in 2016 representing a growth of 26% over 2015. Consequently, we were able to connect new customers in line with our growth strategy, and our customer base increased by 12% to 831,476. Further the companies loan portfolio

Safety in our environment remains an integral part of our strategy. Safety of our employees and customers is a priority. In the year under review, we recorded significant improvement in safety records compared to 2015.

grew by 15% to K 14 billion.

## SAFETY

Safety in our environment remains an integral part of our strategy. Safety of our employees and customers is a priority. In the year under review, we recorded significant improvement in safety records compared to 2015. However, we recorded no fatalities involving employees or contractors and 17 fatalities amongst our customers. The fatalities among customers were marginally reduced from 20 the previous year. Despite the reduction we recognise that any fatality is one too many and our focus is to eliminate such fatalities. As a mitigation, the corporation has continued with its sensitization programs. In order to foster safety strategies, the SHEQ department continued to implement and monitor SHEQ programs across the corporation. We are confident that the culture of conforming to approved procedures shall be embraced by all in our working environment.

## HUMAN RESOURCE

The accomplishment of ZESCO's strategic objectives depends on having the right human resource. We believe in better conditions of service for our workforce. To our testimony, we offered all our 4,500 casual workers short term contracts with improved conditions.

## OUTLOOK

Despite the volatility experienced in 2016, I remain confident that we have the right team and with adequate investment, the challenges are not insurmountable. We have therefore embarked on a long term

capital investment plan to enable us meet the growing demand both locally and in the region.

The contractor for the 750 MW KGLHPS has moved on site and works are expected to be complete by 2020.

Opportunities are also being explored in water bodies to the north of Zambia which are less prone to adverse rainfall patterns. Currently, feasibility studies are underway to explore possibilities of setting up Hydro Power Stations on the Luapula River.

Feasibility studies are also underway for the Batoka Hydro Gorge (1,200MW) on the Lower Zambezi River.

A memorandum of Understanding (MOU) has also been signed with EDM to set up a 1,200 MW thermal Power Plant in Mozambique.

The Energy Regulation Board is expected to undertake a Cost of Service Study which will assist in determining cost reflective tariffs.

The country experienced satisfactory rainfall in the 2016/2017 season. This will certainly increase the water levels in our reservoirs.

In conclusion I would like to thank the members of corporate management who retired towards the end of the year for their contribution and wish them well in their future endeavours. I also wish to welcome the new corporate management members appointed.

Lastly, I pay gratitude to the employees and customers for their support during the challenging year.

Pensulo – Kasama  
330kV Transmission  
Project Commissioned  
in September

2015

120 MW ITPC is  
commissioned

2015

ITT – Mumbwa  
– Lusaka West

2016

Construction of  
Lusaka Rd 66/11kV  
Substation (in  
Livingstone) 31st  
Dec

2014

Pensulo – Msoro  
– Chipata West  
Transmission project  
Commissioned in  
September

2015

300MW Maamba  
Collieries Limited  
is commissioned  
operating as IPP

2016

# Our Business Model

## Financial



- Efficient Working Capital Management
- Access to affordable borrowings and maintain acceptable leverage levels;
- Shareholder value creation and ability to provide return;
- Retained Profits

## Manufactured



- Generation assets;
- Transmission assets: Transmission lines and Substations
- Distribution assets: Distribution lines and substations
- Customer service centres;

## Intellectual



- Corporate memory
- Application of current technology and innovation

## Human



- Skillful man power

## Social and Relationships



- Effective stakeholder engagement and entrenching relationships with: Business reputation and funding, Shareholders and Lenders, Suppliers and customers, Employees and trade unions, Government and regulatory bodies

## Natural



- Land
- Water Resources

## SYSTEM INPUTS

### Value Creation process

ZESCO Limited applies these resources in an ethical and responsible manner to create value to shareholder;

Electricity is generated mainly by our hydro power stations at Kafue George, Kariba North Bank and Victoria Fall, including Small Hydro and Diesel Power Stations;

Electricity is transmitted to bulky and export customers through transmission assets;

Electricity is distributed to our retail customers at distribution level;

Customer service centres are meant to service all our customers who have queries and make payments;

ZESCO has staff with expertise and process knowledge in electricity generation, transmission and distribution;

Tacit knowledge that makes service delivery effective.

SHEQ and COBIT have put in place best practice systems, procedures and protocols.

Effective decisive leadership;

Culture of honesty, accountability and safety;

Building management expertise;

Highly skilled appropriate workforce;

The employee's tasks are aligned to ZESCO's strategy.

ZESCO engages its various stakeholders in various subject matters such as safety, demand side management and tariff awareness programmes.

The corporate social investment policy aims at empowering the communities especially those who may be affected by the company's investment decisions such as construction of power stations, transmission and distribution lines and substations.

ZESCO does its business in an environmentally friendly atmosphere because of its dependency on hydro.

Its natural capitals are: Water is used in the generation of power.

Land on which the infrastructure along the energy chain is built. Eco-system health: Ensuring the use of water does not harm the aqua life and the dams are built in compliance of relevant environment pieces of legislation.

ZESCO's business model targets at long-term value creation by delivering on return on investments and meeting customer demand for power on the domestic and export markets. The Business Model optimises its business model through the effective execution of its strategy to achieve its business objectives and vision.

## BUSINESS ACTIVITIES

### Key Products and Services

- Electricity Generated
- Connection of new customers to the grid
- Fault resolution services to customers

- Increase and effective use of water resources to generate electricity

- Standardising the processes in the value chain

Dynamic, innovative and multidisciplinary staff in technical and non-technical solutions

Good corporate citizen  
Enhanced corporate reputation;

Compliance with environmental requirements  
High reputation hence easy to source financing.

## OUTPUTS

Operating performance deteriorated due to increase in cost of sales;

- Gross profit margin reduced from 63% to 53%;
- Operating profit declined from 1% to -2%;
- Turnover increased by 28%;
- Liquidity deteriorated from 1 to 0.8;
- Asset turnover increased from 0.34 to 0.37;

- Increased availability of electricity to customers;
- Business growth in terms of customer base;
- Increase asset turnover and return on investment;

- Competitive in hydro generation technology
- Project management capability and experience
- Innovative methods reduce cost and
- Increase client value
- Expertise and Skills in Operations and Maintenance

- Staff motivation;
- Strong improved in safety performance
- Reduced number of staff with negative or zero home take pay

- Community has been empowered through various initiatives

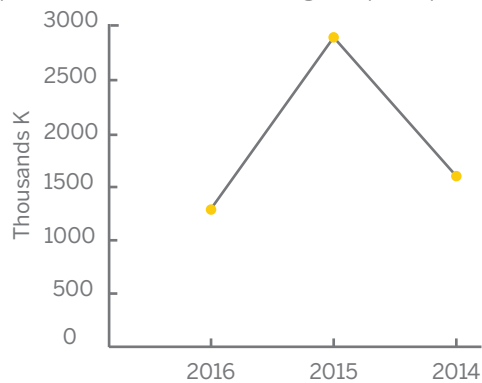
- Responsible management of raw materials.
- Inputs mitigates environmental impact.

## OUTCOMES

# Key Performance Indicators

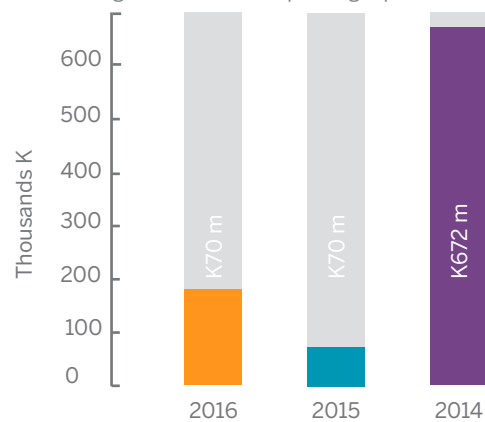
## OPERATING CASHFLOW

A measure of the amount of cash generated from normal business operations. It is indicative of whether we are able to generate sufficient positive cashflow to maintain and grow operations, or need external financing for capital expansion.



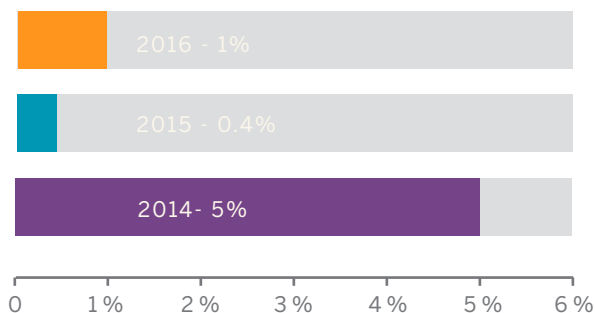
## PROFIT BEFORE INTEREST AND TAX

(Also known as Operating Profit) is a measure of residual income after deducting cost of sales and operating expenses.



## RETURN ON INVESTMENT

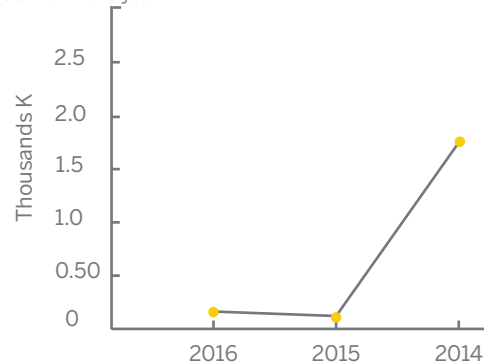
Is a measure of profitability that indicates whether or not a company is using its resources in an efficient manner



## DEBT SERVICE COVER

Is a measure of free cashflow to pay current debt obligations (principal and interest payments)

It shows net operating income as a multiple of debt obligations due within one year.



# Governance Of Risks

## Principle Risks and Uncertainties

Risk management is a key corporate governance requirement. Risk directly impacts on the successful execution of strategy and affects profitability of the company. As the Board, we have the obligation to manage the risk in order to secure our stakeholders interests.

Principle Risks and Uncertainties		
Description	Potential impacts	Mitigation Activities
<b>Strategy Delivery</b>  <b>Failure to deliver ZESCO's strategy</b>	<p>Failure to deliver ZESCO's strategy</p> <p>The Business Plan for 2013 - 2017 aims to deliver the future strategy, by increasing generation, transmission and distribution capacity.</p> <p>The focus areas of the strategy are to increase customer base; cost reduction and reduction of distribution losses.</p> <p>This is fundamental to our future success and incorporates both controllable and uncontrollable risk elements which require careful monitoring.</p>	<ul style="list-style-type: none"> <li>Established budget to ensure capital investment is allocated in line with the Business Plan and prioritized to deliver optimal business results.</li> <li>Delivery of Strategy is the primary objective of the Board and Corporate Management.</li> <li>Quarterly performance reviews are held by all strategic business units to monitor progress against these targets. Management accounts shall be considered key tools to track</li> </ul>
<b>External Environment</b>  <b>Changes and events that could impact delivery of ZESCO's strategy</b>	<p>Customer behavior and demand can change due to improved energy efficiency, climate change, government initiatives, long-term weather patterns and the general economic outlook. These external environments could harm our business, therefore we must respond appropriately.</p> <p>Events within the external market environment sit largely outside of our direct control, but set the tone for our future business.</p>	<ul style="list-style-type: none"> <li>Regular analysis is undertaken on commodity price fundamentals and their potential impact on business plans and expectations. We are affected by the reduction in copper prices and therefore it is our key responsibility to perform regular analysis.</li> <li>Diversifying generation sources to the Northern part of the country and generation mix such as solar.</li> <li>We are increasing our investment in connected homes through smart meters, energy efficient programs, and time-of use tariffs in order to respond to market disruption and position us at the forefront of new technology.</li> <li>Continue to pursue a range of investment options across Generation, Transmission and Distribution in different geographies in response to the effects in changes of the environment</li> </ul>
<b>Sourcing and Supplier Management</b>  <b>Dependency on, and management of, third parties to deliver the products and services for which they are contracted to the agreed time, cost and quality</b>	<p>Our business operations rely on products and services provided through third parties, including outsourced activities, infrastructure and operating responsibility for some assets. We rely on these parties to comply with not only contractual terms, but also legal, regulatory and ethical business requirements</p>	<ul style="list-style-type: none"> <li>All Procurements are properly authorized by ZESCO Procurement Committee and Zambia Public Procurement Agency</li> <li>All Procurements are done in accordance with Public Procurement Act.</li> <li>Maintain an updated Procurement Register of all Suppliers and a back ground check on previous performance is done.</li> </ul>

## Principle Risks and Uncertainties

Description	Potential impacts	Mitigation Activities
<b>Safety, Healthy, Environment and Quality (SHEQ)</b>  <b>SHEQ hazards and regulations associated with ZESCO's operations.</b>	<p>Our operations have the potential to result in personal or environmental harm, or operational loss. Significant SHEQ events could also have regulatory, legal, financial and reputational impacts that would adversely affect our brand and business</p>	<ul style="list-style-type: none"> <li>● SHEQ remains our highest priority with a continued focus across all our assets and operations.</li> <li>● Top leadership team, has been actively involved in SHEQ operations.</li> <li>● We undertake regular reviews and have thorough assurance processes in place in relation to these risks, with reporting to the SHEQ Committee on a monthly basis and full discussion of all issues arising.</li> <li>● Third line of defense responsibility for SHEQ has been transferred into Internal Audit to ensure appropriate objectivity and reinforce our assurance provision.</li> <li>● We have strengthened our controls through the development of the SHEQ management system, focusing on areas including process safety, driving and working at heights.</li> <li>● We continue to invest in training to ensure we maintain safe operating practices, including SHEQ leadership programmes.</li> <li>● Security intelligence and operating procedures, as well as crisis management and business continuity plans are regularly evaluated and tested.</li> <li>● Our employees attend mandatory weekly SHEQ circle meetings which acts as a tool in change management and subsequently adopting a culture that supports risk management.</li> </ul>
<b>Financial processing and reporting</b>  <b>Accuracy and completeness of internal and external financial information.</b>	<p>We must be able to maintain robust financial systems to produce accurate financial statements underpinned by appropriate accounting judgments and the right information to support optimal business decisions.</p> <p>Our obligation includes maintaining processes to avoid misstatement through fraud or error so that</p> <p>the confidence of our customers, shareholder, lenders and regulator (ERB) is not undermined and they can rely on available information.</p>	<ul style="list-style-type: none"> <li>● Financial Statements are prepared in accordance with IFRS reporting guidelines.</li> <li>● The Audit Committee reviews carefully our compliance with our internal policies and external requirements.</li> <li>● We maintain an effective working relationship with our external auditors, listening to their advice and recommendations, and they rely on our internal assurance and monitoring activities where appropriate.</li> </ul>
<b>Legal, Regulatory and Ethical Conduct</b>  <b>Compliance with legal, regulatory and ethical requirements</b>	<p>Our operations are the subject of intense regulatory focus and we seek to deliver the highest standards in compliance and ethical conduct</p>	<ul style="list-style-type: none"> <li>● The Energy Regulatory Board regulates the Energy Industry by determining the tariffs per customer category based on the Revenue requirements.</li> <li>● The process for tariff adjustment is done transparently by involving extensive stakeholder consultation before the final tariff is awarded.</li> <li>● The Energy Regulation Board measure the performance by monitoring the Key Performance Indicators.</li> <li>● The operator must have valid licences for generation, transmission and distribution system.</li> </ul>
<b>Change Management</b>  <b>Execution of change programmes and implementation of performance management system</b>	<p>The implementation of balanced scorecard to assist in implementation of performance management system and also change management</p>	<ul style="list-style-type: none"> <li>● Engagement of Corporate Management Team and employees at all levels is critical to successful implementation of performance management system.</li> <li>● Progress and critical issues to be reported to the Board.</li> <li>● Appointment of a senior executive to lead the transformation programme brings focused attention to benefits realisation, risk prioritisation and milestone tracking.</li> </ul>
<b>Business planning, forecasting and performance</b>  <b>Business planning, forecasting, risk management and achievement of anticipated benefits.</b>	<p>We prioritise how we use our resources based on our business plans and forecasts. Failure to accurately plan and forecast taking into account the changing business environment could result in suboptimal decisions and failure to realise anticipated benefits.</p>	<ul style="list-style-type: none"> <li>● Quarterly performance review meetings involving corporate management enable the discussion of plans and forecasts with revisions identified as necessary.</li> <li>● Constructive challenge is provided across each level of the business to ensure that the key assumptions remain robust and appropriate.</li> </ul>

Principle Risks and Uncertainties		
Description	Potential impacts	Mitigation Activities
<b>Asset development, availability and performance</b>  <b>Invest in Asset Management System. This will ensure primary assets are in good working conditions and deliver economic value.</b>	Failure to invest in the maintenance and development of our assets could result in underperformance. Assets being out of service or significant safety issues.	<ul style="list-style-type: none"> <li>● Capital allocation and investment decisions governed by finance and investment committee.</li> <li>● Board and Corporate Management to take direct interest in the oversight of significant assets and ensuring we have the highest operational standards.</li> </ul>

## GOVERNANCE OF IT RISKS

In order to enhance Governance of IT risk, the Company has implemented COBIT 5.0. COBIT 5.0 is a subset of corporate governance used to govern and manage business processes of the enterprise. It is an internationally recognized framework and supporting tool set that allow managers to bridge the gap with respect to control requirements, technical issues and business risks, and communicate that level of control to stakeholders.

The main objectives of COBIT 5.0 is to create value to our stakeholders by ensuring that:

- Regulatory compliance with relevant laws, regulations, contractual agreements and internal policies. It is important to comply with various internal and external rules, laws and regulations under which the Company operates. Non-compliance with regulations may result in penalties and defaulting with various stakeholders.
- Improve Business Process to optimize resource allocation aimed at improving efficiency and effective service delivery.
- Risk Mitigation; COBIT 5.0 will provide a platform upon implementation to mitigate the wide range of risk spectrum in relation to IT Governance.

COBIT 5.0 enables the development of clear policies and good practice for information and related technologies control throughout enterprises. It adopts a holistic approach focusing on business value creation over the value chain process.

# Stakeholder Engagement

*Our relationships with all our stakeholders impact directly and indirectly on our business activities and reputation.*

We proactively engage our shareholders and stakeholders to inform our business strategy and operations. The ways in which we engage our stakeholders and the frequency varies according to each stakeholders group. Engagement of is based on identified issues and areas that may impact our stakeholders.

Stakeholders and Reason for Engagement	Engagement During the Reporting Period	Matters Engaged upon	Issues raised Response
<b>Energy Regulation Board (ERB)</b>			
Compliance with Key Performance Indicators	<ul style="list-style-type: none"> <li>Quarterly Reviews Reports of KPIs</li> <li>Regular meetings</li> </ul>	<ul style="list-style-type: none"> <li>Performance review in meeting set KPIs</li> </ul>	To ensure compliance with KPIs
Tariff migration to cost reflectivity	<ul style="list-style-type: none"> <li>Public Hearing Engagements</li> </ul>	<ul style="list-style-type: none"> <li>Tariff applications</li> </ul>	To provide input and justification for tariff application
<b>Government</b>			
Financial Support for emergency electricity supplies and capital investments	<ul style="list-style-type: none"> <li>Regular meetings</li> <li>Correspondence between parties</li> </ul>	<ul style="list-style-type: none"> <li>GRZ Portion of emergency power purchases</li> </ul>	To provide financial support towards emergency power purchases
Revision of legislation in the energy sector	<ul style="list-style-type: none"> <li>Legislation in changes of electricity act</li> </ul>	<ul style="list-style-type: none"> <li>Changing of laws in the energy industry</li> </ul>	To provide input in to the legislation changes
<b>Customers</b>			
Safety	<ul style="list-style-type: none"> <li>Safety circles public performances</li> </ul>	<ul style="list-style-type: none"> <li>Safety of customers and their property</li> </ul>	To sensitize the public on the dangers of electricity
Tariff Application	<ul style="list-style-type: none"> <li>Public hearing forums</li> </ul>	<ul style="list-style-type: none"> <li>Tariff migration to cost reflective level</li> </ul>	High tariffs
Demand Side Management	<ul style="list-style-type: none"> <li>Regular meetings with major BSA</li> <li>Media notification</li> <li>Brochures</li> </ul>	<ul style="list-style-type: none"> <li>Load shedding</li> <li>Switching to demand management initiatives</li> </ul>	Load shedding affecting customers



ZESCO Employee sensitizing the public on the dangers of electricity, Vandalism, safety and theft of electricity at a road show in Chilenje.



Corporate management attending a public hearing on Tariff migration to cost reflective level.



Employees undergoing training at Kariba North Bank Extension.

Stakeholders and Reason for Engagement	Engagement During the Reporting Period	Matters Engaged upon	Issues raised Response
<b>Financial Lenders</b>			
<i>Compliance on existing loans</i>	<ul style="list-style-type: none"> <li>Quarterly review meetings with Financiers</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with covenants</li> </ul>	To ensure that the Company complies with financial and non-financial covenants
<i>Sourcing of new financing</i>	<ul style="list-style-type: none"> <li>Regular meetings with Financier</li> </ul>	<ul style="list-style-type: none"> <li>Financing of projects and working capital</li> </ul>	To provide support on project financing and working capital management
<b>Shareholder - IDC</b>			
<i>Providers of Equity capital</i>	<ul style="list-style-type: none"> <li>Annual General Meetings (AGM)</li> </ul>	<ul style="list-style-type: none"> <li>Review of annual financial performance</li> </ul>	Discussion of annual financial performance;
<i>Providers of financial performance and overall sustainability</i>	<ul style="list-style-type: none"> <li>Strategy sessions with Executive Committee</li> <li>Quarterly Board Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Input in to strategy formulation</li> <li>Review of quarter financial and non-financial performance</li> </ul>	Presentation and approval of annual financial statements  Strategy formulated and approval by the Board
<b>Employee Representative</b>			
<i>Employee Welfare</i>	<ul style="list-style-type: none"> <li>Regular Joint Industrial Council</li> <li>Safety Circles Meeting</li> </ul>	<ul style="list-style-type: none"> <li>Condition of service of employees</li> <li>Employee training</li> <li>Safety concerns</li> </ul>	Engagement of employee representatives on employee condition of service.



# Governance

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“Corporate Governance is a key pillar in our business model and it is intended to support the relationship of trust between ZESCO Limited and it’s stakeholders.”

# Corporate Governance

ZESCO Limited is governed by the Board of Directors who are appointed by the shareholder, the Government of the Republic of Zambia through the Industrial Development Corporation Limited.

Corporate Governance is a key pillar in our business model and it is intended to support the relationship of trust between ZESCO Limited and its stakeholders. The company's governance system links with its business strategy to help achieve business goals, creating sustainable value in the long-term for shareholders.

## Key Issues Considered by the Board

During the year, the Board considered regular matters covering operational and financial performance, strategic reviews and approvals. The matters considered were in line with the five year strategic business plan.

- Approved the signing of a Memorandum of Understanding (MoU) between ZESCO Limited and EDM of Mozambique to construct a 1,200 MW coal powered plant in Mozambique;
- Approval of the 2015 financial statements, 2016 operating and capital expenditure plans, re-appointed auditors for 2016 financial year and disposal of some fixed assets;
- Authorized raising of debt and working capital to finance key projects and emergency power purchases respectively;
- Approved the implementation of inter-connectors, which will facilitate power trade in the Region;
- Review and approval of generation mix projects such as Solar Power Plant;
- Reviewed quarterly performance of the company;

## Corporate Governance structure

ZESCO's Corporate Governance structure is in line with the Board Charter and Corporate Governance Guidelines which assigns the management of the Company to Board of Directors and outlines the roles, responsibilities and delegation of authority.

The Board of Directors is comprised of 9 members, out of which 8 are Non-Executive Directors. The Non-Executive Directors are considered to be independent and free from any business interest which could materially impair their judgment. The Board composition is outlined in the company's Articles of Association and Companies' Act of 2008.

There is a clear separation of roles between the Board Chairperson and the Managing Director, in line with the best practice as shown below:

Board composition and roles		
Chairperson	Mr. Dillion Chipungu	Responsible for the leadership of the Board and creation of the conditions necessary for overall Board and individual director effectiveness, both inside and outside of the boardroom. It also the role of the Chairperson to provide effective communication to the Board and Shareholders concerning the Annual General Meetings.
Managing Director	Mr. Victor M. Mundende	Responsible for the executive leadership and day to day management of the Company, to implement approved strategy.
Independent Non-Executive	Brig. Gen Emeldah Chola, Mr. Isreal Phiri, Dr. Mbita C. Chitala, Dr. Ronald Simwinga, Mrs. Felicitas C.K Katotowe, Mrs. Cecilia M B Zimba, Mr. George M. Kanja	Responsible for contributing sound judgement and objectivity to the Board's deliberations and overall decision making process, providing constructive and monitoring the Executive Directors' delivery of the strategy within the Board's risk and governance structure
Company Secretary	Mrs. Mbile W Vukovic	Responsible for preparation of Board induction and training programmes, Provision of guidance to the Board on the duties of the directors and good governance, Ensuring Board and Committee charters are updated; preparation and circulation of Board papers;

## Induction

During the year, the Board of Directors attended an induction programme, which included a tailored made workshop on Corporate Governance, Governance of Risk and Governance of Information Technology conducted by the Institute of Directors in Zambia. It also included a tour of our strategic assets, so that they could appreciate the business value chain.

## Board Attendance of meetings

The Board of Directors are expected to attend all Board and relevant Committee meetings. Where a Director was not in attendance, due to other prior work commitments, Directors are able to review the relevant papers and provide their comments to the Chairman of the Board or Committee.

The details of attendance by Directors at Board and Committee meetings during 2016 are set out below;

No:	Board Members	Board Meeting	Audit & Risk Committee	Finance & Investment Committee	Technical Committee	Legal, Customer Services & Administration
1	Mr. Dillion Chipungu	10/12	1/8	4/6	2/4	-
2	Mr. Victor M. Mundende	8/12	5/8	4/6	2/4	3/6
3	Brig. Gen Emeldah Chola	10/12	4/8	-	2/4	3/6
4	Mr. Isreal Phiri	10/12	-	-	4/4	-
5	Dr. Mbita C. Chitala	9/12	7/8	-	4/4	-
6	Dr. Ronald Simwinga	5/12	4/8	4/6	-	-
7	Mrs. Felicitas C.K Katotowe	10/12	-	6/6	-	6/6
8	Mrs. Cecilia M B Zimba	9/12	8/8	6/6	-	6/6
9	Mr. George M Kanja	10/12	-	-	-	4/6
10	Mrs. Mbile Vuckovic	8/12	2/8	4/6	2/4	6/6
11	Mr. Fidelis Mubiana	-	-	-	4/4	-
12	Mr. Muntungwa Mungala	-	-	-	-	4/6
13	Mr. Webster Musonda	-	-	-	4/4	-
14	Mr. Bestty Phiri	-	-	6/6	-	-
15	Ms. Jane M Kabwela	-	-	6/6	-	-
16	Mr. Rodgers Chisambi	-	-	6/6	-	-

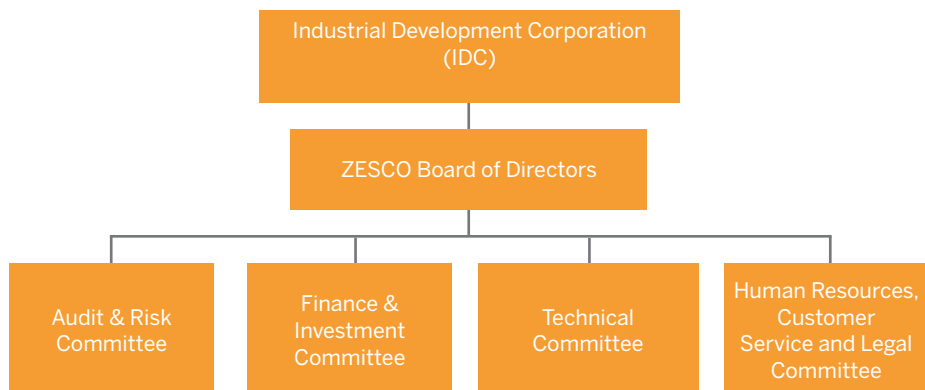
## Board Committees

The Board of Directors delegates some of its responsibilities to the Board Sub committees, which includes Audit & Risk, Finance & Investments, Technical and Legal, Customer Services & Administration.

