



Strategic Plan

10 YEAR ROLLING

2022 – 2031

Preamble

ZESCO Limited is a quasi government institution wholly owned by the Government of the Republic of Zambia through the Industrial Development Corporation (IDC).

ZESCO Limited is the major player in the energy sector and keeps track of both national and international developments that impact its operations. The changing needs and interests of its stakeholders are paramount and impact its activities.

In developing and executing the Strategic Plan, ZESCO Limited conducted a SWOT analysis to assess the Strengths, Weaknesses, Opportunities and Threats which, culminated in the development of areas of strategic focus, strategic objectives and initiatives.

The extent to which the adopted initiatives will succeed is dependent on the realistic assessment of weaknesses and threats. This will be achieved through adoption of mitigation responses. ZESCO Limited will further adopt interventions to improve the management of working capital, advocate the implementation of cost reflective tariffs and connection fees, develop and implement a debt management strategy, diversify the electricity generation portfolio, improve the maintenance regime, and optimise the organisational structure. ZESCO Limited is also aware of threats that

may impact its operations. These include; rising competition in the Electricity Supply Industry (ESI), hydrological risks due to climate change, vandalism, theft, fraud and increased cyber security risks.

After a review of the status of ZESCO Limited and taking into account both the positive and adverse prevailing conditions, ZESCO Limited has identified five strategic objectives for the 2022-2031 Strategic Plan as follows:

1. To achieve customer satisfaction, win customer confidence and loyalty;
2. To be a financially sustainable organisation that balances the needs of its stakeholders;
3. To expand the Generation, Transmission and Distribution systems guided by an Integrated Resource Plan;
4. To have an effective maintenance regime for Generation, Transmission and Distribution systems; and
5. To align human capital to business objectives.

Acronyms

8NDP	Eighth National Development Plan	MW	Mega Watts
AEAI	Average Equipment Availability Index	REMP	Rural Electrification Master Plan
ASAI	Average System Availability Index	SAIDI	System Average Interruption Duration Index
CAIDI	Customer Average Interruption Duration Index	SAIFI	System Availability Interruption Frequency Index
CEC	Copperbelt Energy Corporation	SAPP	Southern African Power Pool
EAPP	Eastern Africa Power Pool	SCADA	Supervisory Control and Data Acquisition
EBITDA	Earnings before interest, taxes, depreciation, and amortization	SP	Strategic Plan
ERB	Energy Regulation Board	SWOT	Strengths, Weaknesses, Opportunities and Threats
ESG	Environmental, Social and Governance	WAMPAC	Wide-Area Monitoring, Protection, Automation and Control
ESI	Electricity Supply Industry	WCFCB	Workers Compensation Fund Control Board
IDC	Industrial Development Corporation	ZEMA	Zambia Environmental Management Agency
IPPs	Independent Power Producers	ZIZABONA	Zimbabwe Zambia Botswana Namibia
KPI	Key Performance Indicator	ZPPA	Zambia Public Procurement Authority
MFNDP	Ministry of Finance and National Development Planning	ZRA	Zambezi River Authority
		ZTK	Zambia-Tanzania-Kenya

Note: The figures in this Strategy Plan are subject to annual revisions as the assumptions and parameters in the operating environment change.



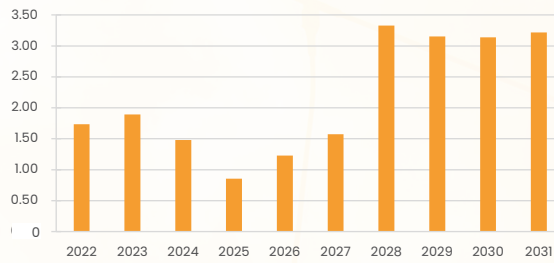
Contents

Message from the Board Chairman	6
Message from the Managing Director	7
Introduction	8
National Context	8
Developments in the Energy Sector	8
Gender Mainstreaming in the Energy Sector	9
Situation Analysis	10
Generation	10
Transmission	10
Distribution and Supply	10
Customer Service	11
Financial Performance	12
Legal and Regulatory Framework	13
Strengths, Weaknesses, Opportunities and Threats	14
The Strategic Plan at a Glance	16
Areas of Strategic Focus, Specific Objectives and Initiatives	17
Area of Strategic Focus 1: Improved Customer Satisfaction	18
Area of Strategic Focus 2: Achieve Financial Stability	19
Area of Strategic Focus 3: Expanded Generation, Transmission and Distribution systems	21
Area of Strategic Focus 4: Effective maintenance regime for Generation, Transmission and Distribution systems	22
Area of Strategic Focus 5: Optimised Human Capital	23
Financing Plan	24
Projected Financial Performance	24
Conclusion	26

10 Year Projected Financial Performance

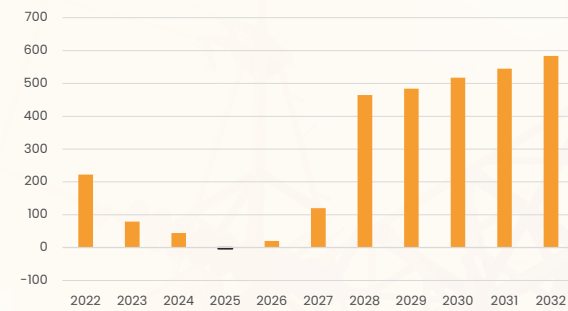
Debt Service Coverage Ratio

[X-Times]



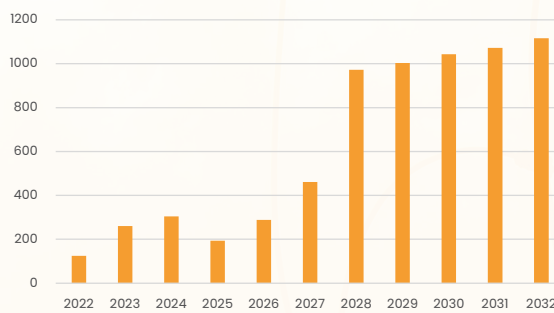
Net Income

[in \$'million]



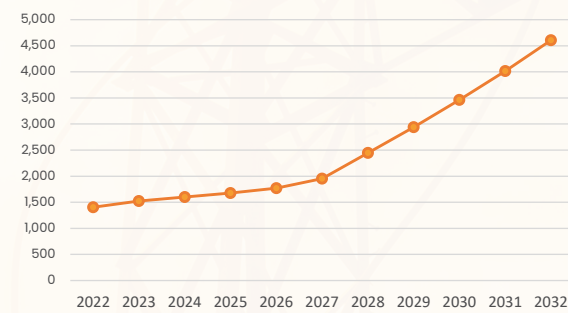
EBITDA

[in \$'million]



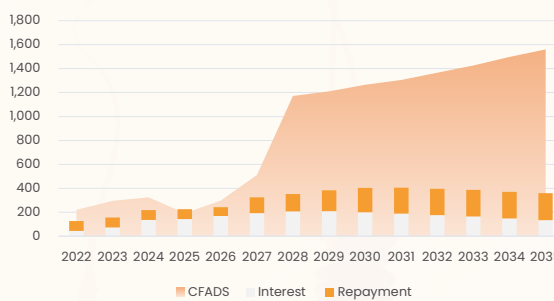
Equity - Value Creation/Erosion

[in \$'million]



