



# BUSINESS PLAN 2020-2024



**ELECTRICIDADE  
DE MOÇAMBIQUE, E.P.**

**LIGHTING MOZAMBIQUE'S TRANSFORMATION**





# **BUSINESS PLAN 2020-2024**



**ELECTRICIDADE  
DE MOÇAMBIQUE, E.P.**

**LIGHTING MOZAMBIQUE'S TRANSFORMATION**

**Special thanks:**

To the Board of Directors, Directors, Delegates and their technical teams, for the availability and contribution made during the process of drafting this Business Plan for the five-year period 2020-2024.

**Title:**

EDM Business Plan 2020-2024

**Prepared by:**

Mr. Marcelino Alberto, Mr. Getá Pery, Mr. António Nhassengo, Mr. Pedro Simão, Mr. Samuel Guambe, Mr. Celsio Dambo and Mrs. Nilza Francisco

**Coordinated by:**

Mr. Marcelino Alberto

**Technical Assistance:**

Deloitte & Touche (Moçambique), Lda

**Reviewed by:**

EDM Board of Directors

**Approved by:**

IGEPE (State Holding Management Institute)

**Contacts:**

Av. Agostinho Neto, nº 70, Po Box nº 2447, Maputo City, Mozambique

Landline: (+258) 21 490 636

Website: [www.edm.co.mz](http://www.edm.co.mz)

Email: [corporate@edm.co.mz](mailto:corporate@edm.co.mz)





MESSAGE FROM THE CHAIRMAN  
OF THE BOARD OF DIRECTORS AND CEO

The Government of Mozambique (GoM) has challenged Electricidade de Moçambique, EP (EDM), to be a company of excellence with good national and regional references, commercially profitable as well as providing electricity with a good quality to all Mozambicans, but not limited to, being an electricity business leader in southern Africa, with eyes on the entire African continent.

This means that EDM must leave the current stage, in all aspects, taking the following decisions:

Adopt a new management and business models, as well as an economic and financial model; Increase and intensify the power generation, as well as distribution and commercialization; Modernize its systems and corporate management practices; Digitize its work processes to optimize resources and promote integrity, giving the customer places they deserve in terms of addressing their concerns and services.

Succinctly, have a greater visibility as a company committed to the development and be a reference for the citizens, especially in the country and not forgetting the international commitments and goals.

EDM is the business arm of the Government in the sector; that is, it is the public company responsible for the electric sector in Mozambique, being under its management Generation, Transmission, Distribution and Commercialization of electrical energy. Its field of action, national and international presence, knowledge of the sector and the central role it has played since 1977, year of creation, provides the company with such a positioning and technical knowledge which enable it to lead with propriety all the processes in the Mozambican and regional electrical arena.

EDM is excellent and it is the most chosen institution for the pursuit of national development policies, strategy and the universal access of the population to the national electricity grid. This is given to its track record in structuring and implementing the generation and transmission power projects under a public-private partnership regime (PPP) and its capability of mobilizing international financing through retrocession agreements, as well as international and national direct funding agreements.

In addition, Mozambique has enormous power potential, which in turn is combined with its privileged geographical location, bordering six countries that provide favorable conditions to



become, in fact, a power generation hub in the Southern Africa Region and good international references. Projections that constitute demand for electricity will increase by around 50% in the region by 2030, which is a major commercial opportunity for EDM.

To achieve the challenge posed by the Government, of having an EDM of regional reference in excellence, the Company must effectively undertake reforms and profound transformations, modernizing itself and new skills and techniques of work and management in the sector at a global level. That is what EDM has been doing for the past few years, changing itself!

We started by having an exhaustive diagnosis process of our institution, which helped us to identify the full frame of the Company and the plans from which and how to intervene.

Then, we designed and implemented a new organic structure that positioned workers as the greatest asset of the Company, committed to configure the management mechanisms to encourage and keep them engaged and motivated, in order to increase productivity and guarantee the fulfillment of objectives. EDM has strategic goals, without neglecting its values, vision, ethics, sustainability and adaptability, aiming to guarantee capable gender equity, as a strategy for business modernization.

Finally, we designed and we are implementing a new business model, which clearly defines the boundaries between commercial energy and social energy, with solutions within the electricity grid and outside the electricity grid, using national and international partnerships, which led us to a new operational model, which essentially aims at maximizing the sale of energy.