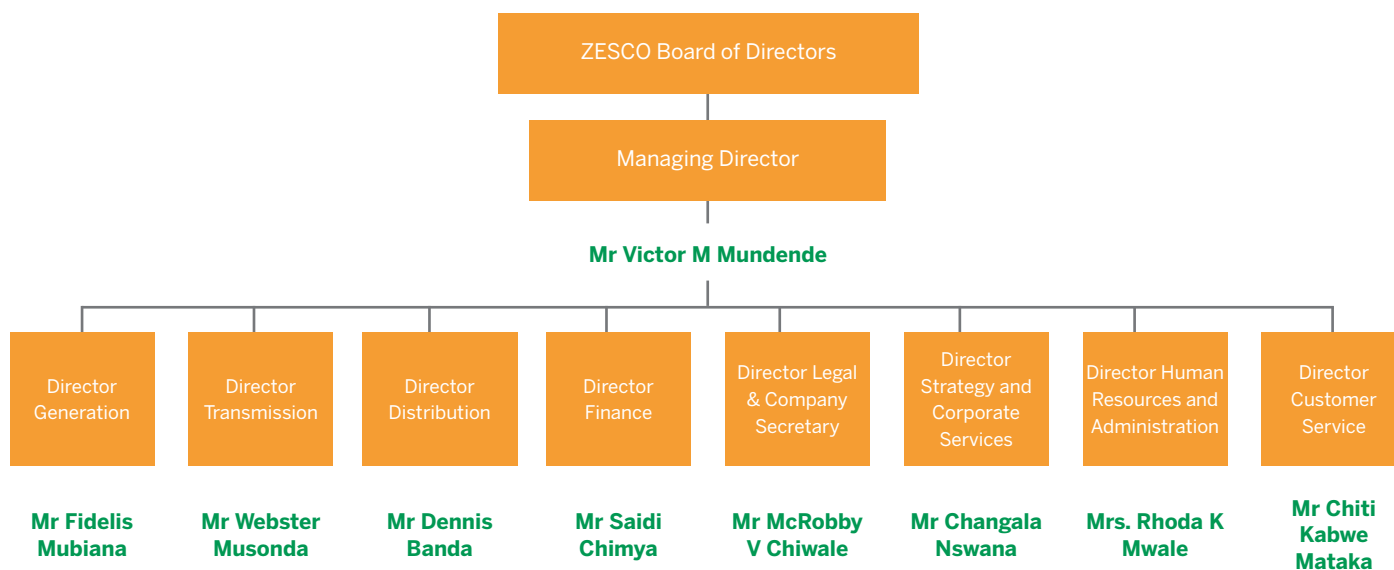
The Board of Directors further, entrusts the day to day management of the Company to the Managing Director, while retaining key strategic, operational and organizational powers for itself, especially as regards governance, internal control and risk management.

Below is the Board structure and responsibilities of the Committees.

## Board Structure



## Management Structure



*\*The following Directors were retired during the year.*

Director Finance - Mr. Rodgers Chisambi  
 Director Distribution & Customer Services - Mr. Mutungwa Mugala  
 Director Legal & Company Secretary - Mrs. Wina Vuckovic  
 Director Strategy & Corporate Services - Mr. Bestty Phiri  
 Director Human Resources - Mr. Laston Mumba

## Audit & Risk Committee

The Audit & Risk Committee is at the core of good corporate governance of a company. The Committee consists of 6 members and its responsibilities include the following:

The responsibilities of the Audit & Risk Committee include:

- To review the effectiveness internal control systems, policies and procedures for financial reporting environment;
- To review effectiveness of Risk Management systems;
- To review and comment on the financial statements;
- To assess the performance of Internal Audit function and recommend to the Board on any improvements;
- To assess the performance of external auditors and appointment;

The following key considerations were undertaken by the Committee:

- Reviewed the internal controls on the operating environment of the financial reporting;
- Reviewed the 2015 financial statements and 2016 quarterly management accounts and recommended for approval to the Board;
- Recommended the re-appointment of the external auditors after assessing the performance;
- Reviewed the Enterprise Risk Management Systems and recommendation for implementation of a Risk Framework.
- Recommendation to establish a unit which will implement on Enterprise Risk Management;
- Approved the Internal Audit annual plan;

During the year, the Committee received regular reports summarising the findings from internal audit function's work and action plans to resolve any highlighted areas. The Committee monitored the progress of the most significant action plans to ensure these were completed satisfactorily.

## Finance and Investments Committee

The Finance and Investment Committee provides oversight to ensure prudent financial management and investments decisions are undertaken. The Committee monitors the financial strategies, and oversees the 5 year strategic business plan of the Company.

The Finance and Investment Committee is composed of six members, with three members appointed from the Board.

The following key decisions were made by the Committee during the year;

- Reviewed and recommended to the Board, the financing options for various key strategic projects;
- Reviewed and assessed quarterly and annual performance of the Company, and reported to the Board;
- Reviewed and recommended to the Board the approval of annual operational and capital expenditure plans.

## Technical Committee

The Committee is appointed by the Board to oversee the technical aspect of the business. The members are appointed from the Board, while others with relevant skills are drawn from the public.

The key decisions made during the period include:

- Review the policies on maintenance of asset management policies and conditions of asset;
- Reviewed and recommended to the Board the technical viability of setting up the coal powered plant in Mozambique between ZESCO Limited and EDM of Mazambique and proposed development of Hydro Power on the Luapula River and various other projects in the value chain;
- Reviewed the compliance with laws and regulatory requirements such as Energy Regulation Board, Engineering Institute of Zambia and other relevant Bodies;

## Legal, Customer Services and Administration

The Committee is appointed to assist the Board in monitoring and provision of oversight in the following;

- Review Human Resources Plans, Policies and Processes;
- Review and approve the Customer Charter, Procedures and Policies that are consistent with the organizations' objectives;
- Review and monitor on-going litigation cases and potential liability to the Company;
- The following key consideration were made during the year;
- Reviewed and recommended the revision of condition of services for represented and non-represented staff to take account of inflationary movement;
- Reviewed and assessed new and on-going legal cases, in relation to disputed mining tariffs, law suits involving ZESCO Limited employees, customers and contractors;
- Reviewed the proposed strategies of improving the quality of customer services, which included investing in the new technology for the call centre in order to increase capacity to handle increased volumes of customer complaints

The Company has established the following Committees in order to strengthen Corporate Governance.

## ZESCO Procurement Committee (ZPC)

The amended Public Procurement Act of 2011, delegation of the authority of Procurement to Procurement Committees in Entities. This resulted in establishment of ZESCO Procurement Committee and it's Sub Committees, whose responsibility is to approve various procurements undertakings. The objective of the Procurement Committees is to promote transparency in Public procurements, in the interest of the public.

The procurements are made in line with the approved Budget and Procurement plans. The members include the Managing Director and some Executive Directors, including two members with relevant skills drawn from the Public.

## ZESCO Integrity Committee

The ZESCO Integrity Committee was established in line the Anti-Corruption Act No. 3 of 2012. The ZESCO Integrity Committee was established in 2013 with the appointment of Committee members and was operationalised in 2014.

The objectives of the Integrity Committee includes:

- To spearhead the integrity and corruption prevention programme.
- To provide whistle blowing procedures and policies on whistle blowing;

The Committee comprises of the Chairperson and members drawn from senior and middle management. They are appointed by the Managing Director on a 3 year term.

## Corporate Governance Outlook

The Company is considering adopting and implementing the King 111 Corporate Governance Code in 2017 financial year. This will commence with extensive training for Board of Directors and Executive Directors in King 111 Corporate Governance Code.

# Board of Directors

## Board Profiles

### Mr Dillion Chipungu

#### Board Chairperson - Independent non executive

Mr. Chipungu's portfolio stems from his wide experience in the private sector business development. He has headed some of the top business companies in Zambia and he has sat on various Boards aimed at empowering and strengthening the local entrepreneurship such as the Citizens Economic Empowerment Commission and the Buy Zambia Campaign under the Ministry of Commerce, Trade and Industry.

He brings to the ZESCO Board his outstanding business acumen and vast wealth of knowledge of the business sector.

### Mr Victor M Mundende

#### Managing Director

Mr. Victor M. Mundende is the Managing Director of ZESCO Limited. Previously he held the position of Chief Operating Officer a position which deputised the Managing Director.

Mr. Mundende graduated from the University of Zambia in 1991 with a Bachelor's Degree in Engineering and joined ZESCO Limited in the same year. He has worked in various positions spanning from operations in the power plants to development of new power plants in ZESCO's Generation Directorate.

He worked for over 8 years on Zambia's Power Rehabilitation Project (PRP). He has also worked as Director of Generation Directorate.

His responsibilities to the Board include but are not limited to ensuring that the Corporations objectives are met and the execution of the corporations strategy are presented and approved by the Board.

### Dr Ronald Simwinga

#### Non Executive Board Member

DR. Simwinga is the Permanent Secretary for Economic Management and Finance at the Ministry of Finance. He is responsible for overseeing and managing the economic and financial policy of the Ministry.

He brings to the Board vast experience in managing debt portfolio strategies and structuring issuances of loans and securities for deficit financing and refinancing, advising treasury on financial policies that assure minimum cost risk to the sovereign debt portfolio.

Dr. Simwinga is a holder of a PHD in Economics from American University, Washington D.C, USA, a Master of Science degree in Economics from University of Birmingham, England and a BBA from Copperbelt University.

### Brig. Gen Emeldah Chola

#### Non Executive Board Member

Retired Brigadier General Emeldah Chola is the Energy Permanent Secretary (PS) at Ministry of Energy and Water Development. She held the same portfolio of PS at Lusaka Province, Ministry of Home Affairs and Ministry of Defense.

She studied Human Rights and Law of armed conflict at Lund University in Sweden and the Law of armed conflict for armed forces from San-Remo, Italy. She is a decorated retired Brigadier Gen from the Zambia Air Force where her career took off in 1975.

### Mrs Felicitas C K Katotowe

#### Non Executive Board Member

Mrs. Katotowe is an Economist by profession. Her experience emanates mainly from the vast work experience from the University of Port Elizabeth in South Africa and World Food Programme in Zambia where she fundamentally established her distinct expertise and abilities in economic analysis in the area of energy-economy-environment, economic monitoring and economic research.

She is a holder of a Bachelor of Commerce Degree - Economics and Accounts from the University of Port Elizabeth (Now Nelson Mandela Metropolitan University). Mrs Katotowe also holds a Master of Business Administration with Specialization - Financial Management from Heriot Watt University – Edinburgh Business School.

### Mr George M Kanja

#### Non Executive Board Member

Mr. George Mpundu Kanja is a Lawyer by Profession. He holds a Bachelor of Laws (LLB) degree from the University of Zambia, a Master of Laws (LLM) degree from Queen Mary College, University of London, and a Postgraduate Diploma in Intellectual Property Law from the School of Law, University of Turin, Italy and a Postgraduate Diploma in Human rights from Raoul Wallenberg Institute of Human Rights, University of Lund.

He is bringing his legal acumen to the ZESCO management and Board in his private practice.



**Mr Israel Phiri****Non Executive Board Member**

Mr. Israel Phiri holds a Bachelor of Engineering degree in Civil Engineering and a Post Graduate Diploma in Hydro power Planning and Development. Mr. Phiri has worked on many hydro power projects in Zambia from conception to implementation and has worked on numerous documents that are required for project implementation and financing using various models from public through to public private partnerships (PPP) to independent power (private sector) producers.

He served on the board of International Hydropower Association from 2005 to 2015 and managed the Office for Promoting Private Power Investments (OPPI) in the Ministry of Energy and Water Development in Zambia from 2006 to 2013 where he successfully chaired inter-ministerial teams of experts and negotiated implementation agreements for both hydro and thermal power projects.

Mr. Phiri holds a bachelor of engineering (Civil) Degree from the University of Zambia.

He brings to the ZESCO Board vast experience in energy sector and wealth knowledge of business from both public and private sectors.

**Dr Mbita C Chitala****Non Executive Board Member**

Dr.Chitala with a professional career in Public Administration spanning over 30 years in the areas of Project Planning and Management Organisation and Methods. He has served on various high level Zambian Government portfolios as Deputy Minister of Commerce, Trade and Industry and also of Finance and National Planning.

He has served on numerous boards including National Council for Construction, Comcapital Securities Limited and Pan African Radio Limited among others.

Dr.Chitala is a holder of a PHD – Public Administration from the University of Zambia. He also holds a Master's Degree in Public Administration as well as a Bachelor's Degree in Education both from the University of Zambia.

## Corporate Management Profiles

**Director Generation****Fidelis Mubiana (50 years)**

He is a holder of B.Eng. Mechanical Engineering obtained from University of Zambia. He has a Master's in Business Administration with Manchester University. He has over 23 years' experience in Engineering Manager with technical and managerial skills in Hydro Power Generation.

**Director Transmission****Webster Musonda (44 years)**

He is holder of B. Eng. Electrical Engineering obtained in 1996 from University of Zambia. He has over 20 years' experience responsible for a broad range of electric power system engineering activities at the detailed design, supervision and management level.

**Director Distribution****Dennis Banda (52 years)**

He is holder of B. Eng. Electrical Engineering obtained in 1991 from University of Zambia. He has over 25 years' experience responsible for a broad range of electric power system engineering activities at Distribution power systems and part of the Power Rehabilitation Projects. He also possess a Master's Degree in Business Administration from Manchester University.

**Director Finance****Saidi Chimya (56 years)**

He is a Chartered Certified Accountant, ACCA and a holder of Bachelor Degree in Accountancy obtained from Copperbelt University. He is a fellow of ZICA and ACCA, with wide experience in treasury management and corporate finance, accounting and budgeting and strategic planning and corporate governance.

Appointed 2<sup>nd</sup> December, 2016.

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### **Mrs Cecilia M B Zimba**

#### **Non Executive Board Member**

Mrs. Zimba has over twenty (20) years of broad financial and operations management experience in both Financial and non-Financial Institutions at Executive Management Level and Micro Finance Institution. Her extensive experience includes but is not limited to management of financial systems and budgets, financial reporting, Treasury Management, financial data analysis, risk management analysis, accounting, auditing, taxation and providing financial advice.

She has vast experience in corporate support services which include Administration, Human Resources, Procurements, IT and Security.

Mrs. Zimba holds a Master's Degree in Business Administration from Heriot Watt (UK). She is a fellow of Association of Chartered Certified Accountants (ACCA) and a fellow of Zambia Institute of Chartered Accountants (ZICA).

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### **Mrs Mbile W Vukovic**

#### **Company Secretary**

Ms. Vukovic is the Company Secretary and Director Legal Services of ZESCO Limited. She holds a Bachelor of Law Degree and a Master's Degree in International Commercial Law from Thames Valley University and University of Leicester respectively.

She ascended the corporate ladder from a Legal Officer through to Chief Legal Officer, Senior Manager Legal Services and finally to her current position.

Her work experience spans a period of 19 years in the Corporation. She holds a current Practicing Certificate to practice law in Zambia from the Zambia Institute of Advanced Legal Education.

Her responsibilities to the Board include but are not limited to advising the Board on governance developments, servicing board and committee meetings, advising directors on their legal obligations and ensuring compliance with company laws and regulations.



#### **Director Customer Services**

##### **Chiti Kabwe Mataka (52 years)**

He is holder of Bachelor's Degree in Accounting and Finance from University of Zambia in 1986 and He is a Chartered Certified Accountant, ACCA obtained in 1999. He has vast experience in Accounting and Customer Services having worked as Chief Accountant in Distribution & Customer Services Directorate.

Appointed 2<sup>nd</sup> December, 2016.



#### **Acting Director Human Resources and Administration**

##### **Rhoda K Mwale (43 years)**

She is a holder of Bachelor of Arts Degree in Industrial Psychology major and a minor in Public Administration obtained from the University of Zambia in 1996 and a Master's Degree in Administration with over 19 years as a Human Resources Practitioner. She has vast experience in Human Resources Development and Implementation Strategic Performance Management System. Appointed 2<sup>nd</sup> December, 2016.



#### **Director Strategy and Corporate**

##### **Changala Nswana (52 years)**

He is a holder of Bachelor's Degree in Engineering Electrical Power and Machines Electric obtained in 1989 from the University of Zambia. He is also a holder of Master Degree in Business Administration from Manchester University. He has vast experience in Electric Engineering specialized in Protection and Strategic Planning.

Appointed 2<sup>nd</sup> December, 2016.



#### **Director Legal & Company Secretary**

##### **McRobby V Chiwale (44 years)**

He is a holder of LLB Bachelor of Laws Degree, obtained from University of Zambia and also holder of LLM from Birmingham University, UK. He was formally admitted to the Zambian Bar in 1998 and has over 18 years experience of practicing law.

















Appointed 2<sup>nd</sup> December, 2016.



# Sustaining Our Business

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“Effective resource allocation is key to creating value over time with the corporation expanding its focus on nature and society rather than the traditional focus on profits”

Six Capitals						
Sustainability Dimensions	Finance	Manufactured	Intellectual	Human	Social and Relationship	Natural
Financial						
Operational						
Revenue and Business						
Asset Investment						
Environmental						
Building Sustainable Skills Base						
Transformational and Social						
Building Solid Brand						
Safety and Security						

#### Sustainability Dimensional

Financial		Revenue and Business		Environmental		Transformation and social	
Operational		Asset investment		building skill base		building solid brand	
		Safety and Security					

# Revenue and Business Sustainability

The optimisation of the two capitals below builds on a financially stable firm while retaining sustainable development;

1. Financial
2. Social relationships

The corporation increased its revenue base through the optimisation of the six capitals and most importantly focusing on the two mentioned capitals above.

The effective resource allocation is key to creating value over time, the corporation has expanded its focus on nature and society rather than the traditional focus on profits. The heart of the corporation is the customers and if we can get it right in meeting their needs and expectations we believe that anything else that affirms stable financial stability will be anchored in the right position. A lot of financial efforts have been deployed to the acquisition of new customers as evidenced in the growth of the customers by 12% (see in the Corporate Highlight page 1). The optimisation of the financial capital has contributed to an increase of the employee to customers' ratio, for example in 2014 they were 98 domestic customers per employee against 122 in 2016. -

The financial capital mobilisation and use is strained by the static tariffs which are way below the cost of buying power from both the IPPs and import suppliers. The tariff factor has become a legacy topic that keeps on eroding our profit margin while depriving the customers from deriving full benefits of their money. The electricity penetration rate is slightly below 30% and its slow growth rate could be partly attributable to the tariff factor (see Transformation and social sustainability). Which comes first: Revenue or Finance? Sustainable revenues and financial capital has a similar relationship to the proverbial egg and chicken dilemma meaning reasonable revenues can provide financial capital for investment growth and vice versa.

In order to serve our customers with utmost faith and dedication we have 98% of the customers on prepaid meters, this insulates us from often complex debt management activities. Notwithstanding the huge debt from utilities and mining firms, the corporation has managed to reduce the receivables through the installation of prepaid meters.

As a percentage of turnover the mining revenues increased from 60% to 68% mainly due to the implementation of the new tariff of 10.35 cents/kWh while exports dropped due to management's decision to redirect more power to local markets. The mining tariff of 10.35 cents/kWh was never realised into cash flows due to the Mining firms contesting its legality, this action keeps on threatening the revenue and business sustainability of our corporation. The contested tariff came into being due to the high levels of electricity shortages that was triggered by insufficient rainfalls which led to the importation of expensive power.

The table shows the revenues segment according to customer categories:

	2016 K'000	2015 K'000	2016 %Turnover	2015 %Turnover
Mining	5,595,447	3,869,847	68%	60%
Residential	1,152,414	1,082,961	14%	17%
Industrial and agriculture	866,874	622,474	11%	10%
Exports	597,838	832,220	7%	13%
Commercial (retail outlets)	25,255	18,235	0.31%	0.28%
	8,237,828	6,425,737	100%	100%

## Load shedding and Impact on customers

The trailing 12 month (TTM) graphs shows the trends for 2016 on a month by month basis for Domestic customers, the TTM eliminates the impact of seasonal variations. The analysis on a month to month contains annual figures which are ideal for comparisons and drawing meaningful inferences.

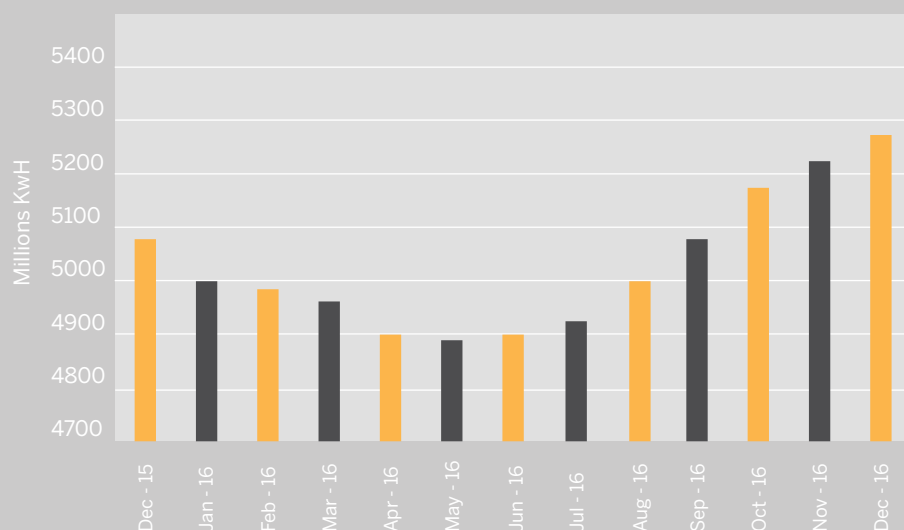
### Domestic

The annual consumption from January to May 2016 systematically descended before it started picking in June. Both TTM graphs indicate that the worst period was May 2016 because the corporation had to intensify load shedding from June 2015 to May 2016.

## TTM

### Consumption

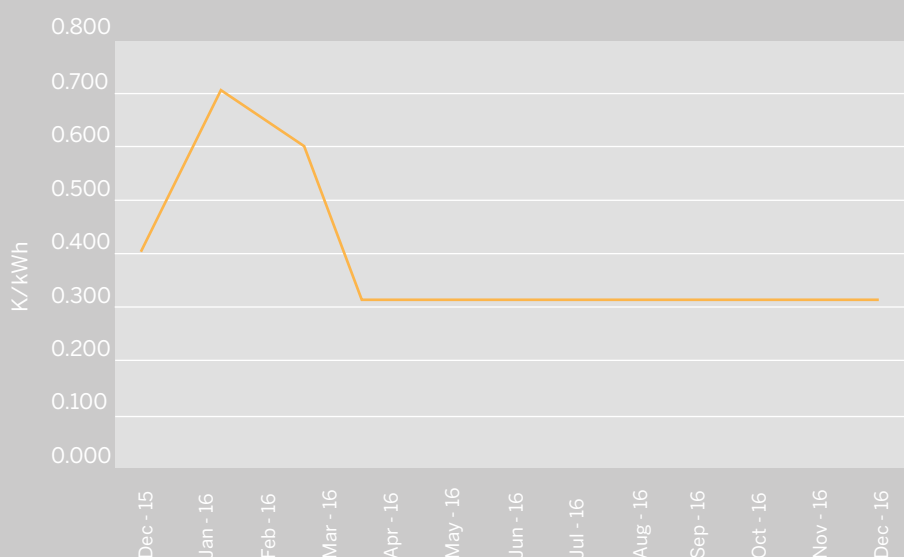
The TTM for sales on prepaid follows the same pattern as TTM for consumption with only major difference in December 2016, consumption in December is bullish while a bearish position on sales was recorded. On 2nd December 2015 the Energy Regulation Board announced the electricity tariff increments until after public outcry that ZESCO had to call back its decision in the first week of January 2016, considering that each month in the graphs contains an annual sale, the December 2016 annual figures did not contain the sales for December 2015 which were leveraged due to the temporal increment of tariffs.



## Monthly

### Tariff

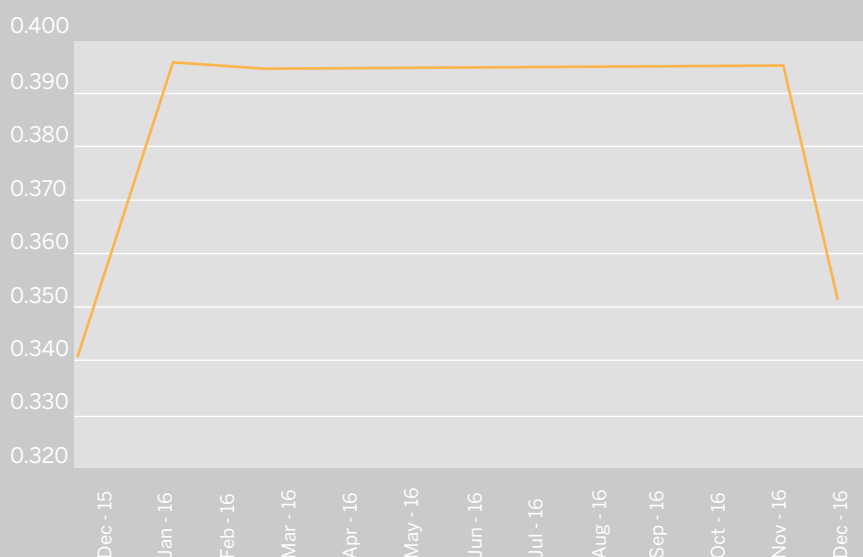
The tariff on Domestic customers increased from an average of K0.33/kWh to K0.70/kWh and the reversal in January 2016 was not instant as it was phased out starting with residential customers and ended with other domestic customer categories in February 2016 as shown in the graph above



## Trailing 12 Month

### Tariff

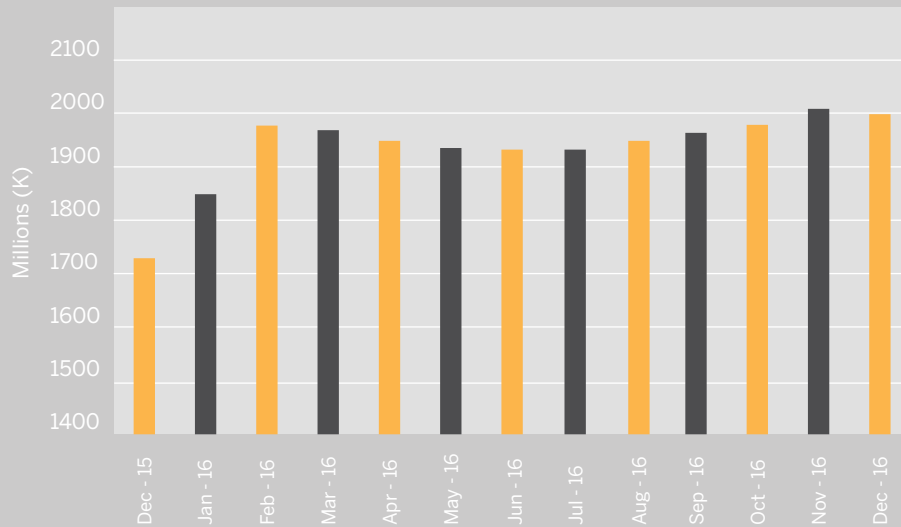
The TTM on tariffs clearly shows that the effect of the December 2015 tariff increment was completely washed out in November 2016.



## TTM

## Sales

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The consumption per customer 11%

In December 2015 the average prepaid customer consumed an average of 334 kWh

In December 2016 the average prepaid customer consumed an average of 371 kWh

	Jan - Nov 2015	Dec-15	Jan - Feb 2016	Mar - Dec 2016
	Before increment	Increment	After Increment	Tariff Reversal
kWh per Customer	377	334	346	365

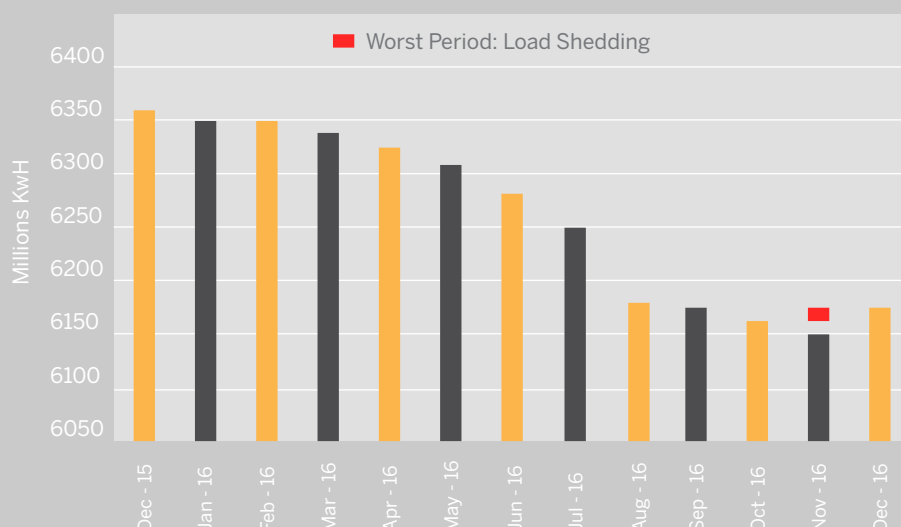
The data above shows that tariff increments had an effect on the psychology of the customers thereby influencing the consumption pattern.

## Mining

## Consumption

The TTM on mining consumption indicate that the worst load shedding period was from Dec 2015 to November 2016 compared to Domestic which was from June 2015 to May 2016.

Bad Period: Dec 15 – Nov 16



## Debt Management

The ability to collect what has been billed is key to a healthy operation of the corporation as it contributes to the financial stability.

## Domestic

The table below shows the active debt according to customer category.