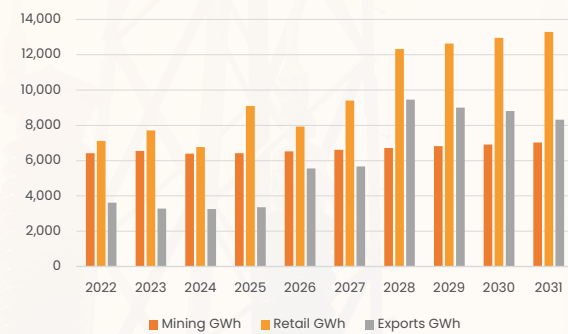
CFADs Vs Debt Service

[in \$'million]



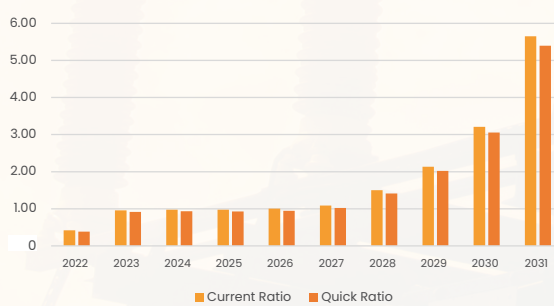
Consumption by Customer Category

[in GWh]



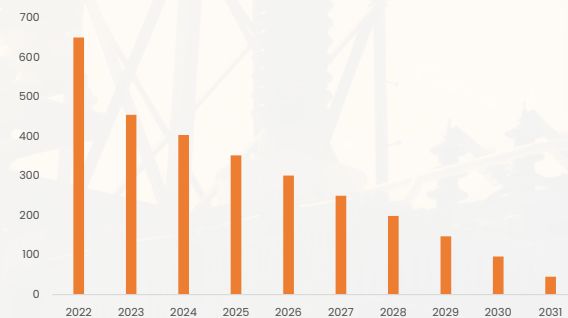
Liquidity

[X-Times]



Trade Payables Days

Days



Our Core Ideology

ZESCO Limited's core ideology is comprised of the Mission, Vision and Values.

Vision What our ambition is

To be an effective provider of reliable and environmentally sustainable electricity services to all our customers by 2031.

Mission How we are going to achieve it

To provide efficient, innovative, and excellent electricity services and energy solutions to our local and international customers.

Values What we believe in



Integrity

We uphold fairness, accountability and truthfulness in our actions. We conduct ourselves in an honest and ethical manner.



Customer Centricity

The customer is our focal point in our delivery of excellent services. We will care for, understand, respect and support our customers.



Innovation

We will continuously keep abreast with, develop, implement and use modern technology in our business.



Teamwork

We endeavour to work as a team in our quest to serve our customers through understanding, respecting and supporting one another (Team Work Works).



Safety & Environmental Sustainability

We shall adhere to the highest safety practices and endeavour to protect our stakeholders from danger, risk or injury in all our operations. We shall apply business solutions that enable us to grow in a manner that has the least adverse effects on the environment.

Message from the Board Chairman



ZESCO Board and its Corporate Leadership Team (CLT) recognizes the important role that reliable and sustainable power supply plays in the development of Zambia. Reliability and stability of power is key to achieving the Government's ambitious program of positioning Zambia as an industrial hub for the region, rapidly increasing economic activities (for instance, the projected trebling of mining output in the next ten years, digitalization of the economy and promotion of a green economy). ZESCO Limited as an important player in achieving these objectives, will work in a professional, coordinated and constructive manner with other stakeholders. The ZESCO Board and its CLT take full cognizance of the Eighth National Development Plan (8NDP), which has identified energy as one of the key enablers for the Plan's successful implementation. ZESCO Limited is particularly keen on the following pronouncements in the 8NDP:

- a. Enhancing operational efficiency of ZESCO, including its cost structure;
- b. Expanding generation, transmission and

- distribution of electricity as well as upgrading of transmission infrastructure to reduce transmission losses and promote trade;
- c. Promotion of alternative green and renewable energy sources as well as scaling up rural electrification; and
- d. Implementation of policy and legal reforms to strengthen institutional arrangements and adherence to best practice in corporate governance for sustainable performance.

Further, the 8NDP expects State-Owned Enterprises (SOEs) to run sustainably, complement the private sector and contribute resources towards implementation of the Plan. SOEs are expected to be service providers of the last resort by addressing the needs of communities that the private sector may consider uneconomical.

The Board and its CLT has incorporated all these considerations in developing this Strategic Plan (2022-2031). The Plan will be subjected to annual reviews to ensure that the adopted initiatives are able to achieve the stated objectives and provide for adaptation where Government priorities change and new developments in the energy and technology sectors so dictate. The plan identifies five strategic focus areas: Customer Satisfaction, Financial Sustainability, Expanded Infrastructure, Effective Maintenance and Optimized Human Capital.

ZESCO is mindful that it cannot fulfil the electricity requirements of the nation on its own but will require the participation of the private sector. To this end, ZESCO Limited will leverage on support of the private sector as partners. A three-tier model of infrastructure ownership will be adopted as follows; fully owned by ZESCO Limited, co-owned by ZESCO Limited and the private sector, and fully owned by the private sector.

Moving forward, the Board and CLT will continue this development trajectory, with special emphasis on moving beyond immediate outputs and achieving results across the value chain.

The journey ahead is not easy, but it must be travelled with utmost determination and perseverance.

A handwritten signature in black ink, appearing to read 'Vickson Ncube', written over a thin horizontal line.

VICKSON NCUBE

ZESCO Limited Board Chairman

Message from the Managing Director



At the tail end of 2021, ZESCO Limited Corporate Leadership Team (CLT) embarked on a transformational agenda to address the many challenges ZESCO Limited was faced with in the quest to reintroduce business viability. Critical to the challenges was the customer connection backlog which stood at 67000 paid up customers as at 31st December 2021. CLT felt this needed immediate intervention to reduce the backlog to an acceptable minimum level in line with its unveiled mandate to be customer centric by pursuing excellence, efficiency and effectiveness.

CLT further accelerated the development of the Strategic plan to holistically address areas that required business attention, especially the need to attain financial stability and customer satisfaction. This led to the development of a Strategic Plan to run from 2022 to 2031 to reflect the aspirations of CLT and its new vision for ZESCO Limited.

The ZESCO Limited Strategic Plan is premised on the Vision "To be an effective provider of reliable and environmentally sustainable electricity services to all our customers by 2031" and the Mission "To provide efficient, innovative, and excellent electricity services and energy solutions to our local and international

customers".

Further, this Plan was formulated through a consultative process of all stakeholders and will be guided by five Strategic Objectives namely:

1. To achieve customer satisfaction, win customer confidence and loyalty;
2. To be a financially sustainable organisation that balances the needs of its stakeholders;
3. To expand the generation, transmission and distribution systems guided by an Integrated Resource Plan (IRP);
4. To have an effective maintenance regime for generation, transmission and distribution systems; and
5. To align human capital to business objectives.

I am confident that the successful implementation of this Strategic Plan will transform ZESCO into an 'Effective and Efficient Corporation characterised by Excellence.

To achieve this, it is imperative that all ZESCO Limited employees take ownership and remain committed to the process of improving the operational efficiency and effectively responding to customers' needs. Further, constructive engagement with Government agencies and other stakeholders will be key for successful implementation of the Plan.

A handwritten signature in black ink, appearing to read 'V. Mapani', with a long horizontal flourish extending to the right.

ENG. VICTOR BENJAMIN MAPANI

ZESCO Limited Managing Director

Introduction

This document outlines ZESCO Limited's strategic direction towards the achievement of its Mission and Vision. This Strategic Plan is aligned to the Vision 2030, Eighth National Development Plan (8NDP), National Energy Policy and the Integrated Resource Plan.