After the phases mentioned above, we are deeply involved in the process of conceiving and designing an instrument that would guide us in the development of our business in order to achieve the excellence we seek. Therefore, here is the EDM Business Plan for the next five years, 2020-2024.

The Business Plan incorporates not only the vision we are still pursuing, but also it establishes the objectives and strategic goals and its implementation plan, the sources of financing that will be required for the execution of the operational, communication and marketing plans, as well as the capital investment and human resources needed, resulting in the financial results and possible business scenarios that will lead EDM to reverse its negative net results of the previous years, reaching the intended end goals, as a national and regional reference in excellence!

EDM will adopt management based on corporate risk across the Company, integrating business processes and organizational culture at all levels of management. This will ensure that correction and opportunities are managed in the best possible way, in order to meet the strategic and operational objectives of the organization, in a sustainable manner and incorporate risk-based decision making, where risk management and achieving acceptable maturity corporate governance are an integral part of the process.

Although, the document drafting has been inclusive and comprehensive to all EDM 's managers, it is far from being considered a sacred, perfect and finished document, but it guides us and can be adjusted in the course of the upcoming 5 years, in accordance with the emerging conditioning variables. Therefore, we are fully opened to receive comments and/or suggestions from the stakeholders!



(Marcelino Gildo Alberto)

Chairman of the Board of Directors and CEO



# CONTENTS

Technical Sheet	04
Message from the Chairman of the Board of Directors and CEO	05
Glossary of Terms and Acronyms	09
<b>Section I. Introduction</b>	11
Executive Summary	12
Summary of critical success factors to the Government's consideration	15
<b>Section II. General characterization of the Company and Energy Sector</b>	17
About EDM	18
Brief history and historical review	18
Corporate object, mission, vision and values	19
Structure and operation	20
Corporate governance and management model	21
Organization and Human Resources	23
Information and operational systems and technologies	24
Economic and financial performance of EDM	25
Performance in the last 10 years	25
Total assets	26
Total liabilities	27
key financial ratios	30
About the energy sector	31
Sector Value chain and institutional framework of the sector	32
Legal and Regulatory Framework	33
Sectorial indexes	34
<b>Section III. Analysis of the situation and prospects for EDM</b>	35
Macroeconomic Analysis	36
World Economy: Perspectives	36
Sub-Saharan African economy: opportunities and challenges for Mozambique	37
Analysis of the sector at international and regional level	39
Characterization and trends in the market	39
International context	39
African regional context	40
Opportunities and challenges for EDM	42
Competitive advantages, critical success factors	42

<b>Section IV. Business Strategy</b>	45
Strategic map, objectives and targets	46
Strategic sources of financing	55
Implementation plan for strategic objectives	57
Economic and financial projections and main assumptions	66
Detail of energy supply, assumptions and operating charges	70
Fixed Operating Costs	73
Detail of projections and financing assumptions	74
Summary of financial accounts for 2020-24	76
Operational plan	82
Generation Function	82
Transmission Function	82
Distribution Function	85
National Dispatch Center	90
Consolidated capital investment plan	91
Human resources development plan	92
Marketing and communication plan	94