**K374 million**

Maximum Demand



**K75 million**

Social Services



**K25 million**

Commercial



**K2.8 million**

Residential

# K478 million

Total post paid  
Domestic Debt

**In the period under review the inactive debt stood at K10 million while the debt being amortised through the prepaid metering system was K124 million. Indebted customers who migrated to prepaid billing have their debt recovered by 40% of every purchase.**

The post-paid debt has proven to be a challenge to recover as the monthly collections are always below the billing and as such management has embarked on the installation of prepaid meters to government institutions and water utilities. Slightly over 50% of water utilities are on prepaid meter as at 31 December 2016.

## Mining

The total billing for mining customers in 2016 was US\$ 685 million of which US\$ 371 million was collected representing a collection rate of 54%. The mining collection rates causes a lot of discomfort to the Revenue and Business sustainability of the corporation because of the mines disputing the increased mining tariffs of 6.84USc/kWh of April 2014 and 10.35USc/kWh of December 2015. This has led to the debt increasing from US\$ 317 million as at December 2015 to US\$ 631 million as at December 2016. We are committed to having a positive conclusion on the mining tariffs and moving forward with tariffs that will be above the cost of purchases.

## Exports

The total billing was US\$ 54 million against the favourable collection of US\$ 55 million representing a collection rate of 101%. The levels of export transactions decreased in 2016 due to reduced own generation.

## Revenue Protection

Our revenue is threatened by theft of energy and power interruption caused by vandalism of electricity infrastructure. This includes but not limited to theft of energy, transformer oil, copper wires and iron bars from towers. Vandalism leads to loss of revenue, high cost of replacement and prolonged lead time as most equipment is imported.

The following measures have been put in place to reduce theft of energy and vandalism:

- Increased security patrols
- Community sensitisation campaigns

The interaction of the Social and relationship capital with other capitals is key in minimising vandalism hence engaging the traditional leadership across the country to sensitise its subjects on issues of theft of energy equipment.

A thorough investigation of the unplanned outages point to uncoordinated activities along the value chain, the planned outage in Transmission could cause unplanned outage in Distribution affecting revenue. This is therefore need for coordinated maintenance activities throughout the value chain.

## System Losses

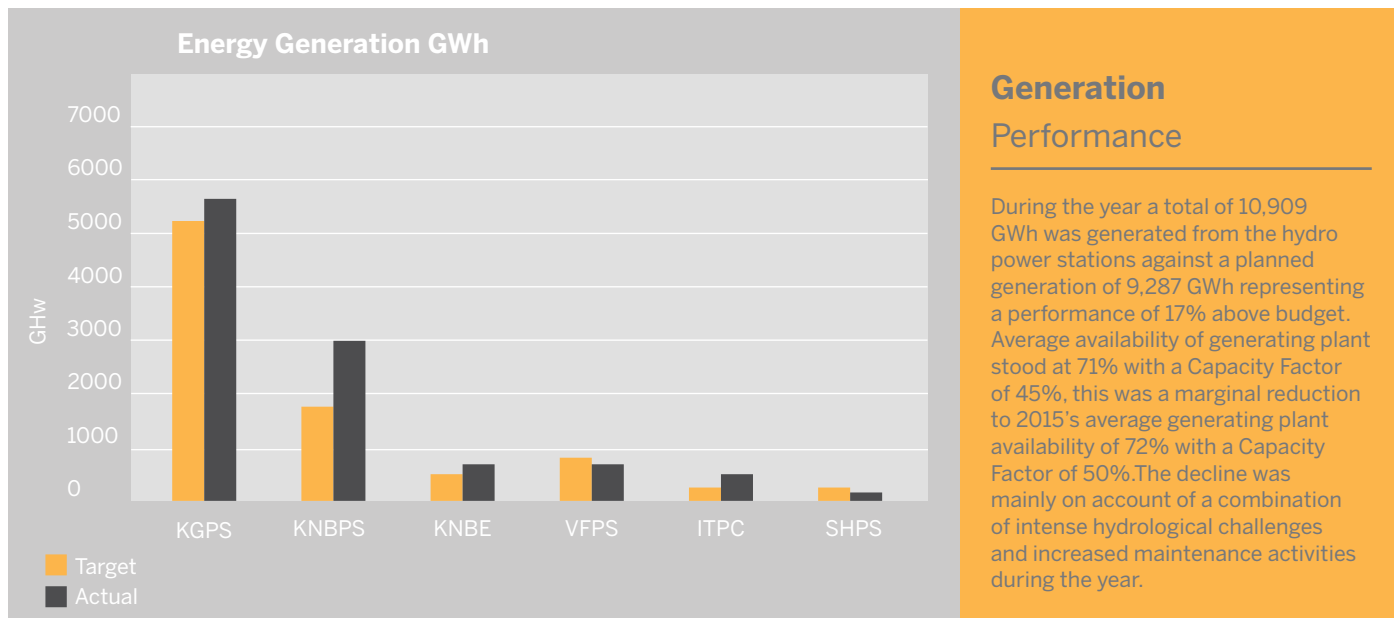
Transmission losses were 6% while distribution losses averaged 10%, translating into a total revenue loss of K953 million. To mitigate system losses, the following measures are being implemented:

- Reinforced of Transmission and Distribution systems through the Lusaka Transmission Distribution Rehabilitation Project (LTDRP)
- Installation of prepaid meters in government departments, municipalities and water utilities.

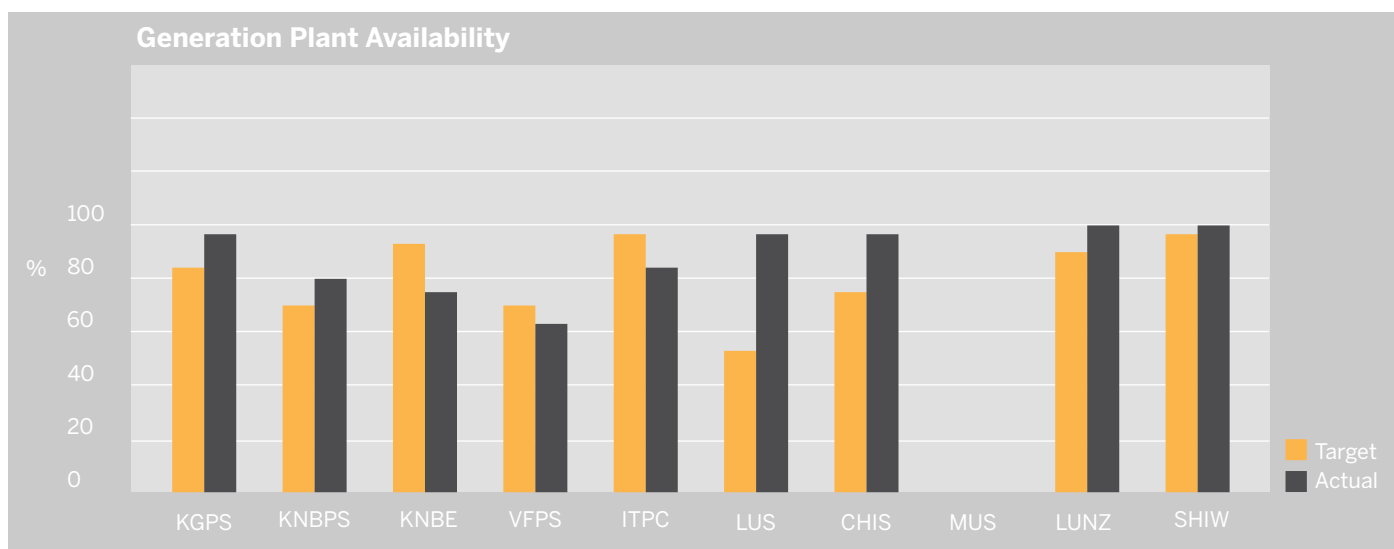
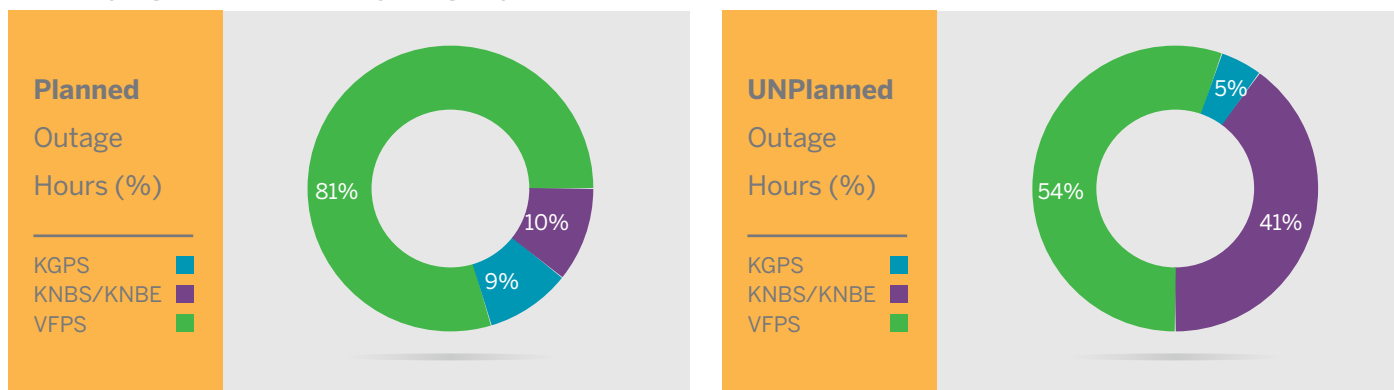
# Operational Sustainability

The provision of reliable and safe power remains one of our key strategic objectives. As earlier indicated, numerous challenges were experienced in the past year which threatened our ability and resolve to deliver on this commitment.

Despite this we achieved this objective by directing a significant portion of our resources and capabilities towards achieving this goal. A total of over K500 million was spent on maintenance of primary and auxiliary plant to sustain the supply of electricity to our valued customers during the year under review.



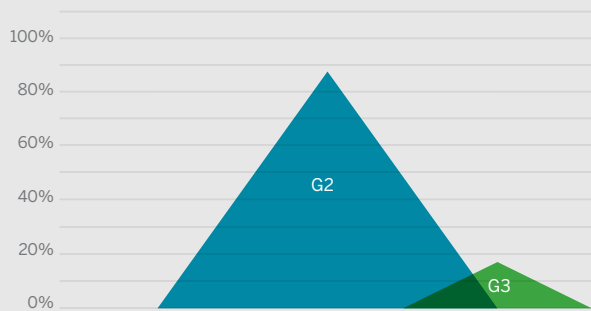
A summary of general Plant availability during the year was as follows:



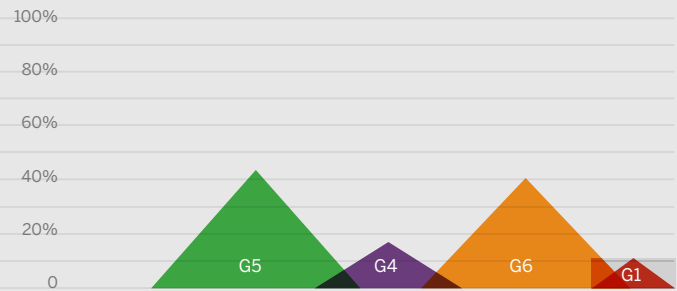
## Planned Outage Hours (%)

## Unplanned Outage Hours (%)

### KGPS



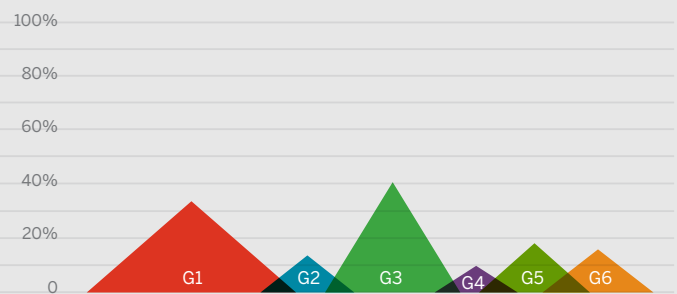
### KGPS



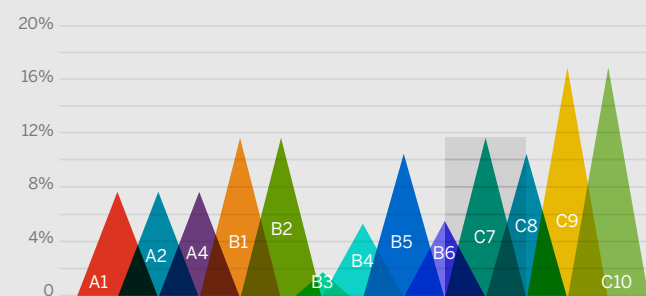
### KNBPS/KNBE



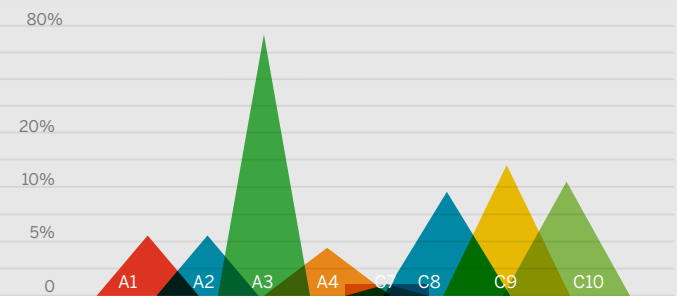
### KNBPS/KNBE



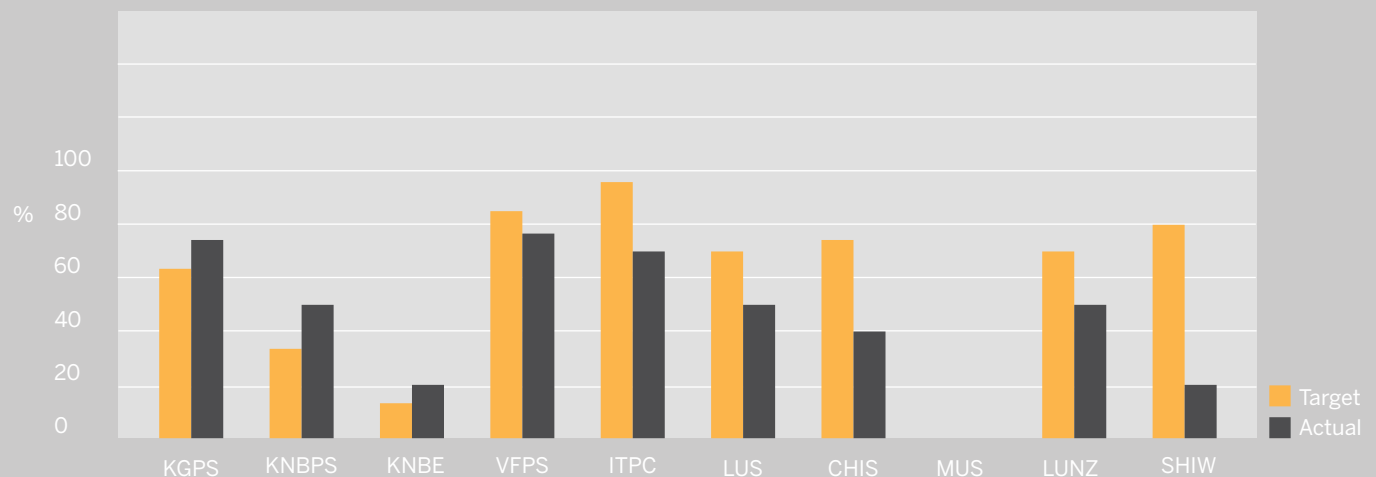
### VFPS

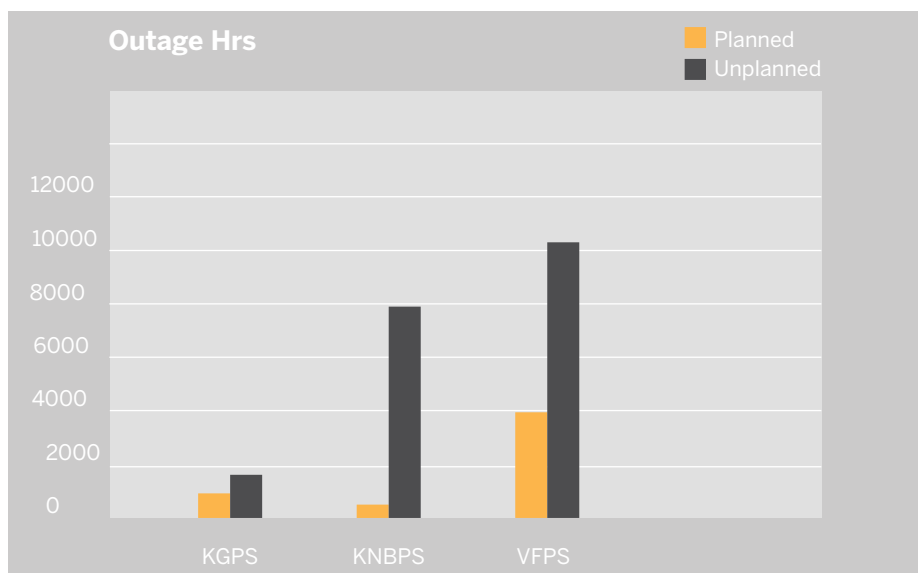


### VFPS



## Plant Capacity Factor %





Various Maintenance and Rehabilitation activities were carried out during the year to ensure operational sustainability of our various generation plants. Works at Kariba North Bank Power Station (KNBPS) involving the uprating of Unit 1&2 had progressed to 80% by the end of the year. At Kafue Gorge Power Station all the ten (10) Bharat Heavy Electricals Limited (BHEL) generator transformers were replaced with the SMIT transformers by end of the year.

At Kariba North Bank Power Station replacement of turbine runners commenced with the taking out of service of Generator Unit 1 in the fourth quarter of the year to facilitate for dismantling of the runner. Factory Acceptance Test (FAT) for both new turbine runners were successfully completed, with the last one completed in December 2016. The first of these runners was received on site in October 2016, whilst the second one is scheduled to be on site before the end of first quarter 2017.

Meanwhile at Kafue Gorge Power Station the replacement of ten (10) single-phase generator-transformers, was referred to the London Court of Arbitration by ZESCO following claims of poor performance of BHEL supplied transformers which was disputed by BHEL. The Contract remains suspended until full resolution or acquittal under arbitration process.

However, a contract for the Design, Supply, Delivery, Installation, Testing and Commissioning of Four (4) Units 135 MVA, 345/16.7 kV Single-Phase Transformers and another contract for the Supply, Delivery, Installation, Testing and Commissioning of Six (6) X 135 MVA, 345/16.7 kV Single-Phase Transformers for Kafue Gorge Power Station both between SMIT Transformer and ZESCO Limited effectively replaced the ten (10) transformer units supplied to resolve the long standing transformer defects at the Station. The contract whose scope involved the design, manufacture, supply, erection, testing and commissioning of ten (10) SMIT supplied generator transformers including installation and commissioning of Sergei Transformer protection is currently under Warranty.

Several other projects continued to be pursued to improve operations at existing power plants and to add capacity and energy to the system. The details of these are highlighted further in this report.

### Transmission Performance

The national grid experienced nine significant system disturbances during the year under review. The transmission system experienced a number of power supply disruptions during the year 2016. These were mostly attributed to faults on the transmission lines and switchgear equipment at some substations. The performance of the large power transformers was very satisfactory. However, At Leopards Hill substation, the 125MVA, 150MVA, 330/132kV transformer T2A was taken out of service on emergency after an increasing trend of dissolved gasses such as Acetylene in the insulating oil, being an indication of a slowly developing fault. A physical inspection of the unit will be done in the first quarter of 2017, in liaison with the manufacturer, Crompton Greaves of India.

Vandalism of transmission line towers involving steel lattice members and tower earthing counterpoise wire has continued to affect smooth operation of the power grid. This has contributed to the frequent forced outages especially during the rainy season.



The transmission system continued to have inadequate voltage support especially on the 330kV Northern system. This presents a challenge to take out any of the four (4) lines going to the Copperbelt without reducing the system loading. In this regard, the following initiatives are being considered:

- Installation of dynamic compensation equipment to supplement the static devices which have been installed at major transmission substations. This will improve system performance and ensure smooth operation of voltage sensitive equipment used in the mines on the Copperbelt and North Western province.
- A study by a consultant has been commissioned for the determination of reactive power compensation on the entire Zambian grid.
- During the year, preventive and corrective maintenance activities were carried out on the transmission substation equipment and the associated power transmission lines to ensure sustained normal electrical power transmission. However due to some network constraints, some equipment could not be taken out giving an average compliance of 80% of planned maintenance. The following major maintenance activities were undertaken:
- The annual way-leave maintenance of all main transmission lines (132-330 kV) were done in-house from May to July. The rest of the circuits for the 66kV and 88kV sub-transmission system were contracted out and completed by August.
- At Leopards Hill substation, the last 330kV Air Blast circuit breaker on the Bus-Section was decommissioned and replaced with an SF6 type in November 2016. This means all twelve bays at the station now have SF6 circuit breakers and the air system has since been decommissioned.
- In Mongu at the main substation, a second 10MVA, 66/11kV transformer was installed and commissioned, complete with associated switchgear in September 2016. This has increased the transformer capacity and reliability of supply to the area.

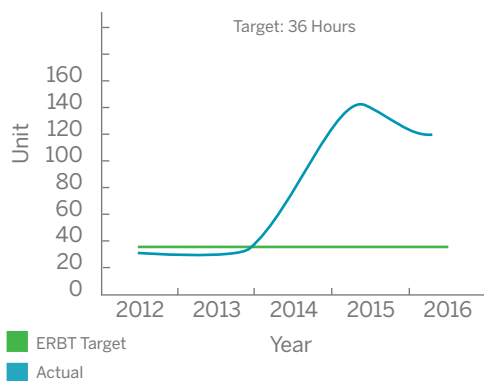
Vandalism of transmission line towers involving steel lattice members and tower earthing counterpoise wire has continued to affect smooth operation of the power grid. This has contributed to the frequent forced outages especially during the rainy season. However, security patrols have increased and we continue with community sensitisation campaigns to highlight the importance of security infrastructure to national development.

## Distribution Performance

The distribution system performed below the regulator's targets for most of the year mainly due to the forced outages coupled with load shedding experienced during the year. A summary of the system performance is shown in the table of system performance indices below:

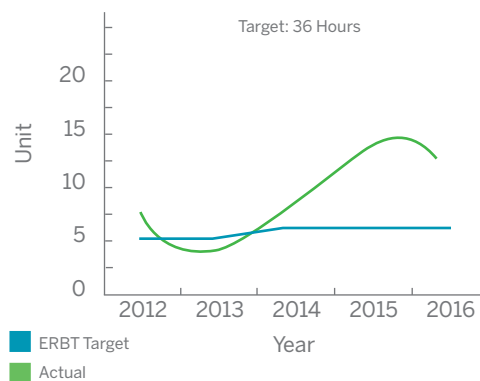
### SAIDI

System Average Interruption Duration Index.



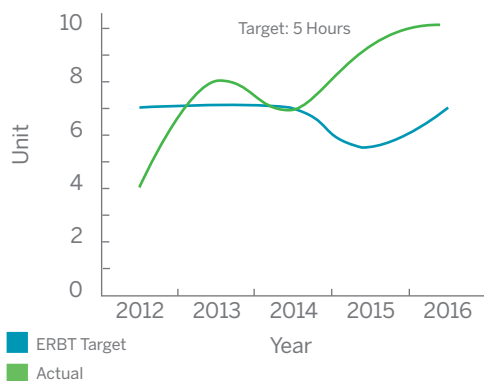
### SAIFI

System Average Interruption Frequency Index.



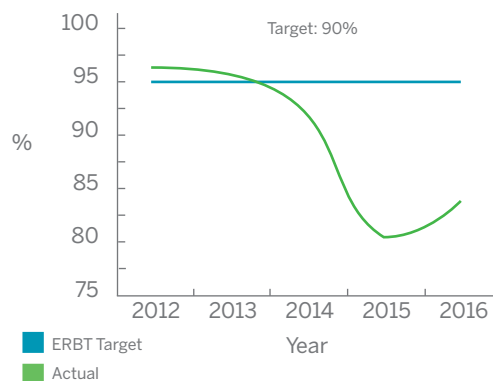
### CAIDI

Customer Average Interruption Duration Index.



### ASAI

Average System Availability Index.



The poor performance was compounded by planned and unplanned outages. Some of the major outages recorded during the year were:

- At Barlastone Park Substation, the earthing transformer on a 20 MVA 33/11 kV Power Transformer developed a fault.
- In Senkobo, a 2.5 MVA 33/11 kV transformer was installed and commissioned at CGC substation in Livingstone to replace the unit that was struck by lightning. The new transformer was commissioned together with a new pole mounted auto re-closer on the 33 kV side.
- At Shimabala Quarry substation, the 33/11 kV 10 MVA transformer got burnt due to a fault on the transformer bushing. The 10 MVA transformer was replaced with a 33/11kV 10 MVA transformer. The transformer was installed and commissioned and other maintenance works were also carried out at the substation.
- At Matero Substation, a new 11 kV board was installed and commissioned by the contractor and subsequently the mobile substation was decommissioned. The protection and control wiring for 33 kV Barlastone incomer panel which got burnt together with the 11 kV board were rewired.
- At Kabangwe Substation, the 33/11 kV 10 MVA transformer was installed and commissioned, subsequently upgrading the substation from 7.5 MVA to 10 MVA.
- Dimba Substation was upgraded from 2.5 MVA to 5 MVA 33/11 kV. The auto recloser was also installed on the 11kV side of the transformer. Transformer protection was wired and function tests done.
- At Kasama Substation, 11.8 MVA 33/11 transformer which had a lot of leakages were replaced by a 10MVA 33/11kV transformer.

## Diesel Power Stations

A total of 5,670,453 litres was used to generate 19.249 GWh of power in 2016. The diesel power stations operational performance was relatively satisfactory throughout the year.

Below is a summary of the performance by quarter.

Diesel Generation Performance	2016			
Quarter	1	2	3	4
Generation (GWh)	4.95	5.04	4.995	4.264
Diesel Consumed (Litres)	1,515,780	1,471,028	1,418,957	1,264,688
Sales (K' millions)	2.29	2.02	1.844	1.574
Costs (K' millions)	11.532	15.275	11.43	10.45

The cost of generating power through diesel stations continued to drop steadily during the year as the stations were being decommissioned, as north western province is being connected to the National grid.

## Managing Supply and demand

Through the demand side management division, we have continued with efforts to promote energy efficiency programs such as CFL distribution, Energy Audits, installation and reprogramming of AMM meters. Various demand Side Initiatives such as the Power Quality Factor Monitoring sensitization have also been ignited to assure quality and efficient supply to our customers.

# Asset Creation Sustainability

We continue to create value by focusing on new projects and infrastructural upgrades. This is being across our value chain in line with our long term investment plan.

## GENERATION

### Kafue Gorge Lower Hydro Power Project

The objective of the project is to increase generation capacity through construction of a 750 MW Kafue Gorge Lower Hydro Power Station. The project is being implemented through a Special Purpose Vehicle called Kafue Gorge Lower Hydro Power Corporation Limited, a subsidiary wholly owned by ZESCO Limited. The project is being constructed by SINOHYDRO Corporation Limited at an estimated cost of US\$2 billion and it's expected to be completed by 2021.

ZESCO Limited has invested over US\$130 million as equity, while the balance is expected to be financed through Senior Debt by the Special Purpose Vehicle.

### Musonda Falls Hydro Power Station Project

The objective of the project is to increase generation capacity by 10 MW by rehabilitating and uprating of Musonda Falls Power Plant. The estimated cost of the Project was US\$40.5 million and was expected to before end of 2017. The project is Engineering, Procurement and Construction being under taken by SINOHYDRO Corporation Limited.

### Lusiwasi Upper Hydro Power Station Project

The objective of the project is to increase generation capacity by 15 MW, through construction of Lusiwasi Upper Hydro Power Station. The Project is being undertaken through EPC Contractor, China Machinery Engineering Corporation (CMEC) was estimated to cost US\$45 million and expected to be completed in the first quarter of 2018.

### Chishimba Falls Hydro Power Project

The objective of the project is to increase generation capacity by 14.8 MW, through construction of Hydro Power Station. The Project is being undertaken through EPC Contractor, China Machinery Engineering Corporation (CMEC) at an estimated cost of US\$65 million.

### Kariba North Bank Power Station

The uprating of Units 1&2 at Kariba North Bank Power Station (KNBPS) had progressed by 80% as at December 2016 with new turbine runners uprated at 165 MW through the entire operating head of the station expected to be installed in the first quarter of 2017.

### Kafue Gorge Power Station

Kafue Gorge Power Station (KGPS) also saw the replacement of all the ten (10) Bharat Heavy Electricals Limited (BHEL) generator transformers with the SMIT transformers by end of 2016. However, there were claims of poor performance of the replaced BHEL supplied transformers which was disputed by BHEL. In the decided case of ZESCO Vs BHEL, ZESCO was awarded full replacement cost (over Euro 22 million) for the ten generator transformers at Kafue Gorge power station. BHEL had not honoured the ruling and hence ZESCO had continued to pursue BHEL for payment of the compensation through diplomatic channels amongst others.