National Context

The Energy Sector has in the last ten years undergone changes that have impacted the performance of the electricity subsector. The Electricity Supply Industry (ESI) was liberalized in 1995 through an Act of Parliament to attract private sector participation in the generation, transmission, and distribution of electricity.

Following the realignment of the Ministry of Energy from the Ministry Energy and Water Development in 2016, several legislative and regulatory reforms have been undertaken to streamline the operations of the various players in the ESI and promote competition.

The electricity sub-sector has faced numerous challenges due to below cost reflective tariffs and hydrological challenges that have resulted in ZESCO's poor financial state and low private sector investment. Further, fluctuations in the foreign exchange rate and deterioration of macroeconomic conditions in the past few years have negatively impacted ZESCO Limited's costs of operations and electricity purchases from Independent Power Producers (IPPs). This is further worsened by tariff disparities between the IPPs average selling tariff of US\$11 cents/kWh, against ZESCO Limited's average selling tariff of US\$7 cents/kWh which has created a cash flow deficit and unsustainable debt levels.

The National aspiration to achieve rapid economic growth will entail significant increase in the electricity generation capacity which, will require significant diversification through the development of renewable and alternative energy resources. Further, the Government plans to increase copper production from 800 to 3000 metric tonnes over a ten-year period which, along with the general growth in demand will require significant investment in generation, transmission and distribution capacities.

According to the Ministry of Finance and National Development Planning, the Gross Domestic Product (GDP) is projected to grow by 3 percent by year end 2022 and 4 percent in 2023. The growth will be driven mainly by activities in the mining, manufacturing, tourism and agriculture sectors. It is expected that meeting these national economic development targets will invariably mean expanding the generation, transmission and distribution of electricity as an enabler.

The 8NDP envisages increase in national installed capacity to 4,057 MW by 2026 from 3,307 MW in 2021. The percentage of renewable energy in the national installed capacity, excluding large hydropower generation, is expected to increase to 10 percent from 3 percent in the next five years.

Zambia is surrounded by eight countries which provide a unique strategic opportunity for electricity trade. ZESCO Limited's electricity supply to the Region has in the last few years improved but inadequate investment in transmission infrastructure is creating challenges for power export to the region. Therefore, expansion of the transmission infrastructure is critical to facilitate interconnections, electricity trade and security of supply.

Developments in the Energy Sector

Access to electricity is critical for enhancing economic activities and facilitating better opportunities for improving people's livelihoods. Access to electricity is still low and there is scope to improve access rates and increase national supply. There is low access to electricity in Zambia with the proportion of the population with access to electricity at 40% as of 2022. Under the Rural Electrification Programme, government's focus is to expand the national grid, develop renewable energy and mini grids in rural areas in order to enhance the reliability, sustainability and security of supply of electricity. This is expected to increase electrification to rural areas and attain social development outcomes with a target of 50% rural electricity access by 2030 according to the Rural Electricity Master Plan (REMP).

Adequate electricity generation, transmission and distribution systems underpin the development of any economy in the world. However, Zambia has in the past struggled to generate enough electricity to meet the growing demand. This longstanding issue came to a head in 2015/16, 2019 and 2021 when poor rainfall resulted in the depletion of water reservoirs, which caused a reduction in hydropower generation. While the country appears to have overcome short-term challenges in power generation by increasing its installed capacity to 3,493 Megawatts (MW) as at 2022, there can be no room for complacency.

Zambia has implemented regulatory and legal reforms aimed at unlocking bottlenecks in the electricity sector which, are expected to improve the viability of ZESCO Limited and also attract private sector investment. Most notable reforms are the Energy Regulation Act No. 12 of 2019 and the Electricity Act No.11 of 2019. These Acts provide for an open access regime, a multi-year tariff framework and cost-pass-through mechanism for electricity tariffs.

At policy level, both the Vision 2030 and the 8NDP recognise the pivotal role that electricity plays in

Zambia's development. The Vision 2030 estimates Zambia's Hydropower potential at 6,000 MW by 2030 and identifies the lack of the electricity as one of the major impediments to national development. The energy sector has consistently been emphasised in national development plans, where it is cast as an enabler for development. The 8NDP under the pillar "An Industrialised and Diversified Economy" commits to enhance generation, transmission and distribution of electricity while diversifying to renewable energy sources by undertaking reforms aimed at increasing private sector investment.

Considering the challenges associated with Hydropower generation, and in order to ensure energy security, the country planned to add alternative sources of power generation. In 2019, the country had an addition of 88.3 MW of solar energy with the commissioning of Bangweulu (54.3MW) and Ngonye (34MW) and 300MW of coal generation by Maamba Collieries Limited.

The plan further states Government's commitment to streamline the operations of ZESCO Limited to achieve efficiency and sustainability. During the implementation of the 8NDP, investments will be made to upgrade electricity transmission infrastructure to reduce transmission losses and promote trade in electricity by increasing interconnectivity to Tanzania, Kenya, Zimbabwe, Mozambique, Malawi, Botswana, Namibia and Democratic Republic of Congo (DRC). According to the Southern African Power Pool (SAPP) the total deficit in the region is about 1700MW. Countries that have declared deficits on capacity inclusive of reserves include Botswana (239MW), Lesotho (102MW) DRC (498MW), Malawi (22MW), Swaziland (210MW), Tanzania (379MW), and Zimbabwe (292MW).

The 8NDP further recognizes the challenges posed by climate change towards the attainment of national development. The plan outlines measures to mitigate climate change by developing green and renewable energy sources. The tropical climate of Zambia has been facing high variability in the last few years with average rainfall declining since the 1960s leading to decreased hydroelectricity generation. This highlights the need to strengthen climate change resilience and mitigation measures, including the diversification of electricity sources away from hydro to other renewable sources such as solar, wind and biogas.

Gender Mainstreaming in the Energy Sector

The level of electricity access and electrification rate by female and male headed homes in Zambia indicates that there is a gender gap. According to the Gender Equality Strategy and Action Plan for the Energy Sector, electrification rate is higher among male headed than female headed homes both in urban and rural areas. This gender gap could be attributed to lower levels of income, willingness to pay, lower awareness of benefits

of electricity and inadequate information of the suppliers of Solar Home Systems (SHS) and the type of technology (Grid connection and off grid connection). ZESCO limited is alive to this fact of increasing access to affordable, reliable and clean energy to all because of the important role electricity plays in improving people's livelihoods.

Situation Analysis

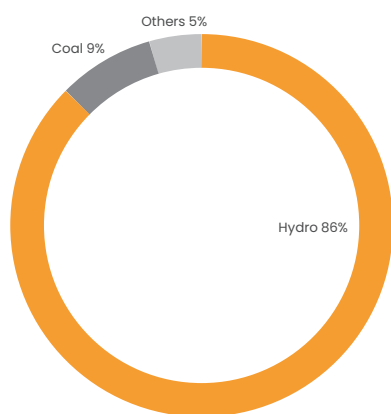
Generation

Zambia has 3,493MW of installed generation capacity as of 2022. Eighty six percent (86%) of the national generation capacity was hydro based and the balance 14% was a mixture of thermal, heavy fuel oil and solar Photovoltaic (PV) generation as shown in the figure below. The predominance of hydro based electricity opens the country to the risk of weather fluctuations, which have become more common with the advent of climate change.