# GLOSSARY OF TERMS AND ACRONYMS

<b>AfCFTA</b>	African Continental Free Trade Area
<b>AFD</b>	French Development Agency
<b>AMR</b>	Automatic Reading Meter
<b>ARENE</b>	National Energy Regulatory Authority
<b>BAD</b>	African Development Bank
<b>BCI</b>	Commercial Investment Bank
<b>BPC</b>	Botswana Power Utility
<b>Capex</b>	Capital Expenditure
<b>CEZA</b>	Zambeze Power Company SA
<b>CTA</b>	Confederations of Economic Associations
<b>CTM</b>	Maputo Gas Thermal Power Station
<b>CTRG</b>	Ressano Garcia Thermal Power Station
<b>CTT</b>	Temane Gas Thermal Power Station
<b>DAM</b>	Day Ahead Market
<b>DBSA</b>	Development Bank of Southern Africa
<b>DFI's</b>	Development Finance Institutions
<b>EBITDA</b>	Earnings Before Interest, Taxes, Depreciation, and Amortization
<b>EDM</b>	Mozambican Power Utility
<b>EIB</b>	European International Bank
<b>ENE</b>	National Energy Strategy
<b>ENH</b>	National Hydrocarbon Company
<b>ESKOM</b>	South Africa Electricity Company
<b>EUA</b>	United State of America
<b>EUR</b>	Euros
<b>FUNAE</b>	National Energy Fund
<b>GdM</b>	Government of Mozambique
<b>GIS</b>	Geographic information system
<b>GNL</b>	Liquefied Natural Gas
<b>HCB</b>	Cahora Bassa Hydro power Plant
<b>IDA</b>	International Development Agency
<b>IGEPE</b>	Governmental Shareholding Management Institute of Mozambique
<b>IPP</b>	Independent Power Producers
<b>JICA</b>	Japanese International Cooperation Agency
<b>Motraco</b>	Mozambique Transmission Company
<b>MZN</b>	New Metical Currency
<b>NIS</b>	Network Information System
<b>NORAD</b>	Norwegian Agency for Development Corporation
<b>NOSA</b>	Non-Obrigatory Supply Areas
<b>O&amp;M</b>	Operation and Maintenance
<b>Opex</b>	Operational Expenditures
<b>OSA</b>	Obligatory Supply Areas
<b>PDE's</b>	Point of Supply
<b>PIB</b>	Gross Domestic Product
<b>PPP</b>	Public Private Partnership
<b>REN</b>	National Electricity Network
<b>RNT</b>	National Transmission Network
<b>SADC</b>	Southern African Development Community
<b>SAPP</b>	Southern Africa Power Pool
<b>SEC</b>	Eswatini Electricity Company (EEC)
<b>SIDA</b>	Sweden International Development Agency National Energy
<b>SNTE</b>	National Energy Transmission Company
<b>SPV</b>	Special Purpose Vehicle
<b>SWOT</b>	Strengths, Weaknesses, Opportunities and Threats
<b>TTP</b>	Temane Transmission Regional Project
<b>EU</b>	European Union
<b>USAID</b>	United States Agency for International Development
<b>Usc</b>	Dollar cents
<b>USD</b>	US Dollars
<b>WB</b>	World Bank
<b>YEN</b>	Japanese Currency

## DEFINITION

1 GW	1000 MW
1 GWh	1000 MWh
1 kW	1000 W
1 kWh	1000 Wh
1 MW	1000 kW
1 MWh	1000 kWh
Agriculture Tariff	It refers to tariffs for agricultural production activities, namely in the pumping and irrigation systems, as well as to mandatory dwellings and facilities on the perimeter of the site.
High Voltage	Voltage Supplies over 66 k
Customer Service Area	Territorial limit where the distribution concessionaire is authorized to distribute electricity
Low Voltage	Voltage Supplies Below 1 kV
Load	Electric power required by a consumer at a given supply point
Power Plant	It is the set of equipment, civil construction works, accessory facilities and the necessary lines for production.
Wind Power Plant	It is a plant whose primary resource base is the wind
Hydro Power Plant	It is a plant whose primary resource base is the water potential
Solar Power Plant	It is a plant whose primary resource base is the solar energy
Electricity Commercialization	Sale of electricity to a consumer for own use or resale to third parties
Demand	Active power or apparent power consumed by a consumer in relation to an integrated electrical installation for periods of 15 to 30 minutes
Domestic Tariff	Refers to housing tariffs; storage rooms or garages for private use, located in annexes or dependencies of a dwelling house, even if measured by a specific meter.
Emergency	Situation resulting from the real or imminent occurrence of an event that endangers or threatens to endanger the safety or health of any person, either destroys or damages, either threatens to destroy or damage any property.
Electrical Power	It is a form of energy based on the generation of the electric potential difference between two points that allow to establish an electric current.
Primary Energy	Energy vectors, such as solar, hydropower, thermal (gas and coal burning), wind, ocean and geothermal energy
Supply Reliability	The ability of an electrical system to guarantee supply to consumers with regularity and quality
Commercial tariff	Refers to commercial activity tariff, for example: Commercial establishments, Restaurants, Hair Salons, Market Stands and so forth
National Transmission Network Manager	Public Entity designated as manager of the National Transmission Network, under Law No. 21/97 of 1 October
Low Voltage big Consumers	Low Voltage Supplies, with Contracted Power greater than 19.8 kVA and less than 39.6 kVA
H	Hours
Street lighting	Energy supplied by a distributor for the purpose of lighting public places
Electrical Installation	Equipment and infrastructure for supply of electricity to the end user's meter
High Voltage Installations	Those with a voltage equal to or greater than 66 kV and equal to or less than 220 kV
Low Voltage Installations	Those with voltage up to 1 kV
Medium Voltage Installations	Those with a voltage equal to or greater than 1 kV and equal to or less than 66 kV
Generation Installations	It means direct electrical installations or necessarily linked to the generation or production of electricity
Interruption	Temporary non-supply to a consumer, excluding cuts derived from non-payment
Medium Voltage Agriculture Tariff	Voltage supply greater than 1 kV and less than 66 kV for agricultural production activity
Extra High Voltage	Above 400 kV – Transmission
Electric Power Production	Conversion into electrical energy of any other form of energy, whatever its origin.
Independent Power Producer	It is a singular or collective entity, public or private, authorized to produce energy based on available resources to supply REN (National Grid).
Supply Quality	The measure of the Capacity of an electrical system to provide the supply that meets the voltage quality requirements established in a given regulation (decree n° 42/2006)
Distribution network	Power Lines, Substations and other installations that operates at a voltage below 66kV, are used to supply electricity to consumers
National Electricity Network	Set of public service facilities for the production, transmission and distribution of electricity
National Transmission Network	Set of systems used to transmit electricity between regions, within the country or to other countries for the supply of subsidiary networks, including the connection systems between networks, either between power plants or between networks and power plants
Distribution Systems	Set of power lines and associated equipment with nominal levels below 66kV, which the distributor is authorized to use to distribute electricity under its distribution concession
Social Tariff	Residential houses, with contracted power of 1.1 kVA and monthly consumption not exceeding 125 kWh
Electrical Power Transmission	Transmission of electrical power with a voltage equal to or above 66kV, covering the stage ranging from the transformer banks of the step up substations connected to the generating plants to the step down substations connected to the distribution
Production unit	It is an electricity generator and related equipment essential to its operation, which together work as a unit
W	Watts