## Future Developments

### Feasibility Studies

ZESCO and UNIDO signed an MOU in 2013 to collaborate and implement four small hydropower plants. ZESCO identified 4 sites within a capacity shown in the table below

The following sites were recommended for further study:

Proposed Site	Head (m)	Flow (M3/s)	Capacity MW	Cost Estimate US\$ Million
Namundela	32	20.4	4.8	15
Kapamba	162	8.82	12	35
Mumburuma	19	59.9	8	26
Kalepela	21	22.5	4	13.4

Under the Upscale Small Hydropower Mini Grid Development project, UNIDO and ZESCO agreed to engage a consultant to carry out full feasibility studies for both Kapamba and Kalepela proposed hydropower plants. UNIDO successfully ran an international competitive bidding process and consultants were to be evaluated for the award of tender. Full feasibility study for the proposed 12 MW Kapamba and 4 MW Kalepela HPPs started in August 2016, Geotechnical Investigations were carried out by December 2016. The Feasibility studies are scheduled to take one (1) year, contract procurement six (6) months and construction of each plant eighteen (18) months. The projects are planned to be

implemented by a selected contractor under the “design build” by EPC contract basis.

### **Mululwe River Small Hydropower site**

The Site was surveyed in 2016 for rendering of engineering features at the proposed site. This will be followed by more refined project layouts. Possible gross head ranges from 170 to 250m with corresponding installed capacity ranging between 4 and 7 MW.

### **Kakonko Falls Small Hydropower Site**

By December 2016 engineering feasibility including hydrology were carried out. Possible gross head ranges from 40m to 65m with corresponding installed capacity ranging between 4 and 7 MW.

### **Kaombe Small Hydropower Site**

In December 2016, detailed surveys started but were not completed due to bad weather. The surveys will resume when the site conditions are favourable. A detailed hydrological study was carried out and verified with Lusiwasi Catchment. Possible gross head ranges from 45 to 195m with corresponding installed capacity ranging between 2 and 8 MW.

### **New Sites - Prefeasibility**

In December 2016, ZESCO received permission from Ministry of Energy for authority to proceed with further studies on the following sites:

- Mbulomututa in Luwingu district, estimate gross head 100m, possible installed capacity 13.5 MW;
- Malisa/Chabilika in Mporokoso district, estimate gross head 10.9m, possible installed capacity 5 MW;
- Mwansha in Nsama district, estimate gross head 81m, possible installed capacity 10 MW;
- Munshimbwe in Mporokoso district, estimate gross head 16.4m, possible installed capacity 6 MW;
- Fumbeshi/Serenje in Serenje district, estimate gross head 582m, possible installed capacity 14 MW;

In December 2016, the roadmap for preliminary ESIA studies was agreed. In addition, preparations to ask for land from the respective Chiefs were put in place.

### **Proposed Coal Fired Thermal Power Plant in Mozambique**

The Government of the Republic of Zambia and the Government of Mozambique signed a MoU for the development of power infrastructure on 17 March 2016. In accordance with the IGMoU, the power utilities from Zambia and Mozambique, ZESCO LTD and EDM respectively signed an Inter-Utility Memorandum of Understanding (IUMoU) for the development of an interconnector and joint development of a 1200 MW advanced ultra-super critical coal-based thermal power plant to be located in Tete Province of Mozambique.

### **Scaling Solar Projects**

About 74 MW of solar was procured by IDC through the Scaling Solar Zambia program and the second round was being planned. In December 2016, ZESCO reviewed the Solar Integration Study prepared by PB Power Consultants under IDC Scaling Solar Program. The report indicates that over 800 MW of solar power could be injected into ZESCO grid by 2022.

## **TRANSMISSION**

We have embarked on an investment plan to implement a number of new and upgrading of existing transmission lines and substations with a view to creating a robust transmission grid that will meet the expected increase in demand for electricity, as well as to provide a pathway to new markets in the Region.

Below are some key projects expected transmission capacity;

### **Connection of Northwestern Province to the National Grid**

The project objective is to connect Northwestern province to the national grid, by replacing expensive and ineffective diesel generation supply in Mwinilunga, Kabompo, Mufumbwe, Zambezi, Chavuma and Lukulu.

The scope of the project involves construction of 800 km of 132 kV lines emanating from Lumwana substation to all diesel run stations. Substations will be constructed at Mufumbwe, Mwinilunga, Mumbeshi, Kabompo, Zambazi, Chavuma and Lukulu. The project is financed through export credit loan from EKN of Sweden and a commercial loan from Standard Chartered Bank of South Africa at an estimated cost of US\$163 million.

During the year under review, Mwinilunga and Mufumbwe were connected to the national grid and about 63% of the 132 kV transmission lines were constructed. In addition four out of eight substations were completed. The remaining districts will be connected to the grid within the course of 2017.

### **Kafue Town - Muzuma - Victoria Falls 220KV Transmission Line Upgrade Project**

The project objective is to upgrade the existing 348 km long Kafue Town-Muzuma-Victoria Falls 220 kV line to 330 kV.

The scope of the project include construction of a robust north - south transmission line corridor for increased export power trade in conjunction with the ZIZABONA Project as well as to facilitate power evacuation from Maamba Collieries Limited a coal fired power plant. The total project cost is US\$100 million out of which 90% was secured from the World Bank and EIB in May 2012. The construction works at



The maintenance of the Mumbwa - Lusaka West transmission power lines requires strict adherence to safety regulations.

Muzuma and Kafue Town Substations commenced during the year under review. The critical equipment for both substations including the 330 kV GIS switchgear were delivered. The construction of the substations is expected to be completed in 2017.

#### **ITT - Mumbwa - Lusaka West Transmission Line Project**

The project objective is to facilitate evacuation of power from Itezhi Tezhi Power Station and to provide a base for transmission line to supply power to Kalumbila Mine in Northwestern Province.

The scope of the project involves the construction of a 142 km long 220 kV line from Itezhi Tezhi (ITT) Power Station to the proposed Mumbwa 330/220/33 kV substation and a 134 km long 330 kV double circuit line from Mumbwa substation to Lusaka West Substation. The project cost is estimated to be US\$ 133 million. The first phase of the Mumbwa 330/220 kV substation was completed in 2016. This enabled the commissioning of one of the transmission lines to Kalumbila Mine. All equipment installations for Mumbwa substation as well as for the expansions at Lusaka West substation have been completed. The full commissioning is expected to be done before end of 2017.

#### **Connection of Luangwa to National Grid**

The project objective is to replace the expensive, unreliable and inadequate diesel generation machines in Luangwa with reliable hydropower by connecting Luangwa and Rufunsa districts to the National Grid.

The scope of works include a complete electrification package covering construction of 132 kV line from Leopards Hill as well as the distribution network in Mphanshya, Chitope and Luangwa. The project stalled after the lapse of the contract. The procurement process for two contractors to complete the project was successfully completed during the year. The contracts for the works will be signed

in 2017. This followed the termination of the contract with the initial contractor, PME Power Solutions, who failed to perform despite having been given a lengthy time extension. The project is planned to be completed early in 2018.

#### **Connection of Kalumbila Mine Transmission Project**

The objective of the project is to provide a transmission line to evacuate power from Mumbwa substation to Kalumbila Mine in North-Western province about 65 km from Lumwana mine. The mine will require a 178 MW, which will grow to about 230 MW by 2020, when it is fully operational.

The scope of the project include construction of a 400 km long double circuit 330 kV line from the proposed Mumbwa substation to Kalumbila and construction of a 65 km long 330 kV line from Lumwana to Kalumbila. The scope will also include construction of Kalumbila 3 x 120 MVA 330/33Kv transmission substation.

During the year under review, one of the circuits to Kalumbila mine from Mumbwa was commissioned. Kalumbila is now therefore supplied from Mumbwa. The new line has also given some relief to the national grid on the South - North corridor.

#### **ZIZABONA Interconnector Project**

The objective of the project is to provide interconnectors to decongest the existing north-south corridor, which will facilitate increased power export in the Region.

The scope of the project include construction of 101 km long 330 kV line from Hwange through Victoria Falls Town in Zimbabwe to Livingstone 330/220 kV substation in Zambia. It also includes

construction of 231 km long 330 kV line from Livingstone substation in Zambia to Zambezi-Katima Mulilo in Namibia and also a 76 km long 330 kV line from Victoria Falls to Pandamatenga in Botswana.

During the year under review, a consultant to undertake the complete Environmental and Social Impact study was appointed by the SAPP-Coordination Centre (SAPP-CC). The ESIA consultant also commenced the studies for works in Zambia in late 2015. The Transaction Advisor and the supervising consultant were also appointed. The funds for the preparatory activities have been provided by the AfDB.

#### **Connection of Lundazi and Chama to National Grid Project**

The objective of the project is to improve the quality and capacity of supply to Lundazi and Chama districts and also to increase access to electricity services. Currently, Lundazi and Chama districts are supplied from ESCOM of Malawi and experience frequent and prolonged supply interruptions. The contracts for the substation and transmission line works were signed in 2014 with China Etern and Sinohydro Corporation respectively.

During the year under review, the down payments to the two contractors was made. This enabled the preliminary design works to commence. Finance mobilization was in progress during the year and will be concluded in 2017.

#### **Lusaka South MFEZ 330KV Transmission Project**

The objective is to supply power to Lusaka South-Multi Facility Economic Zone (LS-MFEZ) and also to provide a third 330/132kV bulk supply point for Lusaka.

The project involves the construction of a 330/132/33kV substation in the LS-MFEZ. The contractor for the 330 kV transmission line works completed all the foundations and commenced the erection of towers. It is expected to complete the critical component of the substation and commission before the end of 2017.

#### **Supply of Power to PLR Manganese Processing Plant**

The project objective is to provide power supply to a Manganese Processing Plant in Serenje Muchinga Province. The power demand has been declared at 9 MVA for the first phase.

The scope of the project involves construction of a 66 kV line and establishment of a 66/11 kV substation at the client's site. The construction of the 66 kV line and the substation extension works at Pensulo progressed well during the year. Procurement of all equipment needed for the project was delivered to site. The works will be completed in the first quarter of 2017.

The procurement of contractors for the refurbishment and replacement of switchgear for Leopards Hill, Coventry and Kafue Town substations commenced during the year. The contracts will be signed in 2017 after the conclusion of the procurement process.

#### **Kabwe - Pensulo 330 kV Transmission Line II**

The project objective is to provide security of supply to Eastern, Muchinga, Northern and Luapula provinces.

The scope of the project includes construction of transmission line from Kabwe to Pensulo. The Environmental studies were undertaken during the year. The Zambia Environmental Management Authority granted approval to the environmental studies including the resettlement and compensation plan. Financing mobilization by both ZESCO and the contractor was in progress and expected to be concluded in 2017.

#### **Kasama - Nakonde 330 kV Transmission Line**

The objective of the project is to provide a path for power trade to the Region. The scope of the project include construction of a 330 kV transmission line and substations which forms part of the Zambia Tanzania Kenya Interconnector. Preliminary designs commenced but the main works will only start after the financing is closed.

#### **Pensulo - Mansa 330 kV Transmission Line**

The objective of the project is to strengthen supply of power Luapula province and also to provide power evacuation for the development of hydropower stations on the Luapula River.

The scope of the project will include construction of a new 330 kV transmission line from Pensulo to Mansa, including a transmission substation.

The funds for the project are being mobilized through the contractor. Initial discussions with some Chinese banks were held during the year.

#### **Rehabilitation of Switchgear at Leopards Hill, Coventry and Kafue Town Substations**

Leopards Hill substation is one of the strategic substations on the Zambian electricity grid. The objective of the project is to improve the security of power in the country. The scope includes rehabilitation and replacement of old equipment at the substation. The other transmission substations requiring refurbishment include Coventry and Kafue Town substations.

#### **Other Transmission Projects**

##### **Improvement of Protection and Control Systems on Transmission Network**

The objective of the project is to improve the reliability of the protection and control system on the main transmission network. New protection relays and control system have been installed at the major substations on the ZESCO network. The project was completed during the year. A similar project is being implemented on the sub transmission network. This will be completed in 2017.

##### **Advanced Metering Infrastructure**

The objective of the project is to improve the metering system through remote meter reading and putting in place a metering management system. Two central metering stations will be established in Lusaka and Kitwe. The benefits of the project include readily available measurements of system parameters which can be used for network analysis and reduced costs of meter readings. Equipment manufacture and witnessing of factory acceptance tests were concluded during the year. The installation and commissioning completed in 2017.

##### **Installation of Transformer at Kitwe 330/66 kV Substation**

The objective of the project is to improve reliability and capacity on the power system. The scope of the project include replacing the aged 330/66 kV transformers at Kitwe and Luano Substations. A new 315 MVA transformer was installed at Kitwe. This has not only improved the reliability of the station but has also increased the available capacity from 720 MVA to 795 MVA.

##### **Installation of Capacitors at Luano and Kitwe Substations**

The objective of the project is to improve system performance improvement, by installing Capacitors at two transmission substations. A total of 100 MVAR and 50 MVAR were commissioned at Luano and Kitwe substations respectively. This will improve voltage stability margins in at these points in the transmission network..

## DISTRIBUTION

### Lusaka Transmission and Distribution Rehabilitation Project (LTDRP)

The objective of the project is to increase the transfer capacity of the existing 132 kV sub-transmission in to Lusaka and permit operational flexibility. It also includes constructing new 33 kV lines, replacing and upgrading of 33 kV and 11 kV cables and constructing new 11 kV switching stations.

### Construction and Special Projects

The Division is responsible for constructing distribution medium voltage lines across the country. The Division outsources the construction of medium voltage lines to contractors and only supervises the construction works. The company provides materials for the construction of lines, while the contractor provides labour and transport.

The medium lines provides the distribution back bone for expansion of our customer base and making our product accessible in all areas.

## STRATEGY AND COPORATE SERVICES

### Network Expansion

To improve and enhance service delivery, network expansions and upgrades were carried out in various areas across ZESCO. Notable was the second Call Centre at ZESCO show grounds Offices and the Local Area Network overhaul at Ndola Divisional Customer Service Centre. Other network extensions included ZESCO Office in Mungwi District, Lunzua Small Hydro's administration offices, ITT New Switchyard, Kasama Substation, Embassy Customer Service Centre, ZESCO Kabundi Office in Chingola, Transmission and Customer Service floors at Mable House in Kitwe and Lusaka East Regional Offices at Chudliegh LAN were overhauled and upgraded.

### Microsoft System Centre Service Manager (SCSM)

During the period under review, the incident management module of Microsoft System Centre Service Manager 2012 was successfully deployed on a pilot basis. Service Manager provides an integrated platform for automating the processes of managing incidents, problems, change control, and IT asset lifecycle management. Full implementation of these other module is scheduled to be completed by end of 2017.

### High Availability configuration for Microsoft Exchange 2013

Configuration works to build redundancy for Microsoft Exchange were successfully completed. Microsoft Exchange has now been configured in a cluster using Database Availability Groups (DAG). This means that each mailbox database has two other passive database copies on different servers such that if one server goes down, another server will pick up the email flow. The clustering has been done both at mailbox database level and server level. The email system has also been extended to the Disaster Recovery Site in Ndola.

### Implementation of Microsoft System Centre Data Protection Manager

During the period under review, Microsoft System Centre 2012 R2 Data Protection Manager (DPM) was deployed. Microsoft System Centre 2012 R2 Data Protection Manager (DPM) is an enterprise backup system that is used to back up data from a source location to a target location on the DPM server. DPM can create both full backups and incremental backups of data. All the systems under Windows Infrastructure such as Microsoft Exchange, Active Directory, SharePoint are being backed up to disk for short term and to tape for long term.

### 3-Tier Time of Use Tariff and Power Factor (PF) Implementation

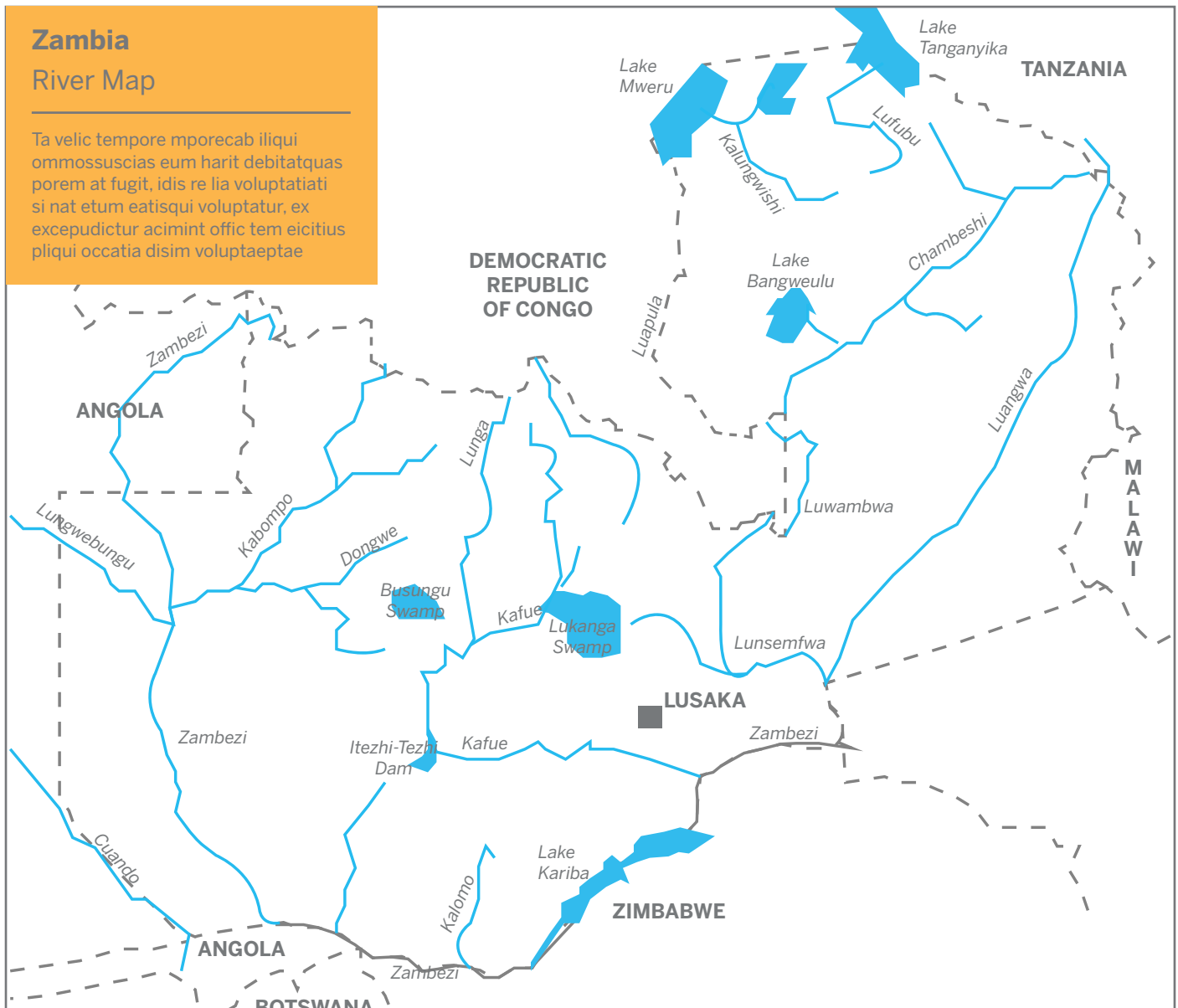
Testing the 3-Tier Time of Use (TOU) tariff and the Power Factor (PF) on the test environment was completed during the year under review and implementation for both of them were scheduled for implementation in 2017. The implementation will improve on electricity usage by customers in Maximum Demand category.

### Future focus areas

Having learnt from the recent adversities in climatic conditions we intend to supplement our hydro generation with power from alternative and clean energy sources such as solar and wind energy. We also commit to divest this hydro generation base towards water bodies in the northern part of the country such as the Luapula River Basin and further explore the potential for interconnectivity with the East Africa Power Pool through Tanzania.

## Zambia River Map

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The Distribution Expansion and Reinforcement Project (DERP) will continue and is expected to improve reliability of power supply in the target areas, reduce technical distribution losses thereby improving the efficiency of power distribution and leading to overall improvement in the service delivery.

Consultancy works on a system wide analysis of the reactive power requirements for the ZESCO Grid commenced in July. The project is expected to recommend solutions to the massive voltage instability experienced over the years. The consultancy for the study is the first stage and the output will be the assessment report, specifications and tender documents for the proposed solutions.

Leopards Hill Substation, installations on the Zambian electricity grid, received a partial facelift under the Power Rehabilitation Project on the transmission component. Due to budget constraints at that time some equipment could not be refurbished or replaced. It has now become imperative to replace some of this equipment as the situation may deteriorate and jeopardize the system security. The other sub transmission substations requiring refurbishment are Coventry and Kafue Town substations.

The procurement of contractors for the refurbishment and replacement of switchgear for Leopards Hill, Coventry and Kafue Town substations commenced during the year. The contracts will be signed in 2017 after the conclusion of the procurement process.

Plans have advanced to upgrade the existing 348km long Kafue Town-Muzuma-Victoria Falls 220kV line to 330kV. The objective is to create a robust north - south transmission corridor for increased cross border power trade in conjunction with the ZIZABONA Project as well as to facilitate power evacuation from Maamba Collieries Limited coal fired power plant.

The de-commissioning of Diesel stations in north-western province has progressed and it is hoped that the whole province will be connected to the national grid by mid-2017. The exercise can then be extended to the three remaining stations at Lukulu, Shango'mbo and Luangwa. The objective is to provide efficient and economic power and consequently improve operational efficiency.

# Environmental Sustainability



ZESCO Limited has a fully established Environmental Unit, charged with the responsibility to ensure that there is compliance with Environmental laws and regulations that apply in environmental management, water management, biodiversity, waste management and air pollution. Environmental sustainability is important, as it directly impacts on our Operational sustainability of the business.

We remain committed in being compliant with all relevant laws and regulations, by meeting stringent environmental requirements especially when undertaking complex projects.

## Investing in renewable energy

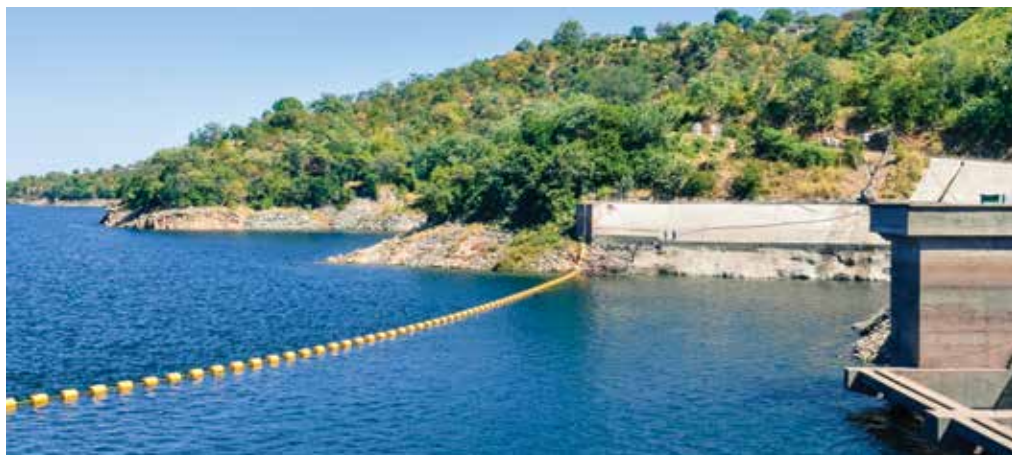
The Government of the Republic of Zambia, through Ministry of Energy released a mid-term policy for developing solar plants in the country. The policy provided for 300 MW to be developed through the Scaling Solar Project and the GETFIT Projects.

ZESCO will be a sole off-taker for the GETFIT projects amounting to 50 MW before end of 2017. As such ZESCO carried out a review of possible areas for solar interconnection. The tariff structure for the GET Fit is in the process of being finalised. The investment in renewable energy is expected to reduce the carbon print and is environmentally friend.

## Reducing our carbon footprint

We continue to promote an environment with low carbon footprint by replacing Diesel Generation Machines in North-Western province and Luangwa district, by connecting to the National grid. Other initiatives to reduce carbon footprint include undertaking of feasibility sites and construction of various small hydropower stations across the country. The feasibility studies are being funded by UNIDO. The objective of the small hydro stations is to promote sustainable environmental energy sources.

“The water level in Lake Kariba at the close of 2016 was 477.65m Kariba Datum, slightly better than previous year’s 477.50m Kariba Datum. The minimum water level of 475.50m and there was no water released through the spillway gates during 2016.”



## Reducing environmental legal contravention

There are various stakeholders that compel the company to be compliant with environmental management which include:

### ● Zambia Environmental Management Agency (ZEMA)

ZEMA is responsible for all environmental related management issues and ensure that operations and project related activities are in compliant with ZEMA laws and regulations. ZEMA ensures environmental impact assessments on biodiversity, water resources and compensation to communities are done before approving the projects.

During the year the company complied with ZEMA requirements on it planned projects and in it's operations that were carried out.

### ● National Heritage Conservation Commission (NHCC)

National Heritage Conservation Commission (NHCC) as one of the key stakeholder was engaged to discuss issues regarding wayleave that may affect the National Heritage. NHCC consented to the Project on condition that the Heritage Impact Assessment (HIA) is conducted on portions of the Mwela Rock Paintings and Chilambwe Falls heritage sites on which the proposed Kasama - Nakonde and Kasama - Mporokoso lines traverse.

## ● Water Resources Management

The Power Stations on the Kafue river are cascaded so as to conserve the water resource. The water used for generation at ITT Dam is released and used at Kafue Gorge Power Stations. Despite holding the water in the dams, water is released after generation used in to the rivers to maintain the ecology systems.

The Water Resources at Kafue River and Lake Kariba are managed by Water Resources Management Authority and Zambezi River Authority respectively. Zambezi River Authority, allocates water for generation on an annual basis to Kariba North Bank Power Station. Kariba North Bank Power Station, exceeded the annual water allocated for generation by 5,584 Mm3, which may threaten the sustainability of water resource.

## ● Compensation of displaced settlers

The displaced communities were compensated for the loss of properties and fields for various projects amounting to over K1 million in the year under review.

## Hydrology

Cumulative rainfall performance during the year indicated normal to above normal rainfall especially in the North-Western, Western and Southern Provinces which are the main catchments for our Kafue Gorge, Kariba North Bank and Victoria Falls Power Stations. This resulted in failure of filling the reservoir at ITT and Kariba dams respectively. ITT reached a maximum of 1028.87 metres above sea level (m. ASL) on 17 May, 2016, while Kariba continued to recede from a maximum of 480.33 m Kariba Datum that was attained on 21 June, 2016.

The water level in Lake Kariba at the close of 2016 was 477.65m Kariba Datum, slightly better than previous year’s 477.50m Kariba Datum. The minimum water level of 475.50m and there was no water released through the spillway gates during 2016.

# Building Sustainable Skills Base

Our commitment to offer an exceptional service to our customers depends on the caliber of staff through whom our strategy is executed. We therefore place importance on our values to promote innovation among our staff and also develop leadership. The corporation continues to invest in both primary and support staff through training and various staff wellness initiatives.

We have also continued to recruit necessary skills and develop internal capacity that meets the needs of the organisation.

## Head Count

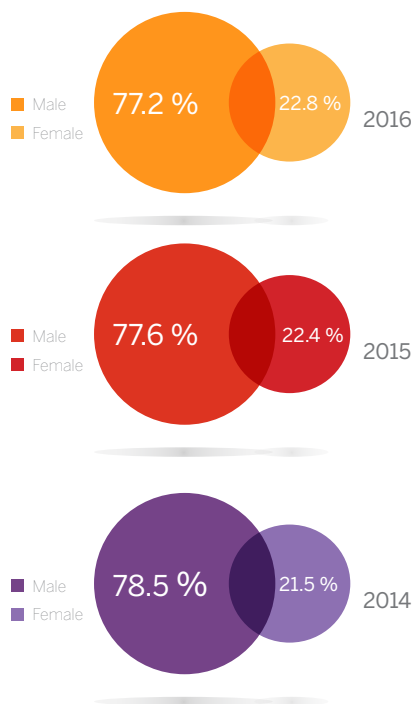
The total number of employees stood at 6,791 at the close of the year

Labour Strength Reconciliation			
<b>Headcount as at 1 January 2016</b>			
<b>Add:</b>	Recruitments	159	6,801
	Reinstatements	15	
	Contract Renewals	-	
			174
<b>Less:</b>	Resignations	3	
	Deaths in Service	33	
	Dismissals	29	
	Retirements	92	
	Separation Packages	27	
	Other	0	
			184
<b>Headcount as at 31 December 2016</b>			6,791

The Industrial Relations climate of the corporation during the year under review was cordial and harmonious indicating that Management and the respective trade Unions continue enjoying a solid and transparent relationship.

During the same period, the Collective Agreements for the period 1st January, 2016 to 31st December, 2017 for both trade unions namely POGAWUZ and NESAWU were signed as required by law. The unions are a critical partner in improving productivity and efficiency they provide a necessary channel of engagement between Management and Staff.