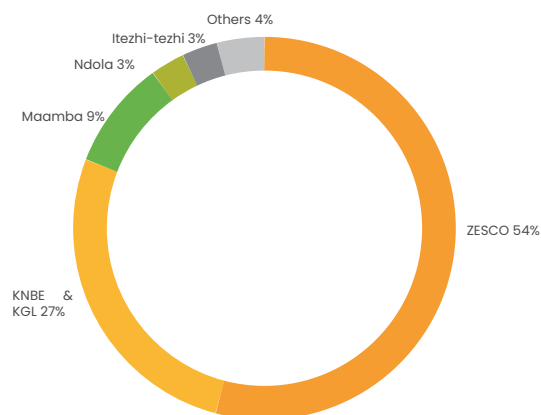
Zambia's installed generation capacity is owned by various players in the ESI; eighty one percent (81%) is owned by ZESCO Limited and its subsidiaries as shown in the in figure 3 below. The balance of 19 % is taken up by Independent Power Producers (IPPs); this is expected to grow in the future as private sector participation gains ground.

To exploit the energy spectrum potential, ZESCO Limited intends to invest in hydropower plants. It will also invest in alternative sources of energy such as solar, wind, geothermal and biogas to improve its energy mix and build climate change resilience.

Electricity Generation Sources in Zambia (2022)



Percent share of National Installed capacity



In terms of rainfall patterns, the country is divided into 6 catchment zones, with yearly rainfall ranging from 700 mm in the south to 1,400 mm in the north as depicted in figure below. Ninety six percent (96%) of the national installed hydro generation capacity is in the low rainfall southern part of the country while the balance is in the northern part of the country, which, has normal rainfall. The country has potential of generating at least an additional 4000MW of hydropower.

Transmission

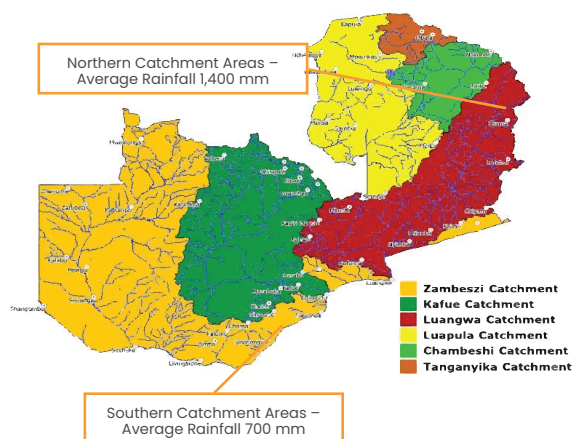
ZESCO Limited owns and operates over 11,000Km of transmission lines for the transfer of power from generation stations and the region. The 11,000Km transmission infrastructure consists of 44% (330kV), 4% (220kV), 13% (132kV), 6% (88kV) and 35% (66kV). The national grid is directly interconnected to Zimbabwe and Namibia while the interconnection to the Democratic Republic of Congo is through the Copperbelt Energy Corporation (CEC) network. Zambia's geographical location creates an opportunity for ZESCO Limited to increase regional power trade by investing in interconnectors to all neighbouring countries.

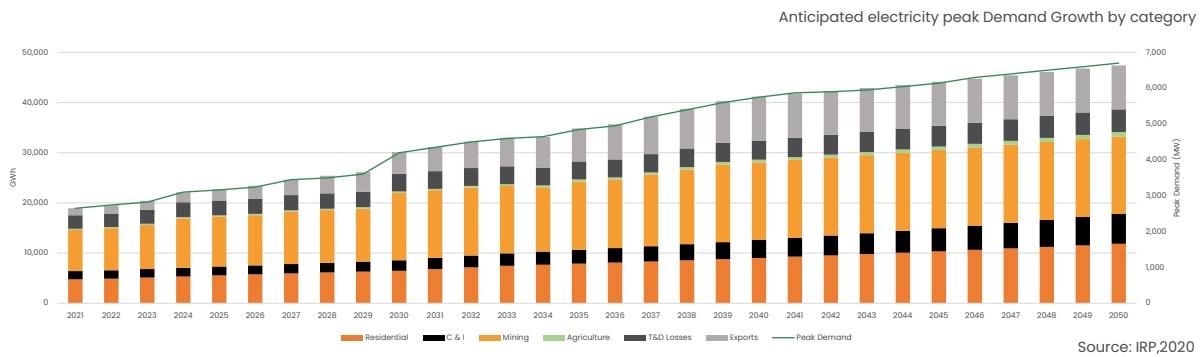
Distribution and Supply

The Distribution network consists of 0.4kV, 11kV and 33kV lines throughout the country servicing the Industrial, Commercial, and Domestic customers. The national demand as at 2022 stood at 2,394MW and is projected to increase to 8,000MW by the year 2030. Additionally, ZESCO Limited exports an average of 430MW annually to interconnected SAPP countries and this is expected to grow to 700MW by 2030.

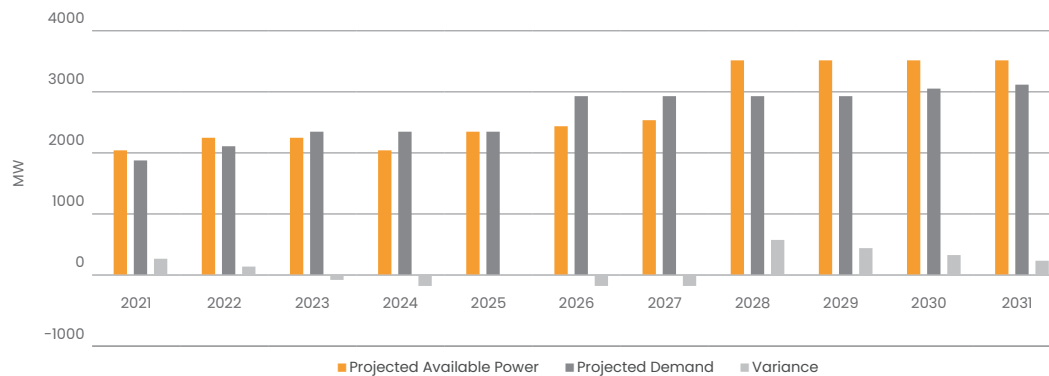
ZESCO Limited projects that from 2023 to 2027, the

Rainfall catchment Zones





available energy profile will not be sufficient to meet the projected demand from both domestic and export customers. It projects a deficit of 38.2MW (2023), 261.5MW (2024), 27.3MW (2025), 280.2MW (2026) and 298.5MW (2027). ZESCO Limited shall work with other partners such as IPPs to bridge the gap through development of additional renewable sources. However, it is expected that the projected demand will be met with excess supply from 2028. This will arise from completed generation plants and the materialisation of initiatives implemented from the Strategic Plan.



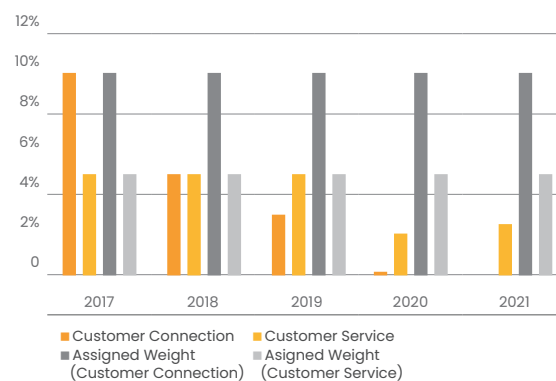
Projected available power and projected demand for the plan period.

Customer Service

Over the years, ZESCO Limited has not performed well in meeting customers' expectations, which has led to loss of customer confidence and loyalty. Notable amongst the causes of customer dissatisfaction were delayed customers' connections, delayed response to faults and power outages.

ZESCO Limited's performance on indicators relating to Customer connections and Customer service are reflected in the Energy Regulation Board (ERB) Key Performance Indicators (KPIs). The customer metric measures the average days taken to connect a new customer while, customer service monitors ZESCO Limited's performance relating to power outages and the duration it takes to resolve related complaints. The figure shows ZESCO Limited's average annual performance from 2017 to 2021.