# SECTION I

## INTRODUCTION



# I-1. EXECUTIVE SUMMARY

## EDM's role in the country's economic transformation

EDM, as a company controlled by the State through IGEPE, has a relevant role, both in generating tax revenue for the public and social activity of the State, as well as in the Government's efforts to make energy available throughout the national territory to boost the country's economic and social transformation.

In this context, EDM is responsible for implementing the Government's electrification policy through the national electricity network, and its mission is to produce, transmit, distribute and commercialize energy with a good quality, in a sustainable manner to illuminate and enhance the industrialization of the Country.

## EDM business model

EDM's business covers all activities in the energy sector's value chain, namely generation, transmission, distribution and marketing. The universal access framework established by the Government of Mozambique, through the National Electrification Strategy (ENE), guides EDM to operate simultaneously in the commercial and social aspects.

In operational terms, the supply of energy distributed by EDM comes, in addition to its own generation, from Cahora Bassa Hydropower Plant (HCB) and from other Independent Power Producers (IPPs), with HCB's energy being the preferred source, due to the significantly lower cost compared to other sources. With regard to energy delivery, EDM's primary priority is to meet the domestic market, with any energy surplus being exported to the regional market and traded through the Southern Africa Power Pool (SAPP), or through bilateral contracts with some countries in the Region.

The company has its customers stratified into regulated (both consuming social and commercial energy) and non-regulated (which only consumes commercial energy). Since regulated customers comprise the consumers whose tariffs are set by the Government after the approval by the supervising Ministry and ARENE. Non-regulated consumers include medium and high voltage supplies, and the tariffs applied result from an agreement between the customer and EDM, subjected to the approval of the supervising Minister, after hearing ARENE.

## Summary of the estimated financial performance

EDM's historical financial performance has not been essentially positive, due to the practice of energy placement low tariffs, which have not been sufficient to cover energy, operational and financial costs. On the other hand, its levels of indebtedness are quite high, and the debt service has come to represent a significant burden on the company's treasury. EDM needs to reverse this situation

and become a commercially well-managed and financially sustainable company.

EDM's sustainability presupposes company's various activities, namely the generation, transmission, distribution and commercialization of energy, viewed jointly or individually, are supposed to be financially viable.

It is, in this context that an EDM designed an ambitious business scenario for economic and financial performance, which intended to implement in the next 5 years, based on a scenario prepared in the second half of 2019, at a time when market conditions and prospects for economic growth in the country and in SADC region were different from those already existing in this 2nd quarter of 2020. For this reason, the economic and financial projections documented in this instrument and the summary of results that would be presented below refer to the conservative base scenario.