## Labour Strength



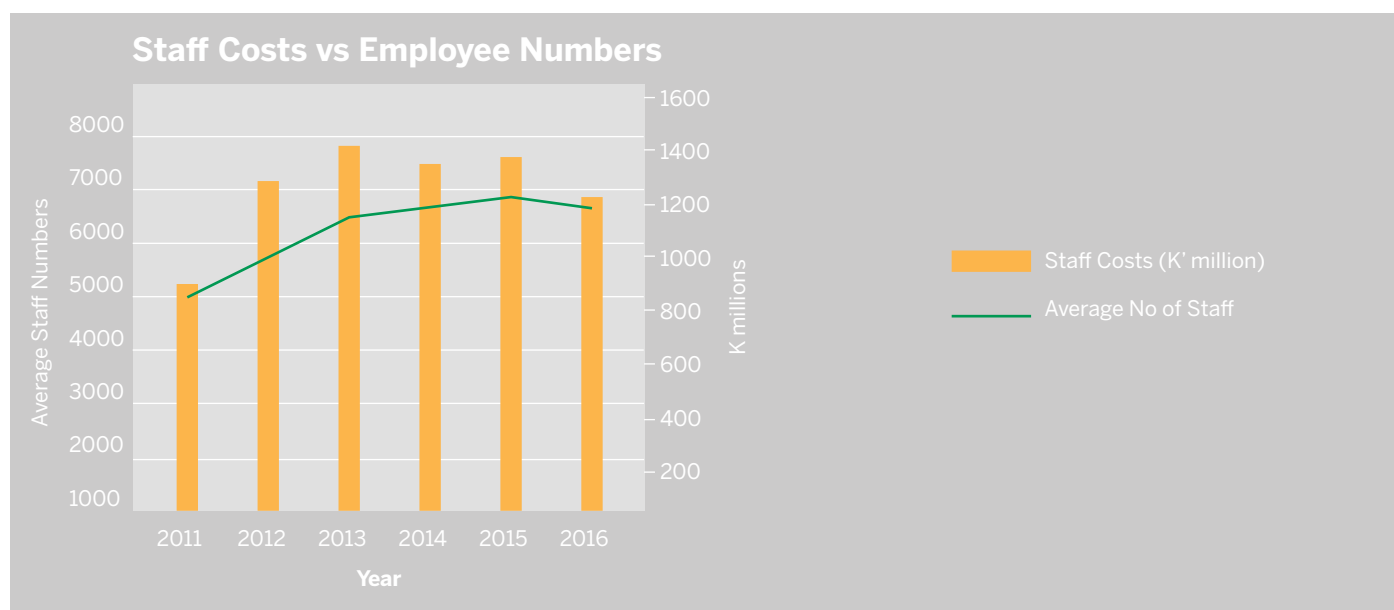
The corporation continues to enjoy a significant number of its staff resource being in the productive age range, which is the twenty one to fifty (21 – 50) year bracket.

## Age Range



The corporation is an equal opportunity employer and aims to eliminate all unfair practices relating to recruitment and opportunities for advancement amongst staff.

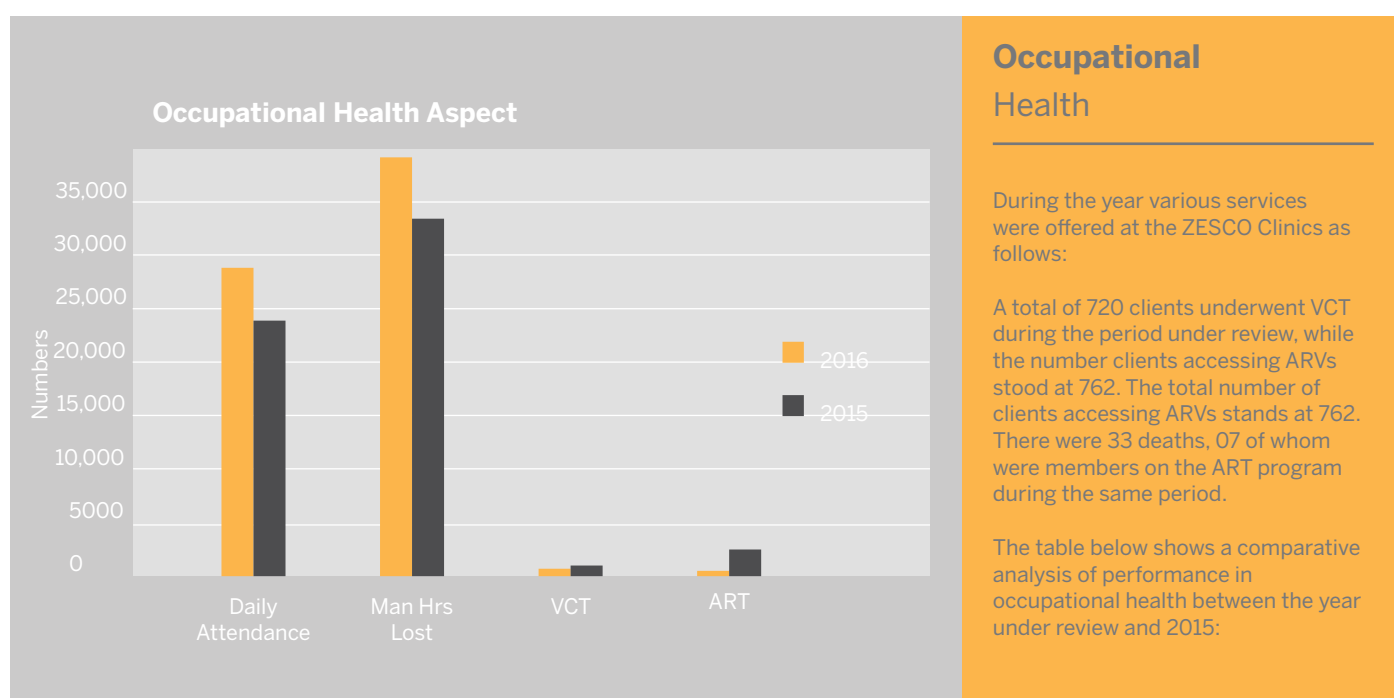
While the average number of employees has gradually increased over the years, related employees costs have remained steady and marginally decreased over the same period.



## Occupational Health

Employee welfare and health remains key in ensuring sustained employee productivity and industrial harmony. The corporation provides various modes of occupational health support for staff and their registered family members. In order to execute this function, the corporation operates a number of clinics in strategic operational points which includes Corporate Clinic at Head Office, Ndola Clinic and at Power Stations. The department registered an average daily attendance of 28,744 clients in the year under review. Out of these, 38,715 man hours were lost.

The corporation also operates medical schemes namely, Medical scheme for general medical services and a Fund for HIV/AIDS schemes. This is an initiative by which ZESCO has partnered with various health institutions, private and public, to offer medical services to its members of staff through an in-house insurance scheme.



“...the corporation continues to provide the necessary support to its employees so as to develop the skills required to manage a highly complex generation, transmission and distribution system, and supportive function.”

#### Focused On Developing Human Capital for the Future

In its commitment to have an innovative and skilled workforce, the corporation continues to provide the necessary support to its employees so as to develop the skills required to manage a highly complex generation, transmission and distribution system, and supportive function.

The fields of study range from technical, commercial, social & humanity studies.

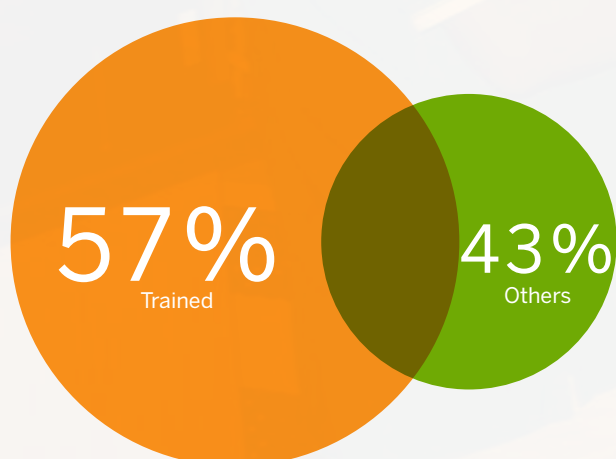
#### Student Support

The company further provides support to students and graduates by providing an opportunity to acquire experience through internship programs. A total of 274 students were offered placement opportunities in various departments across the organization during the year.

#### Capacity Building

During the year under review Human Resources facilitated both short and long term training as capacity building. A total of 3,883 employees attended in various short term trainings at an estimated cost of K5.9 million.

#### Capacity Building



 3,883

‘Out of a staff compliment of 6,791 employees, 3,883 employees were trained through short courses in 2016’

#### Graduate Assessments

To further enhance the quality of service delivered, our staff technical and non-technical are subjected to undergo Graduate Assessments. Further it's a requirement that all technical staff pass authorization test before they could be allowed to work on our network systems. During the year, 29 employees were assessed and authorized to start operating on our network system.



## K10.5m

‘Our total training expenditure of **K10.5 million** in 2016 is an indication of the Company’s commitment to investment in training of employees.’

### Manchester Business School MBA Partnership

In the quest to enhance leadership and management skills, the corporation partnered with the Manchester Business School to provide its employees in Managerial positions with Masters’ Degree in Business Administration at cost sharing basis.

### ZESCO Training Centre

Tailor-made trainings are offered at the ZESCO training Centre in Ndola and during the year 63 employees were trained in technical fields, with the support of ZESCO Limited.

### Partner Institutions

Among institutions partnering with ZESCO in providing training include; University of Zambia, Copperbelt University, and Northern Technical College (NORTEC) for Technical and Engineering.

While Institutions like the Zambia Centre for Accountancy Studies (ZCAS), Mulungushi University and the University of Lusaka provide business programs.

A number of Technical and Vocational Training Schools also provide elementary technical trainings like technician and craft courses.

We remain expectant of the value that will be added as the skills gained are applied in our Power System.

### Future Focus Areas

In order to remain relevant in today’s dynamic business environment, the corporation is working towards identifying and quantifying gaps in skills sets and ensuring that the skills are developed internally or sourced externally.

We expect to invest a significant portion of our recurrent expenditure in 2017 towards developing innovation.



# Transformation and Social Sustainability

## “Transforming Community Lives through Economic Empowerments”

Transformation and Social Sustainability is aligned to Human and Social and Relationship capitals.

The company's corporate social investment policy aims at empowering the communities and strengthening the cultural values through sponsorship of various traditional ceremonies. During the year, the major activities under taken included:

### Economic and Social Empowerment

#### Bush clearing

We partnered with traditional leaders on bush clearing of the transmission and distribution lines, which empowers the community to form cooperatives. The total expenditure on bush clearing to communities amounted to over K52 million.

#### Third Party Vendors

We have partnered with over 166 Third Party Vendors (TPVs) in the sale of prepaid electricity units earning over K11.5 million during the year. In addition, there are thousands of other Vendors selling electricity units through Super vendors thereby indirectly creating employment.

#### Local contractor

The company outsources the construction of distribution lines in township to local contractors and has been able to build technical capacity among local contractors in terms of the quality of works. In 2016, total contracts worthy K290 million were awarded to local contractors with values ranging from K2 million to over K10 million.

#### Electrification of Community Households

The initiative of connecting village set up households using readiboards has been implemented and a number of connections were done during the year. The readiboard connections concept is designed to make the cost of connection affordable to communities in the rural area set up.

Muke village in the Simoonga area of Kazungula District is such a village set up model connected using readiboards aimed at community empowerment.

In engineering terms, it is based on energy saving as in use of CFL/LED lighting technology as well as energy substitution as in encouraging using of LPG and simple pressure cookers for cooking.

In addition, we have a line tariff of 100 kWh @ K0.15 per kWh to support the low income earners in both urban and rural areas. Those that cannot afford even this threshold are encouraged to obtain a rechargeable lamp to be serviced at a small fee from local Third Party Vendors. These efforts not only reduce the cost to the customer but also significantly manage the collective carbon footprint as our use of fossil fuels or biomass is controlled - a salient point as we are a business founded on a healthy rain cycle.

#### Education Initiatives Support

The company sponsored the rehabilitation of the University of Zambia, School of Engineering Laboratory at a total cost of over K0.9 million. This was aimed at improving the quality of education in the school of engineering, as it's key to have well trained engineers to drive the economy of the country and contribute positively to the engineering profession.

#### Traditional Ceremonies

The company sponsored various traditional ceremonies in the country aimed at promoting and strengthening the cultural values among citizens and spent about K1.5 million.

#### Other Corporate Social Investments

The company invested about K0.5 million in corporate social investments at various professional events and forums in form of advertisements.

The company supported a number of sporting disciplines mainly amounting to over K0.2 million.

The company is in the process of transforming the corporate social responsibility policy to focus on community empowerment and social investments, which results in value creation to the shareholders.



The refurbished School of Engineering Laboratory at the University of Zambia.



The installed readiboards in Muke village of Simoonga area in Kazungula District.



The Zambia Boxing Welterweight Unification Title: Esther Phiri vs Sandra Almeida (8 Rounds) Government Complex Lusaka was one of the professional events the Company Sponsored.

# Building Solid Brand

We strive to be an organisation which is reputable, trusted and valued by all stakeholders. Our aim is to improve our current reputation and position ourselves as a key driver of economic growth. For this reason, we improve and safeguard our reputation by proactively engaging and educating our stakeholders on various issues that may impact customers.



A customer reporting a fault at Head Office in Lusaka.



The 24/7 call centre gives access to our customers to report various faults, in order to provide quick response and fault resolution.

## Customer Care

We operate a 24/7 call centre giving access to our customers to report various faults, in order to provide quick response and fault resolution.

We also continue to communicate with our customers on power conservation measures through the "switch and save" campaign aimed at conserving power at peak times. We have effectively communicate through various platforms such as 'sms' and television adverts on public, private and community media. We further communicate load shedding, planned maintenance schedules and other network disturbances through our website, print media and local radio stations.

## Our Footprint

We operate over 110 customer service centres across the country making it easy to access our services at the customers convenient. We have continued to invest in expansion of our customer services with a total of over K50 million spent in 2016.

We have also partnered with super vendors and third party vendors engaged to sell electricity units to customers in across the country. We have further implemented Extended Vending Gate Way (EVG), which enables customers to buy electricity units using on-line platforms such as flexi payment, mobile banking with various banks which enables customers to buy units through the mobile phone 24/7 a day.

## Energy demand management

Our demand side management initiatives include replacement of incandescent bulbs by distributing CFL bulbs to households across the country.

With installation of prepaid meters standing at 98% in 2016, we have witnessed a drastic reduction in customer complaints relating to billing, compared to postpaid meters era, as customers are able to monitor and manage their power consumption.

## Future Focus

Further initiatives to install power factor in industrial and commercial customers are in progress to help with demand side management and also to assist customers efficiently manage the load.



# Safety and Security

“Safety and Security is core priority to sustain our operations”

Safety and Security Sustainability is supported by the Human, Social and Relationship and Natural capitals, inputs in the Business model.

## Safety

The company continues to invest in safety and security of its employees, customers and contractors in order to enhance the delivery of quality service to customers and to ensure compliance the Regulator's Key Performance Indicators.

There was a decline in the number of accidents recorded in 2016, notable were reduction in number of fatalities among employees and contractors who recorded zero fatalities. Despite reduction in the number of public fatalities, the number of fatalities recorded is still high and a serious concern to Management.

The implementation of “SHEQ” Safety, Healthy, Environmental and Quality has assisted in reducing the number of accidents and it's expected that more measures have been put in place to sensitize the public on the safety best practices.

Types of Accidents	2014	2015	2016
Vehicle Accidents	68	21	23
Fatalities (Employees and Contractors) number	2	1	0
Fatalities (Public) number	27	20	17
Falls from heights	7	2	6
Electrical Contact (Electrocution)	29	21	17
Contact with heat	13	4	8
Struck by or against an object	19	9	18
Caught between or under object	15	7	8

Despite a reduction in the number of Vehicle accidents in 2016, the number of accidents is still a serious concern as affects the safety of our employees and the fleet numbers. The following initiatives have been put in place to enhance Vehicle and driver safety:

- Training our drivers using defensive driving methods, which enhances drivers alertness and judgment on the roads;
- Restricting the movement of company's vehicles after 21 hours in compliance with newly introduced SI by the Government of Zambia;
- Sensitisation workshops our drivers and Senior Management on the need avoid dangerous over speeding, drinking and driving;
- Upgrading our mechanical workshops to modern standard, to ensure that the motor vehicles are well maintained and road worthy;
- Punitive measures have been put in place for all offenders who negligently cause damage to company Vehicles;

We are confident with the measures put in place, the number of Vehicle accidents will be kept at the minimal so as to sustain the business operations.

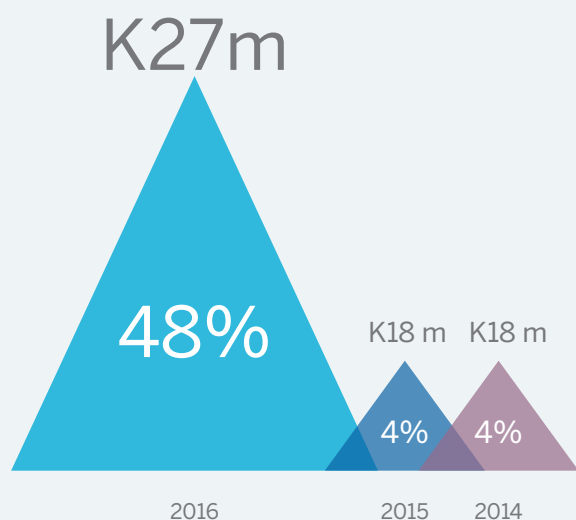
## Security

The company has intensified security of its key installations following recent acts of vandalism experienced targeted at generation power stations, substations and transmission and distribution lines. The installation of Closed Circuit Television (CCTV) at National Control Centre and other key installations is aimed at securing the strategic assets against the vandalism and sabotage. The act of vandalism to strategic assets threaten the sustainability of our operations to deliver quality supply to all our customers.

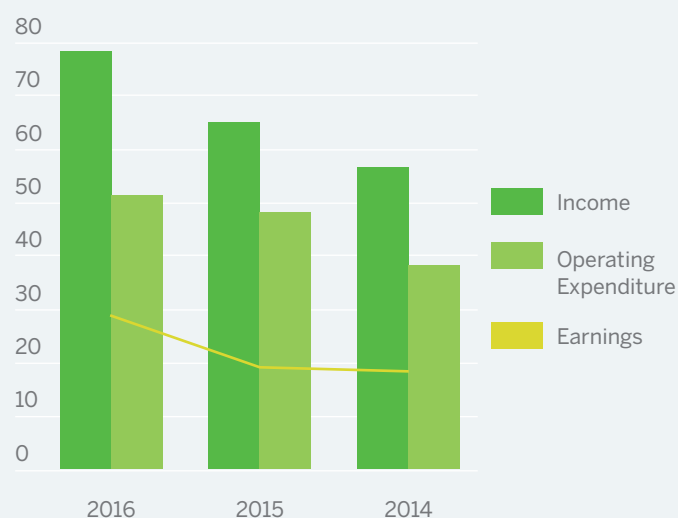
Further, we have increased the patrols of transmission and distribution lines and substations. We are considering installation of cameras to monitor the activities on the transmission lines in order to secure the assets.

# Our Fibrecom Business Overview

Earnings



Financial Performance



## Business Overview

FibreCom is a Strategic Business Unit under ZESCO Limited that provides telecommunication services. The business unit has an installed capacity of 400 Gbps (Giga bits per second) on its backbone optic fibre network that connects all the ten (10) provinces of Zambia including the neighboring countries. ZESCO is the only company that has a widest optic fibre coverage in Zambia with a total length of over 8,000 km. ZESCO uses this network to provide power grid teleprotection, SCADA, Business Information Systems and other administrative operations. However, the excess capacity is leased to the external customers on a commercial terms. The current license of Carrier-of-Carriers permits ZESCO to avail this capacity as a wholesale operator to licensed entities such as Mobile Service Providers, Internet Service Providers and other licensed ICT operators.

The telecommunication industry is competitive with a number of players on the market providing the services. Fibrecom's competitive advantage lies in having a strong and reliable optic fibre network across the country. Most of our competitors depend on ZESCO's optic fibre network as backup and also as primary circuit to connect their customers in locations where their fibre network has not reached, but where ZESCO fibre network has a presence. The industry has huge untapped market, as most households do not have affordable access to internet facilities. FibreCom has potential to supply affordable internet access because of it's already existing infrastructure. This would be achieved once FibreCom obtains an ISP license (Internet Service Provider). The industry is regulated by Zambia Information and Communication Telecommunication Authority (ZICTA).

FibreCom business has been steadily growing over the 3 year horizon period, with sales growing by 28%. The growth in Sales was supported by increase in customer base by 43% (2016:30 and 2014:28).

## Challenges

The business performance during the last two financial years were characterised by constant power outages, which affected the quality of services delivery to customers. This resulted in some customers reducing the capacity utilization on the network, as some of them switched to alternate backup communication such as satellite links.

## Future Outlook

The company has embarked on an ambitious Metropolitan Project aimed at extending the FibreCom network within major cities of Lusaka and Copperbelt with the objective of improving the internal communication between distribution substations and Regional Control Centre to facilitate SCADA and also to support the SMART metering.

The communication capacity to be installed is huge enough for ZESCO to exhaust it, henceforth the excess capacity will be leased out to customers on commercial terms and will make it easy to connect individual households.

Fibrecom has intentions of applying for an ISP license to enable the connection of individual households. This will result in accessing the untapped market using the already existing infrastructure.

The reliability of the FibreCom network is likely to improve following the stabilisation in the generation and transmission of electricity. In addition, backup power supplies such as generator sets and batteries have been installed in some nodes to sustain communication during power outages

ZESCO Limited is in the process of registering Fibrecom Limited as a Subsidiary 'wholly owned' by ZESCO. This will make the company to operate more competitively in the telecommunication industry and raise own capital for it's future investments.



# Financial Statements

“The Financial Statements are prepared on a going-concern basis...and give a true and fair view of the financial position of ZESCO Limited as at 31 December 2016, And of its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs), and in the manner required by the Companies Act.1994 (As amended).”

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# Report of the Directors

The Directors present their report and audited financial statements for the year ended 31 December 2015.

## Principal Activity

The Company's principal activities are generation, transmission, distribution and supply of electricity.

## Registered Office and Principal Place Of Business

The address of the Company's registered office and principal place of business is:

Stand 6949, Great East Road

Lusaka.

FINANCIAL RESULTS	2015	2014
	K' 000	K' 000
Statement of profit or loss		
Revenue	8,237,828	6,425,737
Profit after tax	1,308,640	868,477
Statement of financial position		
Total Assets	30,022,298	23,769,814
Total Equity	7,616,059	6,283,485
Total Liabilities	22,406,239	17,486,329.00

## Revenue

The Company's revenue increased by 28% from K6.4 billion in 2015 to K8.2 billion in 2016 mainly on account of a 51% upward adjustment of the tariffs for mining customers. There was also an increase in the customer base by 12% from 740,312 in 2015 to 831,476 in 2016 financial year under review.

## Profit for the year

Decrease in profit during the year is due to the additional provisions made during the year as a result of the disputed tariffs by the mining customers.

## Total assets

The increase in assets is mainly due to the investments made to Property, Plant and Equipment and Kafue Gorge Lower Hydro Project of K4.8 billion.

## Total equity

There were no changes to the Company's equity.

## Total liabilities

The increase in liabilities is due to additional borrowings on loan facilities of K4.1 billion and in payables of K3.1 billion.

## Dividends

The Directors do not recommend payment of a dividend in respect of the year ended 31 December 2016. The loss will be transferred from reserves.

## DIRECTORS

The Directors who held office during the year were:

Mr. Dillion Chipungu  
(Board Chairperson)

Mr. Victor M. Mundende

Dr. Ronald Simwinga  
Mr. Israel Phiri

Dr. Mbita Chintundya Chitala

Mrs. Felistas Kabwe Chibamba

Mrs. Cecilia Bandaimba

Mr. George Mpundu Kanja

Brig General. Emeldah Chola

The above Directors were retired on 22 November 2016. Industrial Development Corporation Zambia Limited is currently sitting in the interim stage.

## CORPORATE GOVERNANCE

The Board continued to be committed to high standards of corporate governance, which is fundamental to discharging their leadership responsibilities. The Board applies integrity, principles of good governance and accountability throughout its activities.

## PROPERTY, PLANT AND EQUIPMENT

There was change in the Company's property, plant and equipment during the year resulting from investments made in capital and operating projects. The Company invested a total of K3.8 billion (2015: K4.2 billion)

## INTANGIBLE ASSETS

During the year the Company did not acquire any software

## EXPORTS

During the year, the value of electricity exports by the Company were K598 million (2015: K832 million)

## DONATIONS

The Company made donations during the year amounting to K3.4 million (2015: K1.7 million.)

## RESEARCH AND DEVELOPMENT

The Company's research and development activities during the year amounted to K4.8 million.

## SHARE CAPITAL

The Company's authorised and issued share capital remained unchanged during the year.

The total remuneration and other related staff costs paid to the employees was K1,214 million (2015: K1,316 million).

The average number of employees during each month of the year was as follows:

	2016	2015
January	6,818	6,767
February	6,828	6,768
March	6,831	6,774
April	6,819	6,771
May	6,820	6,763
June	6,829	6,790
July	6,819	6,815
August	6,824	6,805
September	6,814	6,813
October	6,810	6,803
November	6,800	6,826
December	6,791	6,817

## KEY DEVELOPMENTS DURING THE YEAR

- The generation of electricity at Kariba North Bank and Kafue Gorge Power Stations reduced significantly due to low water levels. This was due to below normal or normal cumulative rainfall performance in the main catchment areas of Kafue and Zambezi rivers in 2015/16 season. Further, the Company had to import emergency power in order to reduce the impact of load shedding. The Government continues to subsidise the cost of emergency power imports, having disbursed K1.0 billion during the year, towards the cost of emergency power.
- During the year, the contractor Sinohydro Corporation Limited commenced the construction of a 750 MW Kafue Gorge Lower Hydro Power Station, estimated to cost US\$2 billion and expected to be completed by 2021. In addition, the Pensulo Chipata and Pensulo Kasama transmission lines were commissioned. The completion of these transmission lines positions the Company to access the market in the East Africa and will enhance trade once the construction of the 750 MW Kafue Gorge Lower Power Project has been completed.
- During the year a 120 MW Itezhi Tezhi Power Station, a joint venture between ZESCO Limited and TATA Africa was commissioned. Further, the commissioning of Maamba Coal Plant with the first 300 MW contributed to

## FUTURE DEVELOPMENTS

The Company has continued engaging the Energy Regulation Board, the Government and other stakeholders on the implementation of cost reflective tariffs. The emerging of new Independent Power Producers whose tariff structure is high, has made considerations of migrating to cost reflective tariff key

The Company expects to construct a 1,200 MW Batoka hydro power project through a Special Purpose Vehicle which will be called Batoka Hydro Power Corporation Limited. The project will be a joint commission between Zambia and Zimbabwe. The dam will be constructed and managed by Zambezi River Authority. In addition, an Memorandum of Understanding between Zambia and Democratic Republic of Congo has been signed to develop a 1,000 MW Luapula hydro power station on the Luapula river basin. The project is at preparation stage and will be implemented by ZESCO Limited and SNEL of DRC.

## HEALTH AND SAFETY OF EMPLOYEES

The Company has a Safety, Health, Environment and Quality system called SHEQ. The SHEQ programme conforms to international standards/specifications such as ISO 9001, ISO 14001, OHASA 18001 and ISO27001 by complying with the objectives and targets of:

- Minimizing risk and eliminating harm to employees, customers and the environment;
- Ensuring elimination of waste;
- Minimizing risks and guarantee confidentiality, integrity and availability to our Information Communications and Technology ICT (systems);
- Ensuring reliable and safe supply of electricity that sustains business continuity;
- Identifying, developing and maintaining the required resources to deliver reliable and high quality power supply of our customers safely as per their identified needs;
- Effectively communicating with all stakeholders on all matters relating to SHEQ and service provision.

It is the duty of each employee and contractors to comply with the SHEQ policy to enable the Company achieve its strategic objectives and establish and entrench a SHEQ driven culture within the Company.

## AUDITORS

Messrs Deloitte & Touche's term of office comes to end at the next Annual General Meeting. A resolution proposing their re-appointment as auditors and authorising the Directors to determine their remuneration will be put to the Annual General Meeting.

By order of the Board.



Mr. McRobby Chiwale

## COMPANY SECRETARY

Lusaka

# Statement of Responsibility for Annual Financial Statements

Section 164 (6) of the Companies Act, 1994 (as amended) requires the Directors to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Company and the profit or loss for that period.

The Directors are responsible for the maintenance of adequate accounting records and the preparation and integrity of the financial statements and related information. The independent external auditors, Messrs Deloitte & Touche, have audited the financial statements and their report is shown on pages 6, 7 and 8.

The Directors are also responsible for the systems of internal control. These are designed to provide reasonable, but not absolute, assurance as to the reliability of the financial statements, and to adequately safeguard, verify and maintain accountability for assets, and to prevent and detect material misstatements. The systems are implemented and monitored by suitably trained personnel with an appropriate segregation of authority and duties. Nothing has come to the attention of the Directors to indicate that any material breakdown in the functioning of these controls, procedures and systems has occurred during the year under review.