ZESCO Limited's KPI performance
ERB Customer Service Indicators



Financial Performance

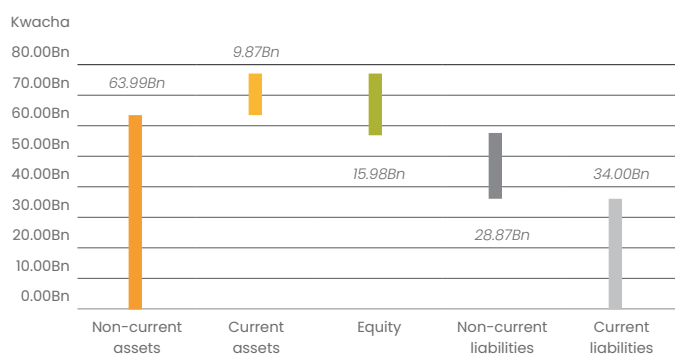
The utility's financial performance over the past few years has been characterised by declining profitability, liquidity, solvency, overdue receivables and high debt levels. This has largely been occasioned by non-cost reflective tariffs, deteriorating macroeconomic indicators, high cost of electricity purchases from IPPs, unsustainable levels of debt driven by high capital expenditure and operational inefficiencies. The table below highlights the major areas of financial concern to be addressed in this strategic plan.

Major areas of Financial Concern

SN	Area of Concern	Description
1	Unsustainable levels of Debt	High and unsustainable levels of debt to Independent Power Producers, Lenders and other creditors (suppliers of goods and services)
2	Receivables (Mining & GRZ)	High outstanding receivables from Government institutions and the mines
3	Unsustainable CAPEX whose cost is below returns.	Investments that were not sufficiently appraised
4	Non-Cost Reflective Electricity Tariffs	Non-cost reflective tariffs leading to insufficient revenues
5	Operational inefficiencies	Low uptake of Information and Communications Technology (ICT) to optimise business operations and achieve cost efficiency
6	Non-cost reflective connection fees	Non-cost reflective connection fees leading to build-up of connections backlog

ZESCO Limited's liabilities exceed its assets which has weakened its financial position. This has negatively impacted its ability to finance both its capital projects and operations. The weakened financial position has led to high cost of borrowing.

2021 Balance Sheet



ZESCO Limited's key solvency ratios such as Debt-to-Equity (D/E) and Gearing Ratios have deteriorated over time. The other key metrics such as the Debt Service Coverage Ratio (DSCR) and Debt-to-EBITDA are below lender's requirements thus creating challenges for future debt financing. These key financial ratios from 2017 to 2021 are shown in the table below.

Financial Ratios

YEAR	2017	2018	2019	2020	2021
Net profit ratio (- loss situation)	5%	16%	-39%	-58%	35%
Current ratio	0.6	0.5	0.4	0.33	0.30
Quick ratio	0.6	0.5	0.3	0.31	0.28
Debt/Equity ratio	78%	70%	83%	194%	56%
Payable Days	542	834	905	1143	1242

Legal and Regulatory Framework

The Electricity Supply Industry (ESI) was liberalized in 1995 through an Act of Parliament to attract private sector participation in the generation, transmission, and distribution of electricity. Further, the Government set up two additional institutions namely; Energy Regulation Board (ERB) and the Office for Promotion of Private Power Investments (OPPI) to regulate operations and pricing, and promote new players in the electricity market, respectively. The electricity industry in Zambia is governed by the Electricity Act No. 11 of 2019 and the Energy Regulation Act No. 12 of 2019.

ZESCO Limited's performance has been monitored by the ERB using Key Performance Indicators (KPIs). The KPI framework is an incentive based regulatory tool, under which ZESCO Limited is sanctioned for poor performance or rewarded for good performance.

Other bodies that regulate ZESCO's operations include; Zambia Environmental Management Agency (ZEMA), which is responsible for ensuring that environmental considerations are taken into account in the course of ZESCO Limited's operations, Zambia Public Procurement Authority (ZPPA), which ensures adherence to procurement standards that deliver value for money, Workers Compensation Fund Control Board (WCFCB), which is tasked with safeguarding workers' safety, Zambezi River Authority (ZRA), which oversees the utilisation of water by Zambia and Zimbabwe and Water Resource Management Authority (WARMA), which oversees local utilisation of water bodies.

Managing Environmental, Social and Governance (ESG) Compliance has become crucial for all power utilities locally and globally. Power utilities are investing in ESG initiatives aimed at achieving the ultimate goal of zero carbon emissions and environmental sustainability. In this regard, ZESCO Limited will adopt social initiatives such as gender diversity and inclusion, engagement of local communities, energy efficiency and governance by developing sustainable governance structures.

Strengths, Weaknesses, Opportunities and Threats

An analysis of ZESCO Limited's situation using the Strengths, Weaknesses, Opportunities and Threats (SWOT) framework is illustrated in the table below:

Strengths, Weaknesses, Opportunities and Threats Analysis and actions

STRENGTHS	ACTION
Widespread power network and asset base throughout the country	Optimize the network asset base to exploit trading opportunities across the country Ensure that use of transmission system is well priced to enhance revenue base
A well interconnected and centrally located power system in the region	Exploit all available opportunities for regional power trade
Revenue security through prepaid sales and Power Purchase Agreements	Install smart meters on non-prepaid and contract customers to enhance revenue security
Harmonious Industrial Relations	Maintain labour relations by implementing staff reward and retention schemes
Effective technological infrastructure (Optic fibre & ICT)	Monetise the infrastructure and technological solutions to strengthen revenue base
Skilled human capital in power systems management	Monetise by offering consultancy and training services

S

OPPORTUNITIES	ACTION
Good governance and support to state-owned enterprises	Engage Government on policy reform and support toward the Strategic Plan
Over 4,000MW of untapped hydro-power generation potential	Develop viable generation plants in accordance with the Integrated Resource Plan
Untapped renewable energy resources (Solar, Wind, Biomass)	Develop viable generation plants in accordance with the Integrated Resource Plan
Low access rate to electricity	Extend the grid and provide affordable off-grid solutions
Growth in electricity demand locally and internationally	Develop infrastructure to meet the growing demand
Enactment of Electricity Act leading to competitive pricing through open access regime	Ensure ZESCO Limited benefits through competitive pricing