Although EDM Management believes that the financial forecasts and forecasting assumptions represent a realistic outlook for EDM's financial performance for the period 2020 to 2024, any forecast is subject to uncertainty and, as such, deviations can be expected as a result of general economic developments in the Mozambican economy, changes in the perspective of electricity demand, time for new developments, access to investment finance, etc. In addition, adjustments were made to take into account the impact of the COVID-19 pandemic in the energy sector, which mainly affect the reduction of economic activity with an impact on the reduction of energy consumption, electrification programs and export volumes due to the "Lockdown" of neighboring countries, leading us to adopt a moderate base scenario.

The measures recently taken by the Government to reduce the tariff applicable to customers in the Social category by 50%, Defer the payment of the Fixed Rate and a 10% reduction in the energy bill for Customers of the General Tariff, Large Low Voltage Consumers (GCBT) and Medium Voltage for the Industrial, Commercial, Agricultural, Services, Hotel, Catering, Education and Sports and Cultural Installations sectors were not taken into account in the projections and will incur costs of 15MUSD if they are not compensated by the Government through the cooperation partners.

According to the baseline scenario, net results are expected to worsen by around 86% by 2024, from negative MT2.132 thousand million in 2019 (base year) to negative MT3.974 thousand million in 2024 while results grow 64% by 2024 from MT 11.978 thousand million in 2019 to MT19.592 thousand million.

This improvement in operating results is substantially determined by i) the ability to increase revenue in the three customer segments, ii) the capacity and quality of the distribution infrastructure, iii) the availability of energy in the supply sources and iv) the ability to obtain financial resources to meet investment needs to improve the conditions of energy supply and delivery.



In the revenue generation component, EDM projects a cumulative growth in total revenue of 107% over the five years, from MT37.007 thousand million in 2019 to MT 76.457 thousand million in 2024. This growth is justified by the increase of new customers in the domestic market, with an accumulated increase of 73% in regulated customers, growing from 2,052,780 regulated customers in 2019 to 3,552,971 customers in 2024. Additionally, energy demand forecasts point to an accumulated increase in volume of commercialized energy from 60%, from a volume of 5,517GWh, in 2019, to 8,820GWh, in 2024. Since, due to a very positive energy balance, an accumulated increase of 122% of exported energy is expected, from a total export volume from 1,374 GWh in 2019 to 3,057 GWh in 2024.