The financial statements are prepared on a going concern basis except as set out under Note 3.2 to the financial statements. Nothing has come to the attention of the Directors to indicate that the Company will not remain a going concern in the foreseeable future.

In the opinion of the Directors:

the statement of profit or loss and other comprehensive income is drawn up so as to give a true and fair view of the loss of the Company for the year ended 31 December 2016;

the statement of financial position is drawn up so as to give a true and fair view of the state of affairs of the Company as at 31 December 2016;

there are reasonable grounds to believe that the Company will be able to pay its debts as and when they fall due; and the financial statements have been prepared in accordance with International Financial Reporting Standards and in the manner required by the Companies Act, 1994 (as amended).

Signed on behalf of the Board by:



CHAIRMAN

MANAGING DIRECTOR

# Independent Auditor's Report



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Zambia

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## INDEPENDENT AUDITOR'S REPORT

To the members of

ZESCO Limited

Report on the Audit of the Financial Statements

### Opinion

We have audited the financial statements of ZESCO Limited, set out on Pages 7 to 46, which comprise the statement of financial position as at 31 December 2016, the statement of profit or loss and other comprehensive income, the statement of changes in equity and the statement of cash flows for the year then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements give a true and fair view of the financial position of ZESCO Limited as at 31 December 2016, and of its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards, and in the manner required by the Companies Act, 1994 (as amended).

### Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (Part A and B), together with other ethical requirements that are relevant to our audit of the financial statements, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Other Information

The Directors are responsible for the other information. The other information comprises the Directors' Report, as required by the Companies Act, 1994 (as amended), which we obtained prior to the date of this auditor's report, and the five year financial record shown in the appendix. The other information does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance or conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained on the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### Responsibilities of the Directors for the Financial Statements

The Directors are responsible for the preparation and fair presentation of the financial statements which give a true and fair view in accordance with International Financial Reporting Standards and the requirements of the Companies Act, 1994 (as amended), and for such internal control as the Directors determine is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

Partners: C Chungu F Nchimunya AJ Tembo H Mulenga A Njovu

Associate of Deloitte Africa, a Member of Deloitte Touche Tohmatsu Limited

## Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

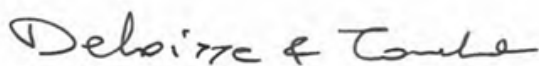
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.
- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

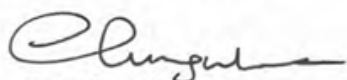
We also provide the Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

## Report on other legal requirements

Section 173 (3) of the Companies Act, 1994 (as amended) requires that in carrying out our audit, we consider and report to you on the following matter: we confirm that, in our opinion, the accounting and other records and registers have been properly kept in accordance with the Act.



DELOITTE & TOUCHE



C. CHUNGU  
PARTNER (AUD/F000292)

DATE: 16 JUNE 2016

# Financial statements

## Statement of Profit or Loss and Other Comprehensive Income

for the year ended 31 December 2016		2016	2015
		K'000	K'000
	NOTES		
REVENUE	5	8,237,828	6,425,737
Cost of sales	6	(3,887,866)	(2,385,395)
GROSS PROFIT		4,349,962	4,040,342
Other operating income	7	279,644	335,421
Other gains and losses	8	313,588	219,762
Marketing expenses		(19,401)	(21,926)
Administration expenses		(1,681,039)	(1,646,708)
Other expenses	9	(3,054,893)	(2,857,082)
Finance costs	10	(324,433)	(50,214)
(LOSS) PROFIT BEFORE TAX	11	(136,571)	19,595
Income tax credit	12	1,445,211	848,882
PROFIT AND TOTAL COMPREHENSIVE INCOME FOR THE YEAR		1,308,640	868,477

There were no items of other comprehensive income that arose during the year (2015:Nil)

# Statement of Financial Position

at 31 December 2016		2016 K'000	2015 K'000
	NOTES		
<b>ASSETS</b>			
Non current assets			
Property, plant and equipment	14	17,169,952	13,896,164
Intangible assets	15	86,085	95,143
Investments	16	1,538,032	459,659
Deferred tax asset	13	2,329,431	817,079
Loan due from a related party	18	2,769,565	3,090,111
Total non current assets		23,893,065	18,358,156
Current assets			
Inventories	17	964,979	608,005
Trade and other receivables	18	1,769,777	2,003,248
Amounts due from related parties	21	1,605,959	659,996
Cash and cash equivalents		1,788,518	2,140,409
Total current assets		6,129,233	5,411,658
<b>TOTAL ASSETS</b>		<b>30,022,298</b>	<b>23,769,814</b>
<b>EQUITY AND RESERVES</b>			
Capital and reserves			
Issued capital	19	194	194
Amount pending allotment of shares	20	2,824,924	2,824,924
Revaluation reserve		304,851	349,300
Retained earnings		4,486,090	3,109,067
Total equity		7,616,059	6,283,485
Non current liabilities			
Borrowings	23	11,150,318	9,341,755
Retirement benefit obligation	24	1,937,610	1,847,305
Capital grants and contributions	25	1,312,188	1,301,377
Deferred tax liability	13	-	-
Total non current liabilities		14,400,116	12,490,437
Current liabilities			
Trade and other payables	26	4,091,187	1,454,185
Amounts due to related parties	21	738,540	242,441
Borrowings	23	1,442,126	1,715,580
Retirement benefit obligation	24	94,912	137,317
Capital grants and contributions	25	217,351	86,485
Current tax liabilities	12	1,351,614	1,308,768
Bank overdraft	27	70,393	51,116

Total current liabilities	<b>8,006,123</b>	4,995,892
Total liabilities	<b>22,406,239</b>	17,486,329
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>30,022,298</b>	23,769,814

The responsibilities of the Company's Directors with regard to the preparation of the financial statements are set out on page 5. The financial statements on pages 7 to 46 were approved by the Board of Directors and authorised for issue on XX June 2017 and were signed on its behalf by:

for the year ended 31 December 2016	Share capital K'000	Amount Pending Allotment of Shares K'000	Revaluation reserve K'000	Retained earnings K'000	<b>Total K'000</b>
Balance at 1 January 2015	194	1,654,806	393,749	2,172,207	<b>4,220,956</b>
Total comprehensive income for year	-	-	-	868,477	<b>868,477</b>
Conversion of Government loans to equity (Note 23)	-	1,085,321	-	-	<b>1,085,321</b>
Conversion of Government grants to equity (Note 25)	-	65,910	-	-	<b>65,910</b>
Conversion of Government loans to equity	-	18,887	-	-	<b>18,887</b>
Deferred tax on revaluation	-	-	23,934	-	<b>23,934</b>
Amortisation of revaluation reserve	-	-	(68,383)	68,383	<b>-</b>
Balance at 31 December 2015	194	2,824,924	349,300	3,109,067	<b>6,283,485</b>
Total comprehensive income for year	-	-	-	1,308,640	<b>1,308,640</b>
Deferred tax on revaluation	-	-	23,934	-	<b>23,934</b>
Amortisation of revaluation reserve	-	-	(68,383)	68,383	<b>-</b>
Balance at 31 December 2016	194	2,824,924	304,851	,486,090	<b>7,616,059</b>

# Statement of Cash Flows

for the year ended 31 December 2016		2016	2015
		K'000	K'000
	NOTES		
CASH FLOWS FROM OPERATING ACTIVITIES			
(Loss) profit after tax		<b>1,308,640</b>	868,477
Adjustments for:			
- Income tax credit	12	<b>(1,445,211)</b>	(848,882)
- Interest income	7	<b>(6,371)</b>	(6,949)
- Finance costs recognised in profit and loss	10	<b>324,433</b>	50,214
- Net exchange losses recognised on borrowings	23	<b>(1,301,448)</b>	3,959,338
- (Gain) loss on disposal of property, plant and equipment		<b>(2,598)</b>	314
- Depreciation of non current assets	14	<b>457,260</b>	353,703
- Amortisation of intangible assets	15	<b>9,058</b>	7,730
- Amortisation of capital grants and contributions	25	<b>(90,756)</b>	(83,769)
- Impairment loss recognised on trade receivables	18	<b>2,723,166</b>	2,195,492
		<b>1,976,172</b>	6,495,668
Movements in working capital:			
Increase in inventory		<b>(356,974)</b>	(239,506)
Increase in trade and other receivables		<b>(2,489,694)</b>	(2,760,753)
(Increase) decrease in amounts due from related parties		<b>(945,963)</b>	87,716
Increase in trade and other payables		<b>2,637,002</b>	177,006
Increase in deferred liabilities		<b>47,900</b>	105,402
Increase in amounts due to related parties		<b>496,099</b>	111,950
Increase (decrease) in borrowings due from related party		<b>320,546</b>	(1,299,305)
Cash generated from operations		<b>1,685,087</b>	2,678,178
Interest paid		<b>(324,433)</b>	(50,214)
Income tax paid	12	<b>(361)</b>	(1,047)

for the year ended 31 December 2016		2016	2015
		K'000	K'000
Net cash generated by operating activities		<b>1,360,293</b>	2,626,917
CASH FLOWS FROM INVESTING ACTIVITIES			
Proceeds from disposal of property, plant and equipment		<b>2,845</b>	1,928
Payments for property, plant and equipment	14	<b>(3,676,743)</b>	(4,234,179)
Payment to acquire investment	16	<b>(1,078,373)</b>	(252,625)
Payment for intangible asset	15	-	(4,994)
Interest received		<b>6,371</b>	6,949
Net cash used in investing activities		<b>(4,745,899)</b>	(4,482,921)
CASH FLOWS FROM FINANCING ACTIVITIES			
Repayment of borrowings	23	<b>(1,267,682)</b>	(522,916)
Proceeds from capital grants and contributions	25	<b>177,881</b>	200,101
Proceeds from borrowings	23	<b>4,104,239</b>	2,783,692
Repayment of lease finance		-	(6,138)
Net cash generated from financing activities		<b>3,014,438</b>	2,454,739
Net (decrease) increase in cash and cash equivalents		<b>(371,168)</b>	598,735
Cash and cash equivalents at the beginning of the year		<b>2,089,293</b>	1,490,558

# Notes to the Financial Statements

## for the year ended 31 December 2016

### 1. GENERAL INFORMATION

ZESCO Limited (the "Company") is a limited Company incorporated and domiciled in Zambia. The address of its registered office and principal place of business is shown in the report of the Directors on page 1. The principal activity of the Company continued to be the generation, transmission, distribution and supply of electricity locally and for export in the region.

### 2. ADOPTION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRSs)

#### 2.1 Amendments to IFRSs that are mandatorily effective for the current year

In the current year, the Company has applied a number of amendments to IFRSs issued by the International Accounting Standards Board (IASB) that are mandatorily effective for an accounting period that begins on or after 1 January 2015:

- Amendments to IAS 1 Disclosure Initiative
- Amendments to IAS 16 and IAS 38 Clarification of Acceptable Methods of Depreciation
- Annual Improvements to IFRSs 2010 - 2012 Cycle and 2011 – 2013 Cycle and Amortisation
- Annual Improvements to IFRSs 2012 - 2014 Cycle

#### 2.2 Standards and Interpretations in issue, not yet effective

At the date of authorisation of these financial statements, the following relevant Standards and Interpretations were in issue but not yet effective:

Effective date	Standard, Amendment or Interpretation
1 January 2018	IFRS 9 Financial Instruments  The new standard modifies the classification and measurement of certain classes of financial assets and liabilities. The most significant changes are the expected loss model for the impairment of financial assets and to rationalise from four to two primary categories of financial assets. The Directors are currently evaluating the impact this new standard may have on the financial statements.
1 January 2018	IFRS 15 Revenue from Contracts with Customers  IFRS 15 specifies how and when an IFRS reporter will recognise revenue as well as requiring such entities to provide users of financial statements with more informative, relevant disclosures. The core principle of IFRS 15 is that an entity will recognise revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Directors are currently evaluating the impact this new standard may have on the financial statements.
1 January 2019	IFRS 16 Leases  IFRS 16 provides a comprehensive model for identification of lease arrangements and their treatment in the financial statements of both lessees and lessors. It supersedes IAS 17 Leases and its associated interpretative guidance. The Directors are currently evaluating the impact this new standard may have on the financial statements.

The Directors anticipate that the adoption of these standards in the future will have no significant impact on the financial statements of the Company

### 3. SIGNIFICANT ACCOUNTING POLICIES

#### 3.1 Statement of compliance

The financial statements have been prepared in accordance with International Financial Reporting Standards.

#### 3.2 Basis of preparation

The Directors have, at the time of approving the financial statements, a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. Thus they continue to adopt the going concern basis of accounting in preparing the financial statements.

Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Company takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of IFRS 2, leasing transactions that are within the scope of IAS 17, and measurements that have some similarities to fair value but are not fair value, such as realisable value in IAS 2 or value in use in IAS 36.

In addition, for financial reporting purposes, fair value measurements are categorised into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the asset or liability.

Items included in the financial statements are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The financial statements are presented in Zambian Kwacha (K).

### 3.3 Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable for the sale/provision of goods and services in the ordinary course of the company's activities. Revenue is shown net of value-added tax (VAT), excise duties, discounts and rebates.

The Company recognises revenue when the amount of revenue, and the associated costs incurred or to be incurred, can be reliably measured, it is probable that future economic benefits will flow to the company and when specific criteria have been met for each of the company's activities as

described below. The amount of revenue is not considered to be reliably measurable until all contingencies relating to the sale have been resolved. The company bases its estimates on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

#### Sale of goods

Sale of goods is recognised when significant risks and rewards of ownership have passed and the collectability of the related receivable is reasonably assured. Electricity revenue is recognised when electricity is consumed by the user except in the case of prepaid electricity which is recognised when purchased by the customer.

#### Sale of services

Sale of services is recognised in the reporting period in which the services are rendered, by reference to the stage of completion of the specific transaction assessed on the basis of the actual service provided as a proportion of the total services to be provided.

### 3.4 Interest income

Interest revenue is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount.

### 3.5 Rental income

Rental income from operating leases is recognised on a straightline basis over the term of the relevant lease.

### 3.6 Fibre income

Fibre income is recognised on the accrual basis in accordance with the substance of the agreement. Connection fees are recognised on the date of activation of the service. Access charges are recognised in the period to which it relates.

### 3.7 Inventories

All Inventories are stated at the lower of cost and net realisable value. Cost is calculated on a weighted average basis and includes all expenditure incurred in bringing the inventories to their present location and condition. Net realisable value is the price at which inventory can be realised in the normal course of business and takes into account all directly related costs to be incurred in marketing, selling and distribution. Provision is made for obsolete, slow moving and defective inventories.

### 3.8 Foreign currencies

In preparing the financial statements of the entity, transactions in currencies other than the entity's functional currency (foreign currencies) are recognised at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences on monetary items are recognised in profit or loss in the period in which they arise except for exchange differences:

- on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings; and
- arising on foreign currency transactions are posted to the profit and loss in the period they arise; and

### 3.9 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalisation. All other borrowing costs are recognised in profit or loss in the period in which they are incurred.

All other borrowing costs are recognised in profit or loss in the financial period in which they are incurred.

### 3.10 Capital grants and contributions

Capital grants are not recognised until there is reasonable assurance that the Company will comply with the conditions attached to them and that the grants will be received

Capital grants are recognised in profit or loss on a systematic basis over the periods in which the Company recognises as expenses the related costs for which the grants are intended to compensate. Specifically, government grants whose primary condition is that the Company should purchase,

construct or otherwise acquire non-current assets are recognised as deferred revenue in the statement of financial position and transferred to profit or loss on a systematic and rational basis over the useful lives of the related assets.

Capital contributions represent money received from electricity consumers towards the capital cost of connections. Capital contributions are deferred and credited to profit or loss in equal annual instalments over the expected useful lives of the related assets.

### 3.11 Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

#### (i) Current tax

The tax currently payable is based on taxable profit for the financial period. Taxable profit differs from profit as reported in profit or loss because of items of income or expense that are taxable or deductible in other financial periods and items that are never taxable or deductible. The Company's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

#### (ii) Deferred tax

Deferred tax is recognised on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognised for all taxable temporary differences. Deferred tax assets are generally recognised for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilised.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realised, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current

tax liabilities and when they relate to income taxes levied by the same taxation authority and the Company intends to settle its current tax assets and liabilities on a net basis.

#### (iii) Current and deferred tax for the financial period

Current and deferred tax are recognised in profit or loss, except when they relate to items that are recognised in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognised in profit or loss or directly in equity respectively.

### 3.12 Property, plant and equipment

Property, plant and equipment are stated in the statement of financial position at their cost or revalued amounts, being the fair value at the date of revaluation, less any subsequent accumulated depreciation and subsequent impairment losses.

Depreciation is charged to write off the cost or revalued amounts of property, plant and equipment over their estimated useful lives, on a straight line basis, over the following number of years:

Electricity generation:	
Dams and headrace tunnels	50 years
Other civil engineering works, buildings, plant and machinery	35 years
Diesel generation:	
Civil engineering works, buildings, plant and machinery	15 years
Transmission and distribution systems	15 - 25 years
Other buildings	45 years
Vehicles, furniture	8 years

Capital work in progress is not depreciated.

Depreciation is recognised so as to write off the cost or revalued amounts of assets less their residual values over their useful lives, using the straight-line method. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

Properties in the course of construction for production, supply or administrative purposes are carried at cost, less any recognised impairment loss. Cost includes professional fees and, for qualifying assets, borrowing costs capitalised in accordance with the Company's accounting policy. Such properties are classified to the appropriate categories of property and equipment when completed and ready for intended use. Depreciation of these assets, on the same basis as other property assets, commences when the assets are ready for their intended use.

Management has estimated the residual values of the property, plant and equipment at 31 December 2016 to be insignificant and for purpose of the financial statements have been assigned a nil value.

Repairs and maintenance expenses are charged to profit or loss during the period in which they are incurred. The cost of major renovations is included in the carrying amount of the asset when it is probable that future economic benefits in excess of the originally assessed standard of performance of the existing asset will flow to the Company.

An item of property and equipment is derecognised upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognised in profit or loss.

The surplus arising on revaluation of tangible assets is credited to a non-distributable reserve. Decreases that offset previous revaluations of the same asset are charged against the revaluation reserve. All other decreases are charged to the statement of comprehensive income. Each year the difference between depreciation based on the revalued carrying amount of the asset (the depreciation charged to the statement of comprehensive income) and depreciation based on the asset's original cost is transferred from the revaluation reserve to revenue reserves. On disposal of revalued assets, amounts in the revaluation reserve relating to that asset are transferred to revenue reserves.

Assets held under finance leases are depreciated over their useful lives on the same basis as owned assets. However, when there is no reasonable certainty that ownership will be obtained by the end of the lease term, assets are depreciated over the shorter of the lease term and their useful lives.

### 3.13 Leases

Leases are classified as finance leases whenever the terms of the lease transfer

substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

### 3.13.1 Finance leases

Assets held under finance leases are initially recognised as assets of the Company at their fair value at the inception of the lease or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the statement of financial position as a finance lease obligation.

Lease payments are apportioned between finance expenses and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognised immediately in profit or loss, unless they are directly attributable to qualifying assets, in which case they are capitalised in accordance with the Company's general policy on borrowing costs. Contingent rentals are recognised as expenses in the periods in which they are incurred.

### 3.13.2 Operating leases

Operating lease payments are recognised as an expense on a straight-line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. Contingent rentals arising under operating leases are recognised as an expense in the period in which they are incurred.

In the event that lease incentives are received to enter into operating leases, such incentives are recognised as a liability. The aggregate benefit of incentives is recognised as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

### 3.14 Intangible assets

Intangible assets with finite useful lives that are acquired separately are carried at cost less accumulated amortisation and accumulated impairment losses. Amortisation is recognised on a straight-line basis over their estimated useful life. The estimated useful life and amortisation method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

An intangible asset is derecognised on disposal, or when no future economic benefits are expected from use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognised in profit or loss when the asset is derecognised.

### 3.15 Impairment of tangible and intangible assets

At the end of each reporting period the Company reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where it is not possible to estimate the recoverable amount of an individual asset the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount the carrying amount of the asset (cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised immediately in profit or loss unless the relevant asset is carried at a revalued amount, in which case the impairment loss is treated as a revaluation decrease.

When an impairment loss subsequently reverses, the carrying amount of the asset (cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (cash-generating unit) in prior financial periods. A reversal of an impairment loss is recognised immediately in profit or loss unless the relevant asset is carried at a revalued amount, in which case the reversal of the impairment loss is treated as a revaluation increase.

### 3.16 Financial instruments

Financial assets and financial liabilities are recognised when a Company becomes a party to the contractual provisions of the instrument.

#### i. Financial assets

The Company classifies its financial assets in the categories of receivables. Management determines the classification of its investments at initial recognition.

#### (a) Effective interest rate method

The effective interest method is a method

of calculating the amortised cost of a financial instrument and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial instrument, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

#### (b) Receivables

Receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Receivables (including trade and other receivables, bank balances and cash) are measured at amortised cost less any impairment.

Receivables are stated after the deduction of amounts which, in the opinion of the Directors, are required for specific provision. Specific provisions are made against identified doubtful receivables.

#### (c) Impairment of financial assets

Financial assets that are measured at amortised cost are assessed for impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial assets, the estimated future cash flows of the asset have been affected.

Objective evidence of impairment could include:

- i. significant financial difficulty of the issuer or counterparty; or
- ii. breach of contract, such as a default or delinquency in interest or principal payments; or
- iii. it becoming probable that the borrower will enter bankruptcy or financial re-organisation; or
- iv. the disappearance of an active market for that financial asset because of financial difficulties.

For certain categories of financial asset, such as receivables, assets that are assessed not to be impaired individually are, in addition, assessed for impairment on a collective basis. Objective evidence of impairment for a portfolio of receivables could include the Company's past experience of collecting payments, an increase in the number of delayed payments in the portfolio past the average credit period of 60 days, as well as observable changes in national or local economic conditions that correlate with default on receivables.

The amount of the impairment loss recognised is the difference between the

asset's carrying amount and the present value of estimated future cash flows reflecting the amount of collateral and guarantee, discounted at the financial asset's original effective interest rate.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade receivables, where the carrying amount is reduced through the use of an allowance account. When a receivable is considered uncollectible, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance account are recognised in profit or loss.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortised cost would have been had the impairment not been recognised.

#### **d) Derecognition of a financial asset**

The Company derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Company neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Company recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Company retains substantially all the risks and rewards of ownership of a transferred financial asset, the Company continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On derecognition of a financial asset measured at amortised cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognised in the statement of comprehensive income.

#### **ii. Financial liabilities and equity instruments issued by the Company**

Financial liabilities are classified as trade and other payables, other liabilities and amounts due to related parties.

Trade and other payables and other liabilities are initially measured at fair value and are subsequently measured at amortised cost using the effective interest method

The effective interest method is a method

of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

#### **(a) Equity instruments**

An equity instrument is any contract that evidences a residual interest in the assets of the Company after deducting all of its liabilities. Equity instruments are recorded at proceeds received, net of direct issue costs.

#### **(b) Bank borrowings and overdrafts**

Interest bearing and overdrafts are initially measured at fair value, and are subsequently measured at amortised cost, using the effective interest rate method. Any difference between the proceeds (net of transaction costs) and the settlement or redemption of borrowings is recognised over the terms of the borrowings in accordance with company's accounting policy for borrowing costs.

#### **(c) Other financial liabilities**

Other financial liabilities are initially measured at fair value, net of transaction costs. Other financial liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

#### **(d) Derecognition of financial liabilities**

The Company derecognises financial liabilities when, and only when, the Company's obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable is recognised in profit or loss.

#### **3.17 Investments**

IAS 27 Separate Financial Statements contains accounting and disclosure requirements for investments in subsidiaries, joint ventures and associates when an entity prepares separate financial statements. The Standard requires an entity preparing separate financial statements to account for those investments at cost or in accordance

with IFRS 9 Financial Instruments.

The investments represent the equity investments of the Company held at cost in the subsidiaries. These investments are carried at cost as there is no reliable measure of the fair value and regularly reviewed for impairment at each reporting date.

#### **3.18 Provisions**

Provisions are recognised when the Company has a present obligation (legal or constructive) as a result of a past event, it is probable that the Company will be required to settle the obligation, and which a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the statement of comprehensive income date, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, the receivable is recognised as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

#### **3.19 Retirement benefits and other employee benefits**

##### **(i) Defined benefit plan**

For defined benefit retirement plans, the cost of providing benefits is determined using the projected unit credit method, with actuarial valuations being carried out at the end of each annual reporting period. Remeasurement, comprising actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the statement of financial position with a charge or credit recognised in other comprehensive income in the period in which they occur. Remeasurement recognised in other comprehensive income is reflected immediately in accumulated funds and will not be reclassified to income or expenditure. Past service cost is recognised in income or expenditure in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are categorised as follows:

- Service cost (including current service cost, past service cost, as well as gains and losses on curtailments and settlements).
- Net interest expense or income.

- Remeasurement.

The retirement benefit obligation recognised in the statement of financial position represents the actual deficit or surplus in the company's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

#### (ii) Defined contribution plan

The Company and all its employees contribute to the National Pension Scheme, which is a defined contribution scheme. A defined contribution plan is a retirement benefit plan under which the Company pays fixed contributions into a separate entity. The Company has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods.

#### (iii) Termination benefits

Employees on non-fixed term contract of employment (commonly known as "Permanent and Pensionable" employment) are entitled also to long service termination benefits. The benefits are computed in accordance with accrued service period and the terminal pay. Provision is raised in profit or loss on a monthly basis.

A liability for a termination benefit is recognised at the earlier of when the entity can no longer withdraw the offer of the termination benefit and when the entity recognises any related restructuring costs.

#### (iv) Other entitlements

Employee entitlements to annual leave and contract gratuity are recognised when they accrue to employees. Accrued leave pay and gratuity is accounted for in income or expenditure as it arises.

### 4. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

The preparation of financial statements in conformity with the Company's accounting policies which are described in note 3, the Directors are required to make judgements, estimates and assumptions about the carrying amount of assets and liabilities that are readily apparent from other sources. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results may differ from these estimates.

Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

#### 4.1 Critical judgments in applying accounting policies

##### a) Income taxes

There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. The Company recognises liabilities for anticipated tax based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact on the income tax and deferred tax provisions in the period in which such determination is made.

##### b) Impairment of trade receivables

The Company reviews its receivables to assess impairment on a regular basis. The Company's credit risk is primarily attributable to its receivables. In determining whether impairment losses should be reported in profit or loss, the Company makes judgements as to whether there is any observable data indicating that there is a measurable decrease in the estimated future cash flows. Accordingly, an allowance for impairment is made where there is an identified loss event or condition which, based on previous experience, is evidence of a reduction in the recoverability of the cash flows.

#### 4.1 Critical judgments in applying accounting policies

##### (c) Provision for obsolete inventory

The Company reviews its inventory to assess loss on account of obsolescence on a regular basis. In determining whether provision for obsolescence should be recorded in profit or loss, the Company makes judgements as to whether there is any observable data indicating that there is any future saleability of the product and the net realizable value for such product. Accordingly, provision for obsolescence is made where the net realizable value is less than cost based on best estimates by the management, ageing of inventories and historical movement of the inventory.

#### 4.2 Key sources of estimation uncertainty

The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities

within the next financial period.

- (a) Estimated useful lives and residual values of property, plant and equipment.

The Company's management determines the estimated useful lives and related depreciation charge for its items of property, plant and equipment on an annual basis. The Company has carried out a review of the residual values and useful lives of property, plant and equipment as at 31 December 2016 and the management has not highlighted any requirement for an adjustment to the residual lives and remaining useful lives if the assets for the current or future periods.

##### (b) Contingencies

Appropriate recognition and disclosure of contingent liabilities is made regarding litigation, tax matters and environmental issues. Accounting for contingencies requires significant judgement by management regarding the estimated probabilities and ranges of exposure to potential loss. The evaluation of these contingencies is performed by various specialists inside and outside of the Company. The Company's assessment of the Company's exposure to contingencies could change as new developments occur or more information.

##### (c) Impairment of investments in joint ventures and associates

Investments in joint ventures and associates are reviewed for impairment at the reporting date. Determining whether an investment balance is impaired requires an estimation of the value in use of the joint venture or associate. The value in use calculation requires an estimate to be made of the timing and amount of future cash flows expected to arise from the joint venture or associate and the application of a suitable discount rate in order to calculate the present value. The discount rates used are based on the Company's weighted average cost of capital adjusted to reflect the specific economic environment of the joint venture or associate.

##### (d) Actuarial valuation assumptions

Actuarial assumptions made in determining the present obligation of retirement benefits.