O

W

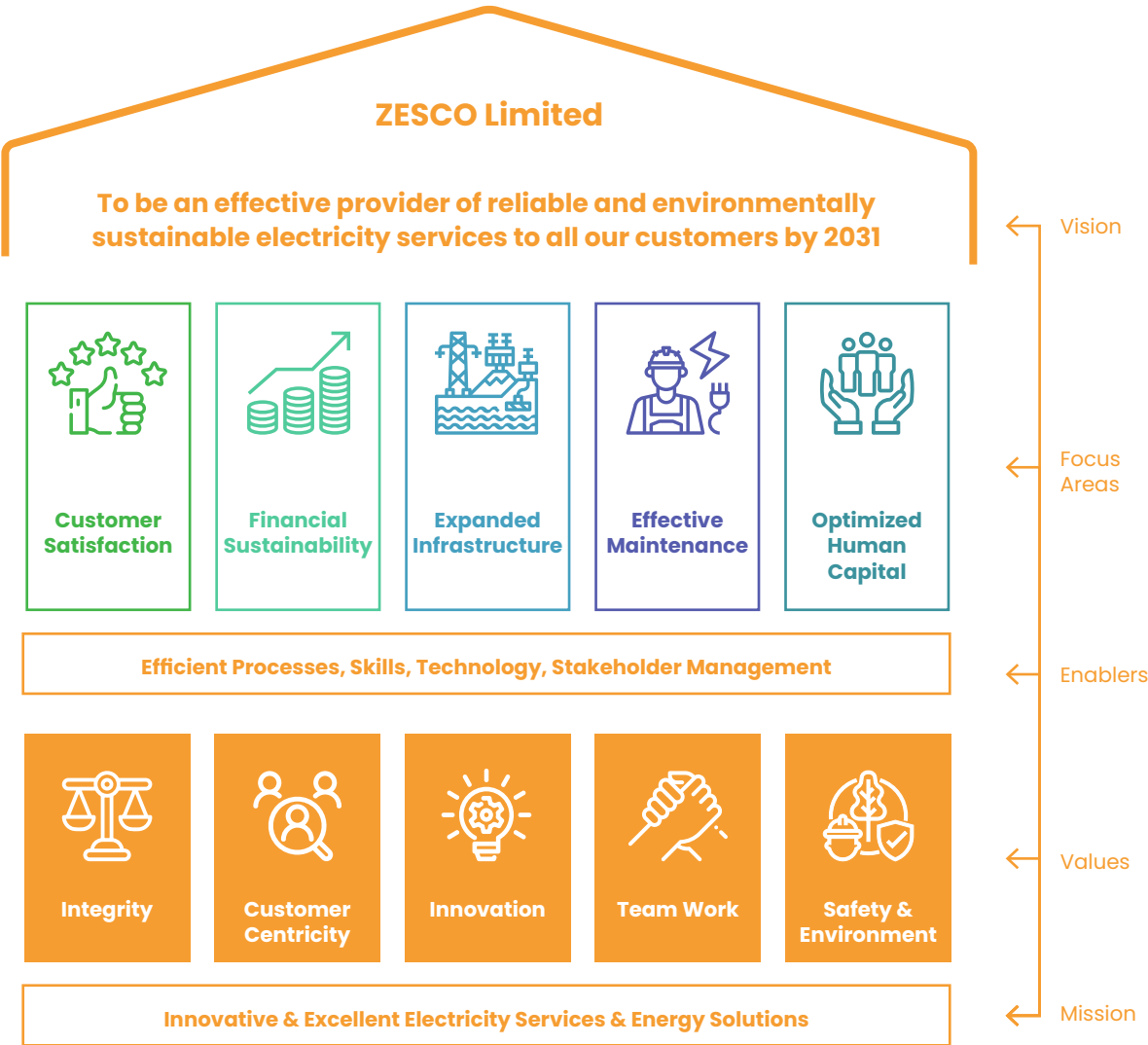
WEAKNESSES	ACTION
Inadequate working capital	Establish and adhere to an effective working capital management framework
Non-cost reflective tariffs and connection fees	Apply for a multiyear tariff and connection fees' adjustment and engage ERB to implement the annual tariff adjustments once approved
Unsustainable debt	Restructure and refinance where possible and engage the Government to honour their portion of debt. Manage debt contraction to maintain sustainability
Undiversified generation portfolio	Develop alternative generation sources
Inadequate maintenance regime	Implement an effective maintenance regime
Sub-optimal organizational structure	Conduct skills audit and restructuring exercise
Old and obsolete Distribution infrastructure	Conduct a system audit and systematically replace obsolete infrastructure

T

THREATS	ACTION
Increasing competition in the Electricity Supply Industry	Improve on the quality of service delivery Partner and collaborate with other players in the ESI to enhance competitiveness
Hydrological risks due to climate change	Develop viable alternative generation sources to diversify the energy mix
Vandalism, theft and fraud	Engage all stakeholders to get their buy in on infrastructure protection Strengthen security systems
Emergence of new world pandemics	Implement responsive measures
Increasing Cyber Security risks	Maintain effective cyber security infrastructure

The Strategic Plan at a Glance

ZESCO Limited's Strategic Plan is built on the foundation of its mission and values. The implementation of the plan will be supported by efficient processes, skills, technology and stakeholder management which will enable the achievement of the strategic objectives and the vision as shown below:



Areas of Strategic Focus, Specific Objectives and Initiatives

ZESCO Limited plays a critical role in the development process of the country. The operations of the Utility directly impact the economy and also have a bearing on the delivery of social services. To ensure that ZESCO Limited effectively fulfils its mandate, all strengths and opportunities must be maximised while weaknesses and threats must be mitigated.

ZESCO Limited has faced many challenges, which have drastically impacted its operations. Among such challenges are the high dependence on hydro generated power, which increases vulnerability owing to persistent droughts, inadequate working capital, non-cost reflective tariffs and connection fees, high and unsustainable debt, inadequate maintenance and a sub-optimal organisational structure. These challenges have been compounded by vandalism, theft, fraud and increased cyber security risks.

While noting the challenges, ZESCO Limited also has positive attributes, which it will utilize to improve operations. For instance, ZESCO Limited has a widespread power network and asset base throughout the country, a well interconnected and centrally located power system in the region, harmonious industrial relations, technology infrastructure (Optic fibre & Information and Communications Technology (ICT)) and skilled human capital in power systems management. ZESCO Limited is working in a conducive environment, exemplified by political will, over 4,000MW of untapped hydropower potential, other untapped renewable energy resources, low rates of access to electricity, increasing local and international demand for electricity and supportive legislation which encourages competitive pricing through the open access regime.

Taking advantage of the identified positive attributes, ZESCO Limited has developed initiatives that will enhance its ability to fulfil its mandate. The negative attributes will also help ZESCO Limited adopt mitigating measures to limit adverse impacts. After taking these factors into account, ZESCO has formulated five Strategic Objectives which will guide the 2022–2031 Strategic Plan:

1. To achieve customer satisfaction, win customer confidence and loyalty;
2. To be a financially sustainable organisation that balances the needs of its stakeholders;
3. To expand the Generation, Transmission and Distribution systems guided by an Integrated Resource Plan;
4. To have an effective maintenance regime for Generation, Transmission and Distribution systems; and
5. To align human capital to business objectives.

Customer Satisfaction



Area of Strategic Focus 1: Improved Customer Satisfaction

The primary responsibility for ZESCO Limited is to cater to the needs of its customers and customer centricity is at the core. ZESCO Limited's interaction with its customers has an immediate impact on its performance. Positive engagements with customers will help in the retention and attraction of old and new customers. As the main provider of electricity services in Zambia, ZESCO Limited has an obligation to ensure that customers have electricity that is of good quality and is reliable.

Customers have consistently complained about the shortcomings of ZESCO Limited, poor attitude of staff, delays in new connections, obsolete Customer Management System, absence of a service charter and delays in the resolution of faults. Owing to customer dissatisfaction, ZESCO Limited's reputation has been adversely affected. To address these challenges, the Strategic Plan aims to achieve the following specific objectives and corresponding initiatives:

Specific Objectives

Initiatives

To connect customers within the regulatory prescribed time-frame

- » Introduce Express Connection Service (ECS) scheme.
- » Ring fencing of connection fees received for the facilitation of connections.

To simplify the onboard Process using Technology

- » Use of pictorial onboarding processes to ease application process.
- » Market digital channels used by our customers.

To enhance system for monitoring customer experience

- » Developing systems for data collection, processing, analysis and usage using surveys as well as social media.

To have an effective communication strategy

- » Identification and development of the stakeholder's information needs.
- » Development of a Stakeholder Communication Plan

To improve Customer Service.

- » Training of all employees who have customer interface.
- » Develop and operationalise Customer Service Charter.
- » Implement Enterprise Asset management system with an integrated back-up solution for planning, construction, operations and maintenance.