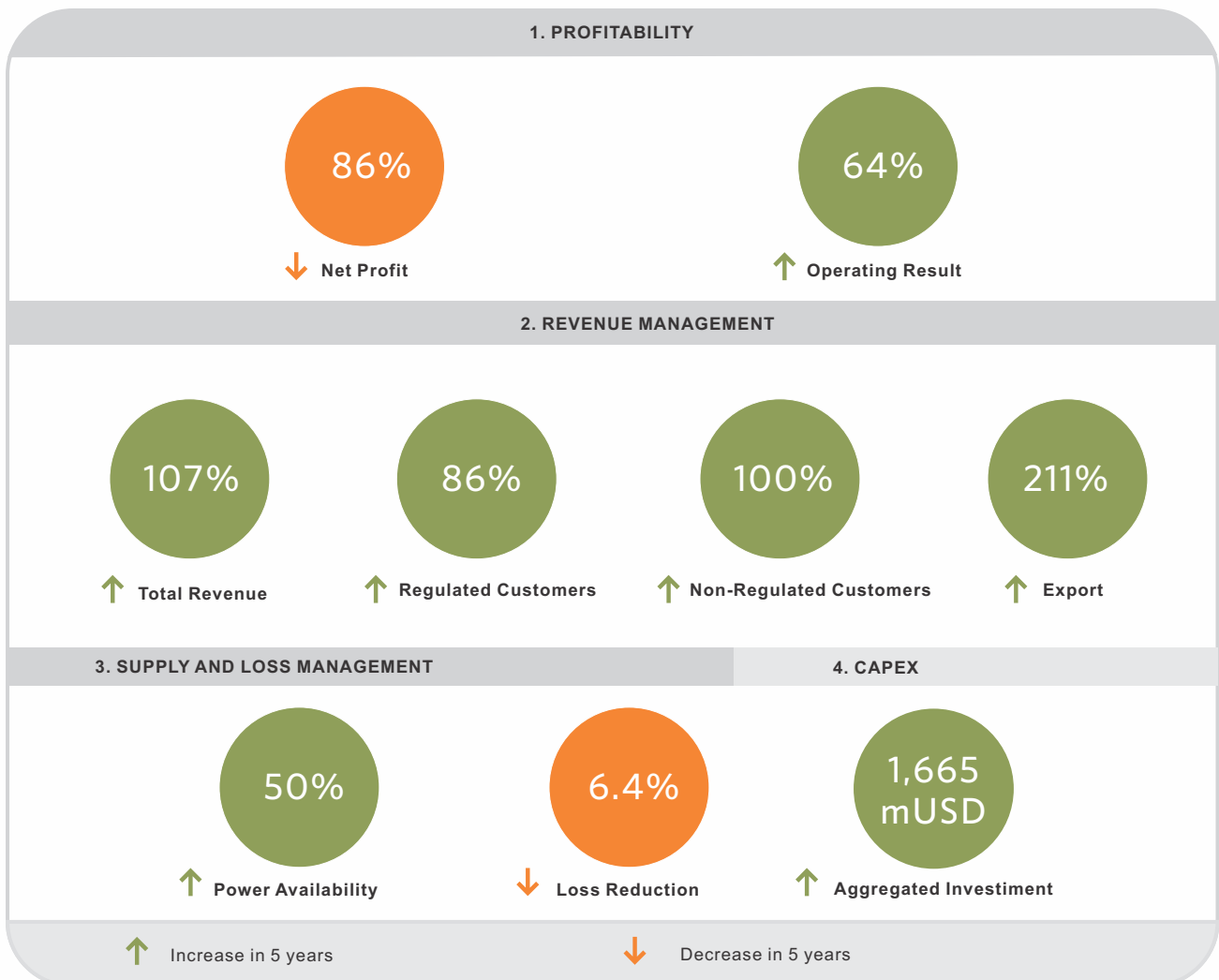
In order to meet the projected demand, an EDM must ensure that its sources of supply, whether generated by itself or purchased from third parties, that are firm. The projections point to an accumulated growth of 50% in the energy supply, which should rise from the current 7.089

GWh, in 2019, to 10.644 GWh, in 2024. This growth is mostly the result of guaranteeing for additional generation from HCB and IPP's (but it is highlighted that HCB's energy is more advantageous due to its lower price when compared to the other alternatives).

EDM has planned and has been implementing initiatives to reduce energy losses, forecasting that the energy balance will be better and better in the next 5 years, with its level to be reduced by around 6.4% in five years. This loss reduction has a substantial impact on the company's operating margins and operating results.

The projected growth in terms of results, in the demand and supply of energy, will only be possible if EDM is endowed with operational and productive capacity, including the infrastructure of generation, transmission and distribution, capable and efficient. To this end, EDM foresees capital investments of USD 1,162 million in the next 5 years, to strengthen the operational and productive capacity.

Accumulated variations - key Indicators



Section IV-4 of this document contains, in detail, the assumptions, projections and summary of EDM's forecast statements for the next 5 years, as well as the respective sensitivity analyzes to the most relevant variables for the company's economic and financial results.

## Main key initiatives for EDM's Business and Development

Achieving the ambition assumed by EDM for the next 5 years will require EDM to improve the use of existing resources and ensure energy supplies in sufficient volumes and at increasingly lower costs, to profitably take

advantage of the growth opportunities of energy demand in the domestic and regional markets.

On the other hand, with regard to the domestic market, EDM will need to negotiate with the Energy Regulatory Authority (ARENE) the tariff model for energy commercialization, so that the tariffs reflect the cost of the operation.

EDM has identified a set of initiatives that it considers fundamental for the development of EDM's business and future financial sustainability, in which it has, together with the Government, a determining role for its implementation, which are summarized in the following table:

Key Initiatives	Relevance	Stakeholders and their role	
		EDM	Government
A. Massification of access to electricity	Growth of the customer base and consequent increase in the demand with impact on the increase of revenue	Executor of the "Energy forAll" program	Projects coordination and fundraising for the electrification program
b. Reduction of non-technical losses	Reduction of frauds and improving operating margins	Conception of loss reduction initiatives and implementation of its systems and processes	Public awareness programs and legislation
c. Reinforce the allocation of firm energy from less expensive sources (ex. HCB, Temane Gas Powerplant, etc.)	Reduction in the average cost of energy supply and growth in the availability of energy for placing on the export market	Develop