## 5. Revenue

	2016	2015
	K'000	K'000
Analysis of the Company's revenue for the financial year is as follows by customer sector:		
Mining	5,595,447	3,869,847
Residential	1,152,414	1,082,961
Industrial and agricultural	866,874	622,474
Exports	597,838	832,220
Commercial (retail outlets)	25,255	18,235
	8,237,828	6,425,737

## 6. Cost of Sales

Local purchases	1,388,611	641,948
Emergency power imports (financed by Government)	797,283	263,564
Direct labour costs	728,417	678,859
Maintenance costs	482,997	440,123
Power imports (internally financed)	263,503	247,429
Generation water usage costs	93,643	35,566
Local wheeling charges	83,715	70,198
Export wheeling charges	49,696	7,708
	3,887,866	2,385,395

The Company augments its sources of power supply with emergency power that is purchased at a premium as a result of the significant reduction in the generation of electricity at Kariba North Bank and Kafue Gorge Power Stations due to low water levels. During the year the Government disbursed a total of K1 billion (2015: K352 million) towards emergency power purchases included in net import costs of power. The receipts from Government are amortised to profit or loss to match the emergency power purchases charged to profit or loss.

## 7. Other Operating Income

Sundry income	85,944	156,635
Amortisation of capital grants and contributions (note 25)	90,756	83,759
Fibrecom income	78,578	65,827
Wheeling income	16,080	20,919
Interest income	6,371	6,949
Rental income	1,914	1,332
	279,644	335,421

Net exchange gains	310,990	220,076
Gain (Loss) on disposal of property, plant and equipment	2,598	(314)
	313,588	219,762

The Zambian Kwacha depreciated against the US Dollar and other major convertible foreign currencies during the year.

The impact of the depreciation of the Zambian Kwacha during the year is that the Company recorded significant exchange losses on its foreign currency denominated liabilities.

The table below illustrates the movements in the US Dollar exchange rates during the period:

	Mid – market exchange rate as at 1 January 2016	Mid – market exchange rate as at 31 December 2016	Average depreciation during the year
Currency			
US Dollar (1 US\$ = )	K10.994	K9.853	-10%

## 9. Other Expenses

Provision for bad debts	2,264,847	2,377,365
Other expenses	790,046	479,717
	3,054,893	2,857,082

## 10. Finance Costs

These comprise of the following:		
Interest paid on long-term loans	309,514	40,620
Interest paid on overdraft	14,919	9,594
Finance charges	324,433	50,214

## 11. Profit Before Tax

(Loss) profit before tax is stated after crediting:

				2016 K'000	2015 K'000
Net exchange gains and losses (note 8)	2,264,847	220,076	2015/2016 losses available until 2020	3,089,940	2,974,607
Amortisation of capital grants and capital contributions	90,756	83,759			
Interest income	6,371	6,949	Included under current liabilities:		
Gain on disposal of property, plant and equipment and after charging:	790,046	-	Arising during the year	43,207	713,185
Employee benefits	1,214,721	1,315,740	Payable in respect of prior year	1,308,768	596,630
Depreciation and amortisation (note 14 and 15)	466,318	361,432		1,351,975	1,309,815
Finance costs (Note 10)	324,433	50,214	Paid in year	(361)	(1,047)
Pension costs	80,180	79,199	Payable at end of year	1,351,614	1,308,768
Directors' fees					
- in connection with the management of the Company	11,965	11,017	Reconciliation of tax charge		
- as Directors of the Company	3,097	755	The total income tax expense for the year can be reconciled to the accounting profit as follows:		
Operating lease rental	7,880	6,314	Profit before tax	(136,571)	19,595
Donations	3,369	1,688			
Loss on disposal of property, plant and equipment	-	314	Applicable tax rate of 35%	(47,800)	6,858
Income tax charge at 35%			Permanent differences:		
Deferred taxation (note 13)	(1,488,418)	(1,562,067)	- Capital exchange gains	(1,442,417)	(874,477)
Income tax charge	43,207	713,185	- Other disallowable items	45,006	18,737
Income tax (credit) charge	(1,445,211)	(848,882)		(1,445,211)	(848,882)

Subject to agreement with the Zambia Revenue Authority, the Company had estimated tax losses of K3.1 billion (2015: K3.0 billion) which are available for carry forward for a period of 5 years from the year in which they arose and for set off against future taxable profits. The cumulative tax losses comprise:

### 13 Deferred Tax

At beginning of year	(817,079)	768,922
Charge to equity	(23,934)	(23,934)
Credit to profit or loss for the year (Note 12)	(1,488,418)	(1,562,067)
At end of year	(2,329,431)	(817,079)

The following are the major deferred tax (assets) liabilities recognised by the Company and their movements in the year

				2016 'K'000	2015 'K'000
2015	Net Tax losses K'000	Accelerated capital allowances K'000	Revaluation surplus K'000	Provisions and other K'000	Total K'000
At beginning of year	-	857,572	212,018	(300,668)	768,922
(Credit) charge to profit or loss	(1,041,113)	284,014	-	(804,968)	(1,562,067)
Charge to equity	-	-	(23,934)	-	(23,934)
At end of year	(1,041,113)	1,141,586	188,084	(1,105,636)	(817,079)
2016	Net Tax losses K'000	Accelerated capital allowances K'000	Revaluation surplus K'000	Provisions and other K'000	<b>Total K'000</b>
At beginning of year	(1,041,113)	1,141,586	188,084	(1,105,636)	(817,079)
(Credit) charge to profit or loss	(40,367)	582,839	-	(2,030,890)	(1,488,418)
Charge to equity	-	-	(23,934)	-	(23,934)
At end of year	(1,081,480)	1,724,425	164,150	(3,136,526)	(2,329,431)

## 14 Property, Plant And Equipment

	Civil engineering works and buildings	Generation plant, vehicles equipment	Transmission and distribution systems	Capital work in progress	Total
	K'000	K'000	K'000	K'000	K'000
Cost or valuation					
At 1 January 2015	255,446	881,904	5,973,627	5,484,971	<b>12,595,948</b>
Additions	5,201	73,386	-	4,155,592	<b>4,234,179</b>
Transfers from Capital work in progress	-	-	1,742,221	(1,742,221)	-
Disposals	-	(4,588)	-	-	<b>(4,588)</b>
At 31 December 2015	260,647	950,702	7,715,848	7,898,342	<b>16,825,539</b>
Additions	21,952	148,190	16,518	3,490,083	<b>3,676,743</b>
Transfer of assets from Rural Electrification Authority	-	-	54,552	-	<b>54,552</b>
Transfers from Capital work in progress	7,306	-	3,807,187	(3,814,493)	-
Disposals	-	(3,066)	-	-	<b>(3,066)</b>
At 31 December 2016	289,905	1,095,826	11,594,105	7,573,932	<b>20,553,768</b>
Cost	84,272	726,199	10,312,494	7,573,932	<b>18,696,897</b>
Valuation (1996)	51,779	177,987	1,281,611	-	<b>1,511,377</b>
Valuation (2001)	153,854	191,640	-	-	<b>345,494</b>
At 31 December 2015	289,905	1,095,826	11,594,105	7,573,932	<b>20,553,768</b>
DEPRECIATION					
At 1 January 2015	60,134	557,366	1,960,518	-	<b>2,578,018</b>
Charge for period	5,106	74,006	274,591	-	<b>353,703</b>
Eliminated on disposal	-	(2,346)	-	-	<b>(2,346)</b>
At 31 December 2015	65,240	629,026	2,235,109	-	<b>2,929,375</b>
Charge for year	5,302	88,677	363,281	-	<b>457,260</b>
Eliminated on disposal	-	(2,819)	-	-	<b>(2,819)</b>
At 31 December 2016	70,542	714,884	2,598,390	-	<b>3,383,816</b>
CARRYING AMOUNT					
At 31 December 2016	219,363	380,942	8,995,715	7,573,932	<b>17,169,952</b>
At 31 December 2015	195,407	321,676	5,480,739	7,898,342	<b>13,896,164</b>

Transfers to ZESCO represent completed and commissioned projects that are transferred by Rural Electrification Authority to ZESCO at no consideration as a grant from the Government Republic of Zambia.

Certain land and buildings were revalued on the basis of open market value for existing use by independent valuers as at 31 March 1996 and 31 March 2001. Surplus on valuation was transferred to revaluation reserve.

Certain of the generation plant, civil works and transmission and distribution systems were revalued as at 31 March 1996 and 31 March 2001 on the basis of depreciated replacement cost by independent valuers. Surplus on valuation was transferred to revaluation reserve.

"IAS16: Property, plant and equipment paragraph 31 requires that once the entity has adopted the revaluation model, as is the case for the Company, "revaluations shall be made with sufficient regularity". Best practice requires that "sufficient regularity" is of a period of not more than five years.

Accordingly the Company has not complied with this requirement, and the Directors commit to ensure this position is regularised as early as possible."

The Directors view is that the fair value of the property, plant and equipment can only be estimated once the revaluation is completed.

In the opinion of the Directors there are no major components of

Property, Plant and equipment which have different useful lives that would require to be depreciated separately and allocated separate residual values.

In accordance with Section 193 of the Companies Act, 1994, the register of Land and Buildings is available for inspection by members and their duly authorised agents at the Registered records office of the Company.

#### 15 Intangible Asset

	Civil engineering works and buildings K'000	Generation plant, vehicles equipment K'000	Transmission and distribution systems K'000	Capital work in progress K'000	<b>Total K'000</b>
Cost or valuation					
At 1 January 2015	255,446	881,904	5,973,627	5,484,971	<b>12,595,948</b>
Additions	5,201	73,386	-	4,155,592	<b>4,234,179</b>
Transfers from Capital work in progress	-	-	1,742,221	(1,742,221)	<b>-</b>
Disposals	-	(4,588)	-	-	<b>(4,588)</b>
At 31 December 2015	260,647	950,702	7,715,848	7,898,342	<b>16,825,539</b>
Additions	21,952	148,190	16,518	3,490,083	<b>3,676,743</b>
Transfer of assets from Rural Electrification Authority	-	-	54,552	-	<b>54,552</b>
Transfers from Capital work in progress	7,306	-	3,807,187	(3,814,493)	<b>-</b>
Disposals	-	(3,066)	-	-	<b>(3,066)</b>
At 31 December 2016	289,905	1,095,826	11,594,105	7,573,932	<b>20,553,768</b>
Cost	84,272	726,199	10,312,494	7,573,932	<b>18,696,897</b>
Valuation (1996)	51,779	177,987	1,281,611	-	<b>1,511,377</b>
Valuation (2001)	153,854	191,640	-	-	<b>345,494</b>
At 31 December 2015	289,905	1,095,826	11,594,105	7,573,932	<b>20,553,768</b>
DEPRECIATION					
At 1 January 2015	60,134	557,366	1,960,518	-	<b>2,578,018</b>
Charge for period	5,106	74,006	274,591	-	<b>353,703</b>
Eliminated on disposal	-	(2,346)	-	-	<b>(2,346)</b>
At 31 December 2015	65,240	629,026	2,235,109	-	<b>2,929,375</b>
Charge for year	5,302	88,677	363,281	-	<b>457,260</b>
Eliminated on disposal	-	(2,819)	-	-	<b>(2,819)</b>
At 31 December 2016	70,542	714,884	2,598,390	-	<b>3,383,816</b>
CARRYING AMOUNT					
At 31 December 2016	219,363	380,942	8,995,715	7,573,932	<b>17,169,952</b>
At 31 December 2015	195,407	321,676	5,480,739	7,898,342	<b>13,896,164</b>

## 15 Intangible Asset

	2016 K'000	2015 K'000
Cost		
At beginning of year	<b>143,448</b>	138,454
Acquisitions	-	4,994
At end of year	<b>143,448</b>	143,448
Accumulated amortisation		
At beginning of year	<b>(48,305)</b>	(40,575)
Amortisation expense	<b>(9,058)</b>	(7,730)
Balance at 31 December	<b>(57,363)</b>	(48,305)
Carrying amounts:		
At end of year	<b>86,085</b>	95,143
The following useful lives are used in the calculation of amortisation:		
Oracle software	<b>4 years</b>	
Business information system	<b>20 years</b>	

### Significant intangible assets

The intangible assets consists of oracle software and the business information systems.

Additions for the year included the cost of the upgrade to the Oracle software.

## 16 Investments

	2016 K'000	2015 K'000
<i>These represent the investment interest in the following companies at cost:</i>		
Kafue Gorge Lower Power Limited	<b>1,348,384</b>	256,348
Itezhi tezhi Power Corporation Limited (ITTPC)	<b>163,132</b>	185,600
Elsewedy Electric Zambia Limited	<b>11,351</b>	11,351
Zambia Electrometer Limited	<b>6,350</b>	6,350
ERB Strategic Reserve Fund	<b>8,804</b>	-
Kariba North Bank Extension Power Corporation Limited	<b>10</b>	10
	<b>1,538,032</b>	459,659
<i>The movement in the investment during the year was as follows:</i>		
Balance at beginning of year	<b>459,659</b>	207,034
Additions during the year	<b>1,078,373</b>	252,625
Balance at end of the year	<b>1,538,032</b>	459,659

### Kafue Gorge Lower Power Development Corporation

Zesco Limited holds 100% shares in Kafue Gorge Lower Power Development. The investment is carried at cost. The entity acquired 1,000,000 shares. This is therefore a subsidiary.

### Kariba North Bank Extension Power Corporation

Zesco Limited holds 100% shares in Kariba North Bank Extension Power Corporation. The investment is carried at cost. The entity's shareholding remained unchanged at 10,000,000 shares. This is therefore a subsidiary.

### Itezhi tezhi Power Corporation Limited (ITTPC)

ZESCO Limited holds 50% shares in Itezhi tezhi Power Corporation Limited, co-owned with Tata Africa Holdings of India which owns 50% shareholding representing 2,500,000 shares. Zesco Limited is therefore in a joint venture with Tata Africa Holdings. The investment is carried at cost.

### Elsewedy Electric Zambia Limited

ZESCO Limited holds 40% shares in Elsewedy Electric Zambia Limited. The investment is carried at cost. The entity's shareholding remained unchanged at 2,000,000 shares. This is an associate of Zesco Limited.

**Zambia Electrometer Limited**

ZESCO Limited holds 40% shares in Zambia Electrometer Limited. The investment is carried at cost. The entity's shareholding remained unchanged at 1,000,000 shares. This is an associate of Zesco Limited.

**ERB Strategic Reserve Fund**

In accordance with section 20(2)(c) of the Energy Regulation Act, chapter 436 of the laws of Zambia, ZESCO Limited is required to make contributions based on 1% of the additional gross revenue on the tariff increment awarded to it by Energy Regulation Board on the 1 July 2014. The Fund is planned to be used for developmental projects in the energy sector. ZESCO Limited is currently the sole contributor to the fund of which contributions began in the period under review. The Statutory Instrument to guide the strategic reserve fund management is currently still work in progress.

These financial statements are for the parent company only and are prepared in accordance with IAS 27 Separate financial statements. The subsidiaries, associates and joint ventures will be consolidated in the group financial statements.

**17 Inventory**

	2016	2015
	K'000	K'000
Materials	811,583	517,174
Goods in transit	138,422	81,271
Fuel and lubricants	10,243	8,995
Spares	7,008	7,427
	967,255	614,867
Allowance for obsolescence	(2,276)	(6,862)
	964,979	608,005

The cost of inventories recognised as an expense during the year was K214 million (2015: K176 million).

Inventories are disclosed net of provision for obsolete stock amounting to K2.3 million (2015: K6.9 million).

**17 Inventory**

	2016	2015
	K'000	K'000
The balance comprises:		
Gross trade receivables	6,463,624	4,316,413
Allowance for doubtful debts	(5,343,741)	(2,620,575)
	1,119,883	1,695,838
Other receivables		
Other receivables	722,638	649,286
Staff receivables	97,704	105,019
Allowance for doubtful debts	(170,449)	(446,895)
	649,893	307,410
Total trade and other receivables	1,769,777	2,003,248

The movement in allowance for doubtful trade receivables is as follows:

Balance at beginning of year	2,620,575	686,484
Impairment losses recognised on trade receivables	2,723,166	1,934,091
At end of the year	5,343,741	2,620,575

The movement in allowance for doubtful debts for other receivables is as follows:

Balance at beginning of year	446,895	185,494
Impairment losses recognised on other receivables	(276,446)	261,401
At end of the year	170,449	446,895

The average credit period on sales of services is 30 days. Trade receivables over 90 days are provided for based on estimated irrecoverable amounts from the sale of services, determined by reference to past default experience.

Ageing of past due but not impaired trade receivables

30 - 60 days	65,827	24,900
60 - 90 days	349,972	407,424
Over 90 days	820,709	1,045,003
	1,236,508	1,477,327

Trade receivables disclosed above include amounts that are past due at the end of the reporting period for which the Company has not recognised an allowance for doubtful debts because there has been no significant change in credit quality and are still considered recoverable.

In determining the recoverability of trade receivables, the Company considers any change in the credit quality of the trade receivable from the date credit was initially granted up to the reporting date. The Directors believe that there is no further credit provision required for doubtful debts.

Penalties are charged for late payment on mining customers. Performance of trade debtors are reviewed by management on an on going basis.

## 15 Share Capital

Authorised		
200,000,000 ordinary shares of K0.002 each	<b>400</b>	400
Issued and fully paid		
96,894,542 ordinary shares of K0.002 each	<b>194</b>	194

## 16 Amounts Pending Allotment of Shares

Shares pending allotment (a)	<b>21</b>	21
Shares pending allotment (b)	<b>1,654,785</b>	1,654,785
Shares pending allotment (c)	<b>1,170,118</b>	1,170,118
	<b>2,824,924</b>	2,824,924

- The amount was received from Zambia Industrial and Mining Corporation Limited (In Liquidation) in 2003.
- The amount was received 4 February 2013 from the Ministry of Finance as a recapitalisation to fund the development of Kafue Gorge Lower Hydro Power Station (US\$ 186 million) and Distribution development projects (US\$69 million) and K276 million for the development of small hydro power stations and the Zambia power rehabilitation project.

The Government as shareholder, has confirmed that no repayment will be required for these amounts. However, the requirement is for the funds to be utilised on the intended projects as set out above. In accordance with IAS 32 paragraph 16, the funds fall to be treated as share capital.

- The Government as shareholder, on the 28 December 2015 approved the conversion of on-lent loans in ZESCO Limited to equity amounting to US\$156 million or K1.1 billion.

## 21 Related Party Transactions

The Company is a wholly owned subsidiary of Industrial Development Corporation Zambia Limited, a company incorporated in Zambia and owned and controlled by the Government of Zambia. During the year the Company carried out transactions with related parties as detailed below:

### (i) Trading transactions

The effect on the results for the year of these transactions is as follows:

Gross revenue	<b>527,179</b>	420,841
Cost of sales	<b>(258,661)</b>	(232,542)
Trading impact on Company	<b>268,518</b>	188,299

### (ii) Year end balances

#### a) Amounts due from related parties

Government of the Republic of Zambia	<b>1,192,762</b>	-
Itezhi tezhi Power Corporation Limited (ITTPC) incorporated in Zambia	<b>282,274</b>	557,532
Kariba North Bank Extension Power Corporation incorporated in Zambia	<b>128,459</b>	99,997
Zambia Electrometer Limited, incorporated in Zambia	<b>2,464</b>	2,467
	<b>1,605,959</b>	659,996

The amounts outstanding are unsecured and will be settled in cash. No guarantees have been given or received. No expense has been recognised in the year for bad or doubtful debts in respect of the amounts due from related parties. However, in the prior year the entire balance due from Government had been provided for. These amounts are as a result of the trading activities of the Company.

#### (b) Amounts due to related parties

Itezhi tezhi Power Corporation Limited (ITTPC) incorporated in Zambia	<b>479,878</b>	-
Kariba North Bank Extension Power Corporation Limited	<b>129,821</b>	170,076
Elsewedy Electric Zambia Limited	<b>92,677</b>	65,880
Zambia Electrometer Limited	<b>36,164</b>	6,485
	<b>738,540</b>	242,441

Kariba North Bank Extension Power Corporation Limited and Kafue Gorge Lower Corporation are subsidiary companies, while Itezhi Tezhi Power Corporation is a joint venture investment with 50% shareholding. Elsewedy Electric Zambia Limited and Zambia Electrometer Limited are associates.

**(c) Loan due from a related party**

At beginning of year	<b>3,090,111</b>	1,790,806
Net exchange (loss) gain	<b>154,652</b>	1,293,402
Amounts disbursed during the year	-	20,999
Reclassification of interest receivable	<b>(475,198)</b>	(15,096)
At end of the year	<b>2,769,565</b>	3,090,111
	<b>K'000</b>	K'000

The borrowing is a term loan facility of USD315.6 million to Kariba North Bank Extension, the subsidiary. The loan does not bear any interest and is repayable on demand. The loan amount is secured on property, plant and machinery of the project and is denominated in United States Dollars.

Key management remuneration	<b>11,966</b>	11,017
Directors fees	<b>3,097</b>	755
	<b>15,063</b>	11,772

**22. Operating Lease Commitments**

Rental expense on leasehold building		
Operating lease payments represent rentals payable by the Company for the building used as the Company's customer service centres.		
Minimum lease payments paid under operating leases recognised as an expenses in the year.	<b>7,880</b>	6,314

At the reporting date, the Company had no outstanding commitments under non-cancellable operating leases.

**23. Borrowings**

The movement on loan is as follows:		
At beginning of year	<b>11,057,335</b>	5,922,542
*Reclassification of loans to equity	-	(1,085,321)
Borrowings arising during the year	<b>4,104,239</b>	2,783,692
Net exchange gain (losses)	<b>(1,301,448)</b>	3,959,338
Repayments made during the year	<b>(1,267,682)</b>	(522,916)
	<b>12,592,444</b>	11,057,335

	<b>2016</b>	2015
	<b>K'000</b>	K'000
Balance at end of the year		
The borrowings are repayable as follows:		
On demand or within one year	<b>1,442,126</b>	1,715,580
Loans payable within 2 years	<b>3,436,771</b>	1,299,784
Loans payable within 3-5 years	<b>2,901,267</b>	3,429,561
Loans payable after 5 years	<b>4,812,280</b>	4,612,410
	<b>11,150,318</b>	9,341,755
	<b>12,592,444</b>	11,057,335

The borrowings are due to the following:

i	Industrial Commercial Bank of China	<b>2,805,594</b>	2,987,099
ii	China Exim Bank	<b>2,373,913</b>	2,942,964
iii	Standard Chartered Bank	<b>1,202,090</b>	-
iv	Nordea Stanbic Bank	<b>1,053,631</b>	726,040
v	DBSA - Loan Kafue Gorge Hydro Power Station	<b>985,320</b>	-
vi	India Exim Bank	<b>466,366</b>	520,344
vii	China Exim	<b>444,031</b>	481 384
viii	European Investment Bank	<b>407,473</b>	92,882
ix	GRZ/International Development Association - Kafue Muzuma	<b>375,202</b>	51 781
x	GRZ/Agence Francaise De Development	<b>338,950</b>	259,402
xi	African Development Bank	<b>291,762</b>	282 775
xii	Standard Bank	<b>262,207</b>	325,061
xiii	Stanbic Bank	<b>216,589</b>	316,013
xiv	Bank of China	<b>199,086</b>	310,980
xv	Sinohydro Bridging Loan II-Musonda Falls	<b>166,541</b>	-
xvi	Stanbic Bank	<b>161,232</b>	251,851
xvii	Zambia National Commercial Bank Plc	<b>151,366</b>	360,855
xviii	Sinohydro Corporation Limited	<b>98,532</b>	109 936
xix	European Investment Bank	<b>96,256</b>	18 778
xx	Development Bank of Southern Africa Bank 1	<b>90,993</b>	98 493
xxi	Nigeria Trust Fund	<b>58,698</b>	31 437
xxii	Barclays Bank Zambia Plc	<b>57,527</b>	99,764

xxiii	CNMC Industrial Zone Development	51,131	65,200
xxiv	GRZ/World Bank	43,479	46 918
xxv	Standard Chartered Bank	42,183	82,364
xxvi	GRZ/Japan International Cooperation Agency	42,675	38 020
xxvii	European Investment Bank 2	39,949	53,314
xxviii	GRZ/International Development Agency	37,766	12 114
xxix	GRZ/World Bank Facility 2	31,902	51,822
xxx	Standard Chartered Bank	-	439 744
		12,592,444	11,057,335

Summary of the arrangements:

#### i. Industrial Commercial Bank of China.

This is a US\$285 million loan facility obtained from Industrial Commercial Bank of China on 30 May 2011 to finance the Pensulo-Msoro-Chipata West 330 KV and Pensulo-Kasama 330 kV Transmission lines. Interest is 2.5% Margin plus LIBOR (Screen Rate), the Loan will be repaid over 10 years. The loan is denominated in United States Dollar and the balance at the reporting date was US\$284.7 million or K2.8 billion.

#### ii. China Exim Bank

This is a US\$315.6 million loan facility was obtained from China Exim Bank in October 2008 with tenure of 15 years. Interest is computed at LIBOR plus 2% per annum. The facility is secured by receivables from Copperbelt Energy Corporation and Chambeshi Mining Company. The loan is denominated in United States Dollar and as at reporting date, the loan balance was US\$240.9 million or K2.3 billion.

#### iii. Standard Chartered Bank (\$122m)

This is a US\$122 million loan facility obtained from Standard Chartered Bank in February 2016 to refinance the \$40 million bridge facility and other general corporate purposes relating to capital projects but not limited to the upgrading of Musonda falls power station, new Lusiwasi Upper 15 MW plant, construction of Chama Lundazi Transmission Line. Interest is charged at an average of 5.75% plus 6 month Libor, semi-annum and the loan (principal plus interest) will be repaid over 7 years including 2 years grace period. The loan is denominated in United States Dollar. The loan balance at the reporting date was US\$122 million or K1.2 billion.

#### iv. Nordea Stanbic Bank

This is a US\$133 million loan facility obtained from Nordea bank on 14 August 2014. The loan was obtained to finance the connection of North western Province to the National Grid. The loan shall be repaid over a 14 year period including a grace period of 2 years. The interest rate is 3.69% per annum payable semi-annual. The loan facility is in United States Dollar and the balance at the reporting date was US\$106.9 million or K1 billion.

#### v. Development Bank of South Africa (DBSA) (KGL)

This is a US\$100 million loan facility obtained from Development Bank of South Africa (DBSA) on 4 May 2016 to finance the Kafue Gorge Lower Hydro Power Project. Interest is charged at 9.4% plus 6 month Libor, semi-annum and the loan (principal plus interest) will be repaid over 15 years including 2 years grace period. The loan is denominated in United States Dollar. The loan balance at the reporting date was US\$100 million or K985.3 million.

#### vi. India Exim Bank

This is a US\$63.39 million facility obtained from India Exim bank on 9 June 2012. The loan was obtained to finance the connection of Luangwa to the national grid. The loan will be repaid in seven equal installments. The interest rate is LIBOR plus 5.5%. The facility is in United States Dollar and the balance as at the reporting was US\$47.3 million or K466 million.

#### vii. China Exim Bank

This is a US\$45 million facility obtained from China Exim bank through the Ministry of Finance on 13 October 2014. The loan was obtained to Finance the Kariba North Bank- Kafue west 330KV transmission project. The interest rate is 2%. The facility is in United States Dollar and the balance as at the reporting was US\$45 million or K444 million.

#### viii. European Investment Bank

This is a EUR 50 million loan facility from the European Investment Bank (EIB) by the Government of the Republic of Zambia on the 10 December 2012. The facility was obtained for the purpose of financing the Itezhi-Tezhi Hydro Power plant, Mumbwa Substation and Lusaka West - Mumbwa Transmission Line Project. The facility shall be settled over a period of twenty five (25) years including a grace period of five (5) years. The interest is charged at 1.2% per cent per annum. The balance at the reporting date was US\$41.3 million or K407.4 million.

#### ix. GRZ/International Development Association-Kafue Muzuma

This is a US\$60 million loan facility obtained from the International Development Association on 6 December 2012 by the Government of the Republic of Zambia and on lent to ZESCO to finance the Kafue Muzuma Transmission Project. Interest shall be computed at 2% per annum and the loan (principal plus interest) will be repaid over 20 years including 5 years grace period. The loan is denominated in United States Dollar. The loan balance at the reporting date was US\$38 million or K375.2 million.

#### x. GRZ/Agence Francaise De Development

This is a US\$34.4 million loan facility obtained from the International Development Association on 18 December, 2012 by the Government of the Republic of Zambia and on lent to ZESCO to finance the construction of Itezhi Tezhi Power Station. Interest is computed at 1.5% semi annum and the loan (principal plus interest) will be repaid over 25 years including 5 years of grace period. The loan is denominated in United States Dollar. The balance at reporting date was US\$34.4 million or K338.9 million.

#### xi. African Development Bank

This is a US\$30 million loan facility obtained from the African Development Bank (ADB) by the Government of the Republic of Zambia on 19 December 2012. The loan was obtained to finance the transmission line for the Itezhi-Tezhi Hydro Power and Transmission Line Project. The loan facility is in United States Dollars and the balance at the reporting date was US\$29.6 million or K291.7 million

#### xii. Standard Bank of South Africa

This is a US\$29.5 million facility obtained from Standard Bank of South Africa. The loan was obtained to finance the connection of Northwestern Province to the National grid. The interest rate is LIBOR plus 5% per annum. The loan is to be repaid over a period of 7 years with a 2 years grace period. The facility is in United States Dollar and the amount as at the reporting date was US\$26.6 million or K262.2 million.