Financial Sustainability



Area of Strategic Focus 2: Achieve Financial Stability

ZESCO Limited's liquidity position falls short of conventional benchmarks. Between 2017 and 2021, ZESCO Limited's operating costs increased by 135 percent. ZESCO Limited is currently faced with high operating expenditure (OPEX), of which 60% is from purchases of electricity from IPPs. As at 31st December 2021, the total debt was USD2.7 billion of which 42% was CAPEX driven. This has resulted in ZESCO Limited's inability to service this debt from its operating cashflows.. ZESCO Limited's key solvency indicators such as Debt to Equity and gearing ratios have deteriorated over time. Other metrics such as the Debt Service Coverage Ratio and Debt/ Earnings before interest, taxes, depreciation, and amortization (EBITDA) are below lenders' requirements and therefore creating challenges for future debt financing.

The non-cost reflective tariffs and connection fees have largely contributed to the deteriorating financial position of ZESCO Limited. Despite growth in the number of domestic customers, revenues have not grown in tandem, in US dollar terms. This was compounded by the rapid depreciation of the Kwacha between 2014 and 2021. Revenue collection challenges from government institutions and contractual customers have contributed to the poor liquidity position of ZESCO Limited and subsequently impeding its ability to honour obligations to suppliers and lenders.

To achieve financial sustainability, the Strategic Plan will address: Debt Management, Revenue Management, Cost Management, and Working Capital Management through specific objectives and corresponding initiatives outlined below:

Specific Objectives

To reduce debt to sustainable levels

Initiatives

- » Refinance IPP and Emergency power debt with more affordable long-term finance.
- » Engage government for debt swaps on all debts owed.
- » Negotiate with Government on conversion of On-lent Loans to Equity.
- » Finalise Tariff re-negotiations with IPPs
- » Restructure government guaranteed long-term debt through refinancing of expensive debt and extension of tenure.

Financial Sustainability



Area of Strategic Focus 2: Achieve Financial Stability

To improve cash flows

- » Achieve cost reflective domestic tariffs through constant engagements with the regulator.
- » Apply cost reflective charges for all new connections.
- » Increase the number of contract customers by reducing the Maximum Demand capping to 5MVA.
- » Increase exports.
- » Improve revenue collections to reduce receivables to 45 days.
- » Installation of smart metering technology for timely collection of revenue.
- » Invest in commercially viable capital projects.
- » Expedite dispute resolution with customers when they occur.

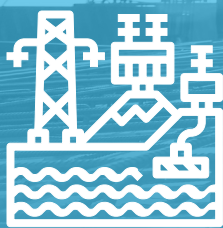
To achieve operational cost efficiency

- » Establish continuous evaluation of investments.
- » Enhancing oversight of investments to ensure commercial viability and divest from unviable ones.

To improve working capital

- » Convert IPP debt from current liabilities to long term liabilities through refinancing.
- » Improve inventory management.

Expanded Infrastructure



Area of Strategic Focus 3: Expanded Generation, Transmission and Distribution systems

Zambia had 3,493MW of installed generation capacity as of 2022. Eighty six percent (86%) of the national generation capacity was hydro based, 9 % was from coal, with the balance of 5% being comprised of thermal, heavy fuel oil and solar Photovoltaic (PV) generation. The predominance of hydro based electricity places the country at risk of weather fluctuations, which have become more common because of climate change. The concentration of the country's hydropower generation in the drought prone southern part of the country further compounds the problem. To exploit the abundant potential for hydropower, ZESCO Limited will invest in small hydropower plants in the northern part of the country. Further, ZESCO Limited will supplement hydropower generation by harnessing alternative sources of energy such as solar, wind, geothermal and biomass. ZESCO Limited will also increase its capacity of interconnections through projects such as ZIZABONA and Zambia-Tanzania-Kenya (ZTK) lines which will connect the Southern African Power Pool (SAPP) to the Eastern Africa Power Pool (EAPP).

With the anticipated increased economic activities, there is need for increased generation, transmission and distribution capacities. To achieve this, ZESCO Limited will implement the initiatives outlined in the table below:

Specific Objectives	Initiatives
To increase the transmission networks power transfer capacity, access and security	<ul style="list-style-type: none"> » Development of high priority transmission network reinforcements. » Development of regional power interconnectors.
To increase the distribution networks power transfer capacity, access and security	<ul style="list-style-type: none"> » Development of high priority distribution network reinforcements.
To improve quality of Supply	<ul style="list-style-type: none"> » Implement Dynamic Line Rating (DLR). » Extend Supervisory Control and Data Acquisition systems (SCADA) monitoring and control coverage to all Transmission Substations. » Increase number of Power Quality (PQ) recorders. » Improve the power factor at load points.
To enhance the national energy mix to achieve surplus and security of supply	<ul style="list-style-type: none"> » Harness solar, wind, geothermal and biomass energies. » Develop hydropower facilities from diverse river basins. » Promote energy efficiency.
Strengthen partnerships	<ul style="list-style-type: none"> » Engage in joint ventures/ Public Private Partnerships (PPP) for development of generation plants, transmission lines and interconnectors.

Effective Maintenance



Area of Strategic Focus 4: Effective maintenance regime for Generation, Transmission and Distribution systems

The financial challenges that ZESCO Limited has had over the years have gravely affected its operational capacity. ZESCO Limited's asset base is composed of old and obsolete equipment, which has negatively impacted the capacity to effectively generate, transmit and distribute electricity. This Strategic Plan will address factors, which have impacted the ability of ZESCO to generate adequate, safe, reliable, cost effective and sustainable electricity through effective and safe operations and maintenance. These include the mismatch between generation and transmission, long backlog of transmission maintenance, instability of systems owing to obsolete and old equipment, vandalism and theft of infrastructure. The specific objectives to be achieved and the corresponding initiatives that will be implemented are detailed below:

Specific Objectives

Initiatives

To reduce power supply interruptions

- » Implement Reliability Centre - Based Maintenance.
- » Increase generation plants and transmission lines availability.
- » Rehabilitation of old infrastructure.
- » Create enough capacity factor and ensure high plant availability.
- » Creation of independent Maintenance Structures under Design and Construction System (DCS).
- » Restructure faults coordinating centres and creation of quick response teams.
- » Implement Geographical Information System (GIS).
- » Fully automate identified Power Stations to reduce administrative costs.
- » Integration of faults indicators on High voltage lines.
- » Implement Wide-Area Monitoring, Protection, Automation and Control Systems (WAMPAC) Project.
- » Reinforce and modernise Instrumentation.
- » Implement Centralised Hydrological Monitoring System to enhance energy generation forecast.
- » Establish Generation Operations Centre with advanced generation management functions for all power stations.
- » Upgrade of National Control Centre (NCC) Network Manager, SCADA/GMS/EMS Systems and Transmission Substation Automation Systems (SAS).
- » Ensure routine and preventive maintenance are carried out as per schedule.
- » Increase surveillance on key installations to reduce vandalism and theft.

To reduce Transmission and Distribution losses

- » Implement revenue intelligence system
- » Rehabilitation of old infrastructure.

Optimised Human Capital



Area of Strategic Focus 5: Optimised Human Capital

ZESCO Limited will efficiently manage its human capital through a transparent process that ensures that staff are qualified, skilled, experienced and correctly placed to achieve ZESCO Limited's objectives.

Successful implementation of the Strategic Plan will be dependent on how ZESCO Limited improves its human capital. To optimise ZESCO Limited's human capital, initiatives will be implemented that address the suboptimal organisational structure, capacity building, continued use of manual human capital processes and lack of an active appraisal system. The specific objectives to be achieved and the corresponding initiatives that will be implemented are detailed below:

Specific Objectives

To align organisational structure to business needs.

To enhance capacity building

To improve operational efficiency

Initiatives

» Carry out an Organisational Capacity Assessment (OCA).

» Undertake skills audit.

» Appropriate placement and appointment of skilled staff.

» Implement capacity building programs.

» Implement performance management system.

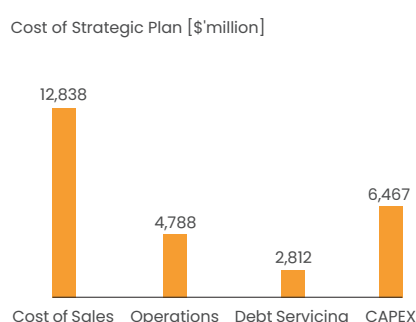
» Digitalisation of identified manual human capital processes.

» Outsourcing of non-Core business services

Financing Plan

It is estimated that carrying out this Plan successfully will cost USD 27 billion and will be financed by debt and equity generated by ZESCO operations. Further, ZESCO Limited will contract some of its projects through Special Purpose Vehicle (SPV) and Public Private Partnerships model to reduce financial pressure on the balance sheet.

The cost to implement the strategy is broken down in the figure below;



The table below highlights the estimated financial expenditure schedule for CAPEX related to strategic initiatives under each focus area. It is estimated that a total of USD 6.2 billion will be required to successfully implement the initiatives.

Schedule of Expenditure (USD Million)

Area of Strategic Focus	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total Cost
Expanded Generation, Transmission and Distribution systems	110.25	552.97	858.68	1286.78	1070.60	871.60	405.60	15.00	185.00	-	5356.49
Effective maintenance regime for generation, transmission and distribution systems	7.27	7.27	5.00	10.00	7.27	7.27	7.27	7.27	7.27	7.27	73.16
Achieve financial stability	0.48	47.30	47.25	47.25	47.25	47.25	47.25	47.25	47.25	47.25	425.78
Improved Customer Satisfaction	107.88	75.59	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	418.67
Optimised Human Capital	0.26	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	2.96
Others	20.00	20.00	15.00	20.00	20.00	15.00	20.00	20.00	20.00	20.00	190.00
Grand Total	226.14	683.43	940.63	1373.73	1154.82	955.82	489.82	99.22	269.22	84.22	6467.06

Projected Financial Performance

To achieve financial health and establish stability, the plan assumes successful renegotiation of tariffs with IPPs, unconstrained power balance, IPP debt restructuring, conversion of on-lent loans to equity, and completion of some generation and transmission projects through Special Purpose Vehicle (SPV) model and Public Private Partnerships. This is expected to ease the financial stress on the balance sheet.

The forecast for the critical financial ratios is highlighted in the statement below:

Fiscal year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
\$ in millions, if not otherwise stated	Forecast	Plan	Plan	Plan	Plan	Plan	Plan	Plan	Plan	Plan
Margins										
Gross Margin	45%	41%	43%	32%	36%	42%	51%	51%	51%	52%
EBITDA Margin	10%	17%	21%	11%	15%	21%	30%	30%	30%	30%
EBIT Margin	28%	12%	14%	8%	10%	16%	27%	27%	27%	27%
Profit Margin	17%	5%	3%	0%	1%	5%	14%	14%	15%	15%
Return Ratios										
Return on Equity	16%	5%	3%	0%	1%	6%	19%	16%	15%	14%
Return on Capital Employed	13%	5%	5%	3%	4%	7%	15%	15%	14%	14%
Liquidity ratio										
Current Ratio	0.42	0.96	0.98	0.98	1.01	1.09	1.50	2.13	3.21	5.65
Quick Ratio	0.38	0.92	0.93	0.93	0.95	1.02	1.41	2.02	3.05	5.40
Cash Ratio	0.17	0.53	0.49	0.53	0.49	0.47	0.73	1.15	1.86	3.46
Leverage Ratios										
Debt %	22.8%	38.3%	40.3%	41.7%	45.4%	47.0%	43.9%	40.9%	37.8%	34.6%
Debt- Equity	0.8	1.3	1.3	1.4	1.5	1.5	1.2	1.0	0.8	0.6
Coverage Ratios										
Annual DSCR	1.7	1.9	1.5	0.9	1.2	1.6	3.3	3.2	3.1	3.2
Total Debt: EBITDA Ratio										
Total Debt:EBITDA Ratio (Actual)	9.04	7.35	6.61	12.33	9.48	6.40	3.06	2.83	2.58	2.34
Working Capital										
Asset Turnover Ratio	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5
Trade and Receivable Days	47	47	47	47	47	47	47	47	47	47
Trade and Payable Days	651	455	404	352	301	250	199	147	96	45
Inventory Days	34	21	21	21	21	21	21	21	21	21

ZESCO Limited seeks to attain the following major financial measures which, are a crucial benchmark for comparing ZESCO Limited's real performance to industry financial standards:

- EBITDA Margin: This metric is useful for evaluating the success of a Corporation's cost-cutting initiatives. ZESCO aims to achieve a 30% margin by 2028 and will achieve this by; utilizing technology, doing away with personal-to-holder vehicles, and optimising fuel usage.
- Profit Margin: This measure is useful for displaying the percentage of sales that make it to ZESCO Limited's bottom line. When ZESCO uses initiatives like the one in (a) and implements some of the projects utilising an SPV and Partnerships model, it will be able to save 15% of all income generated. The use of the SPV model will lower the amount of interest charges that will be accrued on ZESCO's income statements.
- Return on Equity: This indicator is crucial for showing the value gained for ZESCO Limited's shareholders, the government of the Republic of Zambia. By 2030, ZESCO hopes to attain a 15% return to fulfil its role in the Electricity Supply Industry (ESI) and draw additional private investments into the market.
- Liquidity Ratios: This metric indicates ZESCO's capacity to pay its immediate debts when they become due; nonetheless, ZESCO Limited has faced liquidity challenges. ZESCO Limited plans to attain a current ratio of greater than one (1) in 2029.
- Debt Service Coverage Ratio (DSCR): Since ZESCO engages in several projects as part of its business, it is necessary for ZESCO Limited to demonstrate its ability to pay off its debts to obtain funding. ZESCO Limited aims to reach a DSCR of greater than 1.25 throughout the duration of the plan.
- Debt/EBITDA Ratio: In the case of ZESCO, lenders use this ratio to assess its financial strength and liquidity. The ratio demonstrates how much real cash flow the business has to pay its interest-bearing debt. By the year 2028, ZESCO hopes to achieve a ratio of less than six (6). This will be made possible by putting into action efforts like converting on-lent loans to equity, applying multi-year tariffs, resizing CAPEX, and sculpting debt to levels that can be adequately covered by the cash flow available for debt servicing (CFADs).
- Working Capital: ZESCO will operate efficiently if working capital is managed effectively. This involves managing inventories, accounts receivables and accounts payables. Since ZESCO's payment days are currently over 700, this Strategic Plan seeks to reduce them to 45 by 2031. This goal will be met by the implementation of initiatives such as the conversion of IPP payables to debt, full payment of services and goods procured, and a calculated plan to amortize legacy debt.

Conclusion

The Strategic Plan has been formulated by building on the ZESCO Limited's vision, responding to the operating environment and engagement of stakeholders. Further, this Plan is premised on the aspirations of the Eighth National Development Plan (8NDP), the Integrated Resource Plan (IRP) and the Corporation's desire to attain customer satisfaction, financial sustainability and efficient service delivery through expanded, well-maintained infrastructure and optimised human capital.