**xiii. Stanbic Bank**

This is a US\$31 million Letter of Credit facility obtained from Stanbic Bank (Z) Limited meant to finance importation, mobilisation and installation of equipment by Elsewedy of Egypt. The Letter of Credit agreement was finalised on the 17 February 2014 for a period of 70 months, with a grace period of 15 (Fifteen) months. The repayment will be US\$563,636 in equal installments of 55 months. The Letter of Credit was secured against the Company's receivables. The facility is in United States Dollar and the balance at reporting date was US\$21.9 million or K216.5 million.

**xiv. Bank of China**

This is a US\$48.4 million loan facility obtained from Bank of China on 20 May 2011. The loan was obtained to finance the extension of fibre network to other parts of the country. The facility is for duration of 8 years with the grace period of 2 years. The interest rate is LIBOR plus 3% per annum. The loan facility is in United States Dollar and the balance at the reporting date was US\$20.2 million or K199 million.

**xv. Sinohydro Corporation Limited**

This is a US\$ 29 million loan facility (Bridging finance) obtained from Sinohydro Corporation Limited by ZESCO Limited on the 17 October 2016. The facility was obtained for the purpose of rehabilitation and upgrading works at the Musonda Falls Hydropower Station. The tenure of the facility is from the date when the agreement came into effect to the date when the funds are available to the employer from the financial institution. Funds and Interest shall be repaid at once after the employer obtains financing. The interest is charged at 7% per annum. The balance at the reporting date was US \$16.9 million or K166.5 million.

**xvi. Stanbic Bank**

This is a US\$30 million letter of credit facility obtained from Stanbic Bank (Z) Limited meant to finance importation, mobilisation and installation of equipment by Elsewedy of Egypt. The Letter of Credit agreement was finalised on the 1 August 2013 for a period of 70 months, with a grace period of 15 months. The repayment will be US\$545,455 in equal installments of 55 months. The Letter of Credit was secured against the Company's receivables. The facility is in United States Dollar and the balance at reporting date was US\$16.3 million or K161.2 million.

**xvii. Zambia National Commercial Bank Plc**

This is a letter of credit facility of US\$80 million from Zambia National Commercial Bank Zambia Limited, incorporated in Zambia with tenure of 70 months, and is repayable in 55 monthly instalments. The loan is denominated in United States Dollar and as at reporting date the loan balance was US\$15.3 million or K151 million. The facility is secured by company's collections and guarantee from the Government of the Republic of Zambia.

**xviii. Sinohydro Corporation Limited**

This is a US\$ 10 million facility (Bridging finance) obtained from Sinohydro Corporation Limited by ZESCO Limited on the 17 September 2015. The facility was obtained for the purpose of rehabilitation and upgrading works at the Musonda Falls Hydropower Station. The tenure of the facility is from the date when the agreement came into effect to the date when the funds are available to the employer from the financial institutions. Funds and Interest shall be repaid at once after the employer obtains financing. The interest is charged at 7% per annum. The balance at the reporting date was US\$10 million or K98.5 million.

**xix. European Investment Bank**

This is a EUR 22 million loan facility obtained from the European Investment Bank (EIB) by the Government of the Republic of Zambia on the 4 of December 2012. The Government agreed to on-lend to

ZESCO Limited on the terms and conditions set forth in the finance contract. The purpose of the facility was to finance the Kafue-Livingstone transmission Line project. The loan facility shall be repaid to the Government in equal semi-annual installments beginning five (5) years after the signature date of the on-lending loan and ending ten (10) years after the date of such agreement. The interest is charged at one and half percent (1.5%). The loan facility is in US\$9.7 million or K96.2 million.

**xx. Development Bank of Southern Africa**

This is a ZAR210.4 million loan facility obtained from Development Bank of South Africa Bank on 22 July 1998. The loan was obtained to finance the Power Rehabilitation Projects. The duration of the loan is 20 years including a grace period of 5 years. The loan facility has a fixed interest rate of 15.25% per annum. The balance as at the reporting date was ZAR125.5 or K90.9m

**xxi. Nigeria Trust Fund**

This is a US\$6.4 million loan facility obtained from the Nigerian Trust Fund by the Government of the Republic of Zambia on the 19 December 2012. The loan was lent to ZESCO Limited for the purpose of financing the Itzhi-Tezhi Hydro Power and Transmission Line project. The loan shall be repaid over a period of twenty five (25) years including a grace period of five (5) years. The interest is charged at zero point seventy five (0.75%) per annum fixed interest rate. The loan facility is in United States Dollars and the balance at the reporting date was US\$5.9 million or K58.6 million.

**xxii. Barclays Bank Zambia Plc**

This is a letter of credit facility of US\$15 million from Barclays Bank Plc Limited obtained on 7 November 2012, with tenure of 70 months and is repayable over 55 months. The facility is secured by company's receivables deposited in Barclays Bank Accounts. The facility is in United States Dollar and the balance at reporting date was US\$5.8 million or K57.5 million.

**xxiii. CNMC Industrial Zone Development**

The facility was obtained as capital contribution in 2009 on the Chambishi line from CNMC Industrial Zone Development who contributed 40% of the total project costs of US\$27.8 million (i.e. US\$11.1 million). It is to be paid in 180 equal instalments of US\$61,778 per month. There is no interest on this amount and there is no security attached to the agreement. The balance at the reporting date was US\$5.1 million or K51.1 million.

**xxiv. GRZ/World Bank**

This is a US\$16 million loan facility obtained from World Bank by Government of Republic of Zambia on 9 February 2009. The loan was lent to ZESCO to finance the Increased Access to Electricity Project. The loan shall be repaid over a 20 year period including a grace period of 5 years. The loan will have a 2% interest charge per annum. The loan facility is in United States Dollar and the balance at the reporting date was US\$4.4 million or K43.4 million.

**xxv. Standard Chartered Bank**

This is a letter of credit facility of US\$15 million from Standard Chartered Bank PLC, incorporated in Zambia with tenure of 84 months or 7 years, is repayable in equal instalments of US\$267,570.15 over 55 monthly instalments. The letter of credit is in United States Dollar and the balance at the reporting date was US\$4.2 million or K42.1 million.

**xxvi. GRZ/Japan International Cooperation Agency (JICA)**

This is a Yens 5 billion loan facility obtained from JICA by Government of Republic of Zambia on 1 November 2010. The loan was lent to ZESCO to finance the Increased Access to Electricity Project. The

loan shall be repaid over a 15 year period including a grace period of 5 years. The interest is charged at 0.05% per annum. The loan facility is in Japanese Yen and the balance at the reporting date was Yens 505 million or K42.6 million.

#### xxvii. European Investment Bank 2

This is a EUR7.6 million loan facility obtained from European Investment Bank by ZESCO Limited on 12 July 2005 to finance the Kariba North Bank Power Station Rehabilitation and Uprating Works under Power Rehabilitation Projects. The interest rate is 3.3% per annum. The loan facility is in Euro and the balance at the reporting date was EUR3.8 million or K39.9 million.

#### xxviii. GRZ/International Development Association

This is a US\$105 million loan facility obtained from the International Development Association on 3 October 2013 by the Government of Republic of Zambia and on lent to ZESCO to finance the Lusaka Transmission and Distribution Rehabilitation Project. Interest is charged at 1.5% semi-annum and the loan (principal plus interest) will be repaid over 30 years including 10 years grace period. The loan is denominated in United States Dollar. The loan balance at the reporting date was US\$3.8 million or K37.7 million.

#### xxix. GRZ/World Bank Facility 2

This is a US\$10 million loan facility obtained from World Bank by Government of Republic of Zambia on 21 March 2010. The loan was lent to ZESCO to finance the Increased Access to Electricity Project. The loan shall be repaid over a 20 year period including a grace period of 5 years. The loan will have a 2% interest charge per annum. The loan facility is in United States Dollar and the balance at the reporting date was US\$3.2 million or K31.9 million.

#### xxx. Standard Chartered Bank

This is a US\$40 million loan facility obtained from Standard Chartered Bank by ZESCO Limited on the 15 September 2015. The loan facility was obtained to finance the purchase of assets associated with ZESCO's generation, transmission and distribution assets. The loan was fully paid off using the bridging loan of \$122m Standard Chartered Bank Loan.

#### Breach of loan agreements

During the current year, the Company was not compliant with the following covenants:

##### (i) European Investment Bank

The Company was not in compliance with some covenants because it could not demonstrate that approved tariff adjustments were submitted; the current ratio was less than 1 and; ratio of long term debt to equity was more than 1

##### (ii) Barclays Bank Zambia Plc

The Company was non-compliant with the Barclays Bank letter of credit as the interest cover was below 1.5 times

##### (iii) Development Bank of South Africa

The Company was non-compliant with the DBSA loan in which the capital expenditure plan and budget were not submitted within 20 days before the start of each of its financial years. We also noted that the Company was in breach with the leverage ratio.

##### (iv) Standard Chartered Bank

Debt to equity ratio was 2:1 which is higher than the covenant of 1.5:1

#### Overall comment

The Company was unable to demonstrate that the financial statements were submitted to all lenders in due time.

#### 24. Retirement Benefit Obligation

##### (i) Defined contribution plan

Defined contribution plans are a pension plan under which the Company pays fixed contributions into the National Pension Scheme Authority, which is a defined contribution plan. The Company has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods.

The Company's contributions to the defined contribution schemes are charged to profit or loss in the year to which they relate. The Company has no further obligation once contributions have been paid.

The total expense recognised in the profit or loss of 54 million (2015 - K52 million) represents contributions payable to these plans by ZESCO.

##### (ii) LASF defined benefit plan

In accordance with IAS 19 Employee Benefits paragraph 62 an entity is required to recognise the net defined benefit liability in the statement of financial position. However when sufficient information is not available to use defined benefit accounting for a multi-employer defined benefit plan, an entity shall account for the plan as if it were a defined contribution plan.

The Company operates a defined benefits pension scheme which is funded by the payment of contributions to a separately administered fund called the Local Authorities' Superannuation Fund ("LASF"). This fund administers the pension schemes of a number of organisations, including all local authorities. The last actuarial valuation of the entire fund for the five years period to 31 December 2012 was carried out and showed a deficit of K723 million. These deficits are not the latest actual valuation attributed to individual member organizations as the valuation was performed three years ago. Accordingly updated information on the actuarial deficit is not available to enable the entity to account for the plan as a defined benefit plan. On this basis the Company has opted to account for the plan as if it were a defined contribution plan.

In addition no provision has been made in these financial statements for any unfunded liability of the company as the directors are of the opinion that any liability will be met by the Government of the Republic of Zambia.

The total cost of pension contributions during the year was K26 million (2015: K27 million).

##### (iii) Long service retirement benefit

Employee benefits obligation comprises liabilities for retirement benefits. The movements on the account during the year were as follows:

At beginning of the year	<b>1,984,622</b>	1,879,220
Current service cost	<b>264,745</b>	399,426
Reversal of Gratuity Provisions	-	(30,467)
Benefits paid during the year	<b>(216,845)</b>	(263,557)
At 31 December	<b>2,032,522</b>	1,984,622

Disclosed in the financial statements as:

Non-current	<b>1,937,610</b>	1,847,305
Current	<b>94,912</b>	137,317
	<b>2,032,522</b>	1,984,622

25. Capital Grants And Capital Contributions

	Capital Grants K'000	Capital Contributions K'000	<b>Total K'000</b>
At 1 January 2015	366 655	970 785	<b>1337 440</b>
Additions during the year	11 998	188 103	<b>200 101</b>
Reclassification to equity	(65 910)	-	<b>(65 910)</b>
Adjustment	( 10)	-	<b>( 10)</b>
Amortisation of capital grants and contributions	(22,200)	(61,559)	<b>(83,759)</b>
At 31 December 2015	290,533	1,097,329	<b>1,387,862</b>
Additions during the year	-	177,881	<b>177 881</b>
Transfer of assets from Rural Electrification Authority	54 552	-	<b>54 552</b>
Amortisation of capital grants and contributions	(19,806)	(70,950)	<b>(90,756)</b>
At 31 December 2016	325,279	1,204,260	<b>1,529,539</b>
Maturity analysis:			
Non current		1,312,188	<b>1,301,377</b>
Current		217,351	<b>86,485</b>
Total		1,529,539	<b>1,387,862</b>

## 26. Trade And Other Payables

Trade payables	<b>3,084,250</b>	754,434
Sundry payables and accrued expenses	<b>680,690</b>	388,436
Employee related accruals	<b>326,247</b>	311,315
	<b>4,091,187</b>	1,454,185

Trade and other payables principally comprise amounts outstanding in respect of trade purchases and ongoing costs, as well as amounts accrued in respect of operating costs.

The average credit period on purchases of certain goods is 30 days. No interest is charged on trade payables. The Company ensures that all payables are paid within the credit time frame.

The Directors consider that the carrying amount of trade and other payables approximates their fair value.

## 27. Bank Overdraft

Barclays Bank Zambia Plc	<b>50,350</b>	33,739
Zambia National Commercial Bank Plc	<b>14,778</b>	17,069
Standard Chartered Bank Zambia Plc	<b>5,265</b>	308
	<b>70,393</b>	51,116

### Barclays Bank Zambia Plc

An overdraft banking facility amounting to K50 million. The overdraft was agreed in April 2014 with a 12 month tenor with interest payable monthly at three month LIBOR plus 3%. The facilities are repayable strictly on demand. The amount drawn as on 31 December 2016 under this facility is K50 million (2015: K34 million).

### Zambia National Commercial Bank Zambia Plc

An overdraft banking facility amounting to K25 million. The overdraft was agreed in November 2014 with a 12 month tenor with interest payable monthly at three month LIBOR plus 3.75%. The facilities are repayable strictly on demand. The amount drawn as on 31 December 2016 under this facility was K14 million (2015: K17 million). The facility is secured against unlimited collections held in the bank accounts from time to time.

### Standard Chartered Bank Zambia Plc

An overdraft banking facility amounting to K10 million. The overdraft was agreed in November 2014 with a 12 month tenor with interest payable monthly at three month LIBOR plus 5%. The facilities are repayable strictly on demand. The amount drawn as at 31 December 2016 under this facility was K5 million (2015: K0.3 million).

## 28. Financial Instruments

### Capital risk management

The Company manages its capital to ensure that it will be able to continue as a going concern while maximising the return to stakeholders through the optimisation of the debt and equity balance. The Company's overall strategy remains unchanged from prior year.

The capital structure of the Company consists of cash and cash

equivalents, interest bearing liabilities and equity attributable to equity holders of the Company, comprising issued capital, reserves and retained earnings.

### Gearing ratio

The Company reviews the capital structure on an ongoing basis. As part of this review, the management considers the cost of capital and the risks associated with each class of capital. The Company has a gearing ratio of 62% (2015: 64%).

The gearing ratio at the year end was computed as follows:

	2016 K'000	2015 K'000
Debt (i)	12,662,837	11,108,451
Equity (ii)	7,616,059	6,283,485
Total debt and equity	62%	64%

(ii) Equity includes all capital and reserves of the Company.

### Significant accounting policies

Details of the significant accounting policies and methods adopted, including the criteria for recognition, the basis of measurement and the basis on which income and expenses are recognised, in respect of each class of financial asset, financial liability and equity instrument are disclosed in the accounting policies to the financial statements.

The Directors consider that the carrying amounts of financial assets and financial liabilities recognised in the financial statements approximate their fair values.

Categories of financial instruments	2016 K'000	2015 K'000
Financial assets:		
- Amounts due from related parties	<b>1,605,959</b>	659,996
- Trade and other receivables	<b>1,228,274</b>	1,561,573
- Bank and cash	<b>1,788,518</b>	2,140,409
	<b>4,622,751</b>	4,361,978
Financial liabilities:		
- Amounts due to related parties	<b>738,540</b>	242,441
- Trade and other payables	<b>3,898,200</b>	1,205,632
- Bank overdraft	<b>70,393</b>	51,116
	<b>4,707,133</b>	1,499,189

### Financial risk management objectives

The Company's executive directors and management co-ordinates access to domestic markets and borrowings from related parties, monitors and manages the financial risks relating to the operations of the Company. These risks include market risk (including currency risk, fair value interest rate risk and price risk), credit risk, liquidity risk and cash flow interest rate risk.

The Company does not enter into or trade financial instruments, including derivative financial instruments, for speculative purposes

### Market risk

The Company's activities expose it primarily to the financial risks of changes in foreign currency exchange rates and interest rates. The Company does not enter into any derivative financial instruments to manage its exposure to interest rate and foreign currency risk, including forward foreign exchange contracts to hedge the exchange rate risk.

There has been no change to the Company's exposure to market risks or the manner in which it manages and measures the risk

### Foreign currency risk management

The Company undertakes certain transactions denominated in foreign currencies. Hence, exposures to exchange rate fluctuations arise. Exchange rate exposures are managed within approved policy parameters as approved by the Board of Directors.

The carrying amounts of the Company's foreign currency denominated monetary assets and monetary liabilities at the end of the reporting period are as follows.

	Financial assets	Financial liabilities	
	2016 K'000	2016 K'000	2015 K'000
United states dollar (\$)	11,019,739	12,418,829	10,867,510
Japanese yen (JPY)	-	42,674	38,019
South africa rand (ZAR)	1,410	118,355	98,493
Euro	-	432,193	53,313

### Interest rate sensitivity analysis

The interest rate risks sensitivity analysis is based on the assumption that changes in the market interest rates affect the interest income or expenses of variable interest financial instruments:

The tables below sets out the impact on current profit before taxation of an incremental 5% parallel fall or rise in all yield curves during the year:

	Scenario 1 5% increase in variable interest rates	Scenario 2 5% decrease in variable interest rates
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At 31 December 2016

Profit before tax	(136,571)	(143,400)	(129,743)
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At 31 December 2015

Profit before tax	19,595	20,575	18,615
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### Interest rate risk management

The Company is exposed to interest rate risk arising on shareholders loans and loans from the banks for its working capital requirements

The exposure to interest rate risk is evaluated regularly by management to align with interest rate views and defined risk appetite, by either positioning the statement of financial position or protecting interest expense through different interest rate cycles

### Interest rate sensitivity analysis

The sensitivity has been determined based on the exposure to interest rates for non-derivative instruments at the end of the reporting period. For floating rate liabilities, the analysis is prepared assuming the amount of the liability outstanding at the end of the reporting period was outstanding for the whole year. A 5% increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

The Company's sensitivity to interest rates has increased during the current period mainly due to the increase in variable rate debt instruments.

### Credit risk management

Credit risk management refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Company. The Company is exposed to credit risk in respect of trade and other receivables. As at the financial period end the Company had trade receivables which were due from the Company's customers.

The Company's maximum exposure to credit risk is analysed below:

	2016 K'000	2015 K'000
Amounts due from related parties	1,605,959	659,996
Bank and cash balances	1,788,518	2,140,409
Trade and other receivables	1,228,274	1,561,573
	4,622,751	4,361,978

The maximum exposure to credit risk for trade receivables at the reporting date by key customer sector was:

Mining	<b>5,595,447</b>	3,507,694	<b>Liquidity risk management</b>
Government and related entities	<b>245,432</b>	208,869	
Domestic customers	<b>250,959</b>	261,989	The Company manages liquidity risk by maintaining adequate reserves and banking facilities and by continuously monitoring forecast and actual cash flows and matching the maturity profile of financial assets and liabilities.
Exports	<b>597,838</b>	221,350	
The local authorities and water utilities	<b>157,929</b>	108,297	The following table below details the company's remaining contractual maturity for its non-derivate financial assets and liabilities. The table below has been drawn up based on the undiscounted contractual maturities of the financial assets and liabilities.
Industrial and related sectors	<b>14,787</b>	5,182	
Agriculture and related sectors	<b>4,774</b>	3,031	
	<b>6,867,166</b>	4,316,413	

	Payable on demand K'000	1 - 3 months K'000	3 months to 1 year K'000	Above 1 year K'000	Total K'000
Year ended 31 December 2016					
Financial liabilities					
- Trade and other payables	-	-	3,898,200	-	<b>3,898,200</b>
- Bank overdraft	-	70,393	-	-	<b>70,393</b>
- Amounts due to related parties	-	-	738,540	-	<b>738,540</b>
	-	70,393	4,636,740	-	<b>4,707,133</b>
Financial assets					
- Amounts due from related parties	-	-	1,605,959	-	<b>1,605,959</b>
- Loan due from related parties	-	-	-	2,769,565	<b>2,769,565</b>
- Trade and other receivables	-	-	1,228,274	-	<b>1,228,274</b>
- Bank and cash balances	1,788,518	-	-	-	<b>1,788,518</b>
	1,788,518	-	2,834,233	2,769,565	<b>7,392,316</b>
Period ended 31 December 2015					
Financial liabilities					
- Trade and other payables	-	-	1,454,185	-	<b>1,454,185</b>
- Bank overdraft	-	51,116	-	-	<b>51,116</b>
- Amounts due to due related parties	-	-	-	242,441	<b>242,441</b>
	-	51,116	1,454,185	242,441	<b>1,747,742</b>
Financial assets					
- Amounts due from related parties	-	-	659,996	-	<b>659,996</b>
- Loan due from related parties	-	-	-	3,090,111	<b>3,090,111</b>
- Trade and other receivables	-	-	2,003,248	-	<b>2,003,248</b>
- Bank and cash balances	2,140,409	-	-	-	<b>2,140,409</b>
	2,140,409	-	2,663,244	3,090,111	<b>7,893,764</b>

## Fair Value Measurements

The information set out below provides information about how the Company determines fair values of various financial assets and financial liabilities.

The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

Level 1 – Quoted prices (unadjusted) in active markets for identical assets or liabilities.

This level includes listed equity securities and debt instruments on exchanges (for example, Lusaka Stock Exchange)."

Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices). "

Level 3 – inputs for the asset or liability that are not based on observable market data (unobservable inputs). This level includes equity investments and debt instruments with significant unobservable components."

This hierarchy requires the use of observable market data when available. The Company considers relevant and observable market prices in its valuations where possible.

Fair value of the Company's financial assets and financial liabilities that are measured at fair value on a recurring basis

There were no financial assets and liabilities that are measured at fair value on a recurring basis during the period.

Fair value of financial assets and financial liabilities that are not measured at fair value on a recurring basis (but fair value disclosures are required)

Except as detailed in the following table, the directors consider that the carrying amounts of financial assets and financial liabilities recognized in the financial statements approximate their fair values.

	2016		2015	
	Carrying amount	Fair value	Carrying amount	Fair value
	K'000	K'000	K'000	K'000
Financial assets				
Loans and receivables:				
- Amounts due from related parties	1,605,959	1,605,959	659,996	659,996
- Trade and other receivables	1,228,274	1,228,274	1,561,573	1,561,573
Total	2,834,233	2,834,233	2,221,569	2,221,569
Financial liabilities				
- Borrowings	12,592,444	12,592,444	11,057,335	11,057,335
- Trade and other payables	3,898,200	3,898,200	1,205,632	1,205,632
- Bank overdraft	70,393	70,393	51,116	51,116
Total	16,561,037	16,561,037	12,314,083	12,314,083

Fair value hierarchy as at 31 December 2016

	Level 1	Level 2	Level 3	Total
	K'000	K'000	K'000	K'000
Financial assets				
Loans and receivables:				
- Amounts due from related parties	-	-	1,605,959	1,605,959
- Trade and other receivables	-	-	1,228,274	1,228,274
Total	-	-	2,834,233	2,834,233
Financial liabilities:				
Financial liabilities held at amortised cost:				
- Amounts due to related parties	-	738,540	738,540	
- Trade and other payables	-	3,898,200	3,898,200	
- Bank overdraft	-	-	70,393	70,393

	2016		2015	
<b>Total</b>	-	-	4,707,133	4,707,133
Fair value hierarchy as at 31 December 2015				
Financial assets				
Loans and receivables:				
- Amounts due from related parties	-	-	659,996	659,996
- Trade and other receivables	-	-	2,003,248	2,003,248
<b>Total</b>	-	-	2,663,244	2,663,244
Financial liabilities:				
Financial liabilities held at amortised cost:				
- Amounts due to related parties	-	-	242,441	242,441
- Trade and other payables	-	-	1,205,632	1,205,632
- Bank overdraft	-	-	51,116	51,116
<b>Total</b>	-	-	1,499,189	1,499,189

The fair values of the financial assets and financial liabilities included in the level 3 category above have been determined in accordance with generally accepted pricing models based on a discounted cash flow analysis, with the most significant inputs being the discount rate that reflects the credit risk of counterparties.

## 29 CAPITAL COMMITMENTS

	2016	2015
	K'000	K'000
Authorised by the directors but not contracted for	6,530,505	5,280,643

The funds required to meet the capital commitments will be generated from borrowings and trading activities of the company

## 30. CONTINGENT LIABILITIES

There were no known material contingent liabilities at 31 December 2016 and 31 December 2015.

## 31. EVENTS AFTER THE REPORTING DATE

There have been no other material facts or circumstances that have occurred between the reporting date and the date of these financial statements that require disclosure in or adjustment to the financial statements.

## FIVE YEAR FINANCIAL RECORD

	Year ended 31 December 2016	Year ended 31 December 2015	Year ended 31 December 2014	Period ended 31 December 2013 Restated	Year ended 31 March 2013 Restated
Income statement					
Revenue	8,237,828	6,425,737	4,317,698	2,362,386	3,024,896
Profit/(loss) before taxation	(136,571)	19,595	572,636	259,581	531,723
Current taxation	-	1,445,211	(249,367)	188,471	(220,169)
Prior years tax adjustment	-	-	-	-	(658,768)
Profit (loss) for the year	(136,571)	1,464,806	323,269	448,052	(347,214)
Statement of financial position					
Non current assets	23,893,065	18,358,156	11,344,727	7,856,678	6,754,659
Net current assets	(1,876,890)	415,766	1,385,818	1,894,560	1,820,123
Deferred liabilities	(1,937,610)	(1,847,305)	(1,743,379)	(1,483,987)	(1,256,033)
Borrowings	(11,150,318)	(9,341,755)	(5,502,406)	(3,486,820)	(2,773,422)
Capital grants and contributions	(1,312,188)	(1,301,377)	(1,263,804)	(906,678)	(848,242)
Deferred income tax	0	-	-	-	-
Net assets	7,616,059	6,283,485	4,220,956	3,873,753	3,697,085
Financed by:					
Share capital	2,825,118	2,825,118	1,655,000	1,655,000	1,655,000
Reserves	4,790,941	3,458,367	2,565,956	2,218,753	2,042,085
Shareholders' funds	7,616,059	6,283,485	4,220,956	3,873,753	3,697,085
Ratios					
Net profit margin	15.9%	13.5%	7%	19%	(11%)
Return on Capital employed (ROCE)	1%	0.4%	5%	3%	6%
Current ratio	0.8	1.1	1.5	2.0	2.0
Quick ratio	0.6	0.96	1.37	1.76	1.82
Interest cover	0.58	1.39	12.54	17.05	34.92
Debt/equity ratio	172%	178%	190%	150%	130%
Gearing ratio	62%	64%	58%	50%	45%
Debtor days	78	114	122	183	148
Asset turnover	0.37	0.34	0.32	0.22	0.32

## DETAILED OPERATING STATEMENT

	2016 K'000	2015 K'000
REVENUE	<b>8,237,828</b>	6,425,737
COST OF SALES	<b>(3,887,866)</b>	(2,385,395)
GROSS PROFIT	<b>4,349,962</b>	4,040,342
Other Income	<b>279,644</b>	335,421
OPERATING EXPENSES		
Provision for doubtful debts	<b>2,264,847</b>	2,377,365
Depreciation and amortisation	<b>466,318</b>	361,433
Remuneration - Represented	<b>405,156</b>	392,764
Remuneration - Non Represented	<b>394,636</b>	367,108
Pension, gratuity & GLA Provisions	<b>276,281</b>	400,044
Administration	<b>273,644</b>	144,642
Other operating expenses	<b>190,705</b>	53,315
External services	<b>126,650</b>	98,751
Pension Payments (LASF, NAPSA, ZSIC)	<b>80,180</b>	79,199
Transport costs	<b>68,338</b>	78,552
Travel and accommodation	<b>59,118</b>	48,804
Insurance costs	<b>42,960</b>	42,357
Maintenance of buildings and premises	<b>42,784</b>	33,874
Maintenance of tools, machinery and equipment	<b>34,768</b>	26,626
Training costs	<b>18,773</b>	16,547
Directors costs	<b>3,097</b>	755
Stock adjustments	<b>4,972</b>	2,703
Audit fees	<b>2,107</b>	1,191
Exchange gains	<b>(313,588)</b>	(220,076)
TOTAL OPERATING EXPENSES	<b>4,441,744</b>	4,305,954
EARNINGS BEFORE INTEREST AND TAX	<b>187,862</b>	69,809
FINANCE COSTS	<b>(324,433)</b>	(50,214)
(LOSS) PROFIT BEFORE TAX	<b>(136,571)</b>	19,595

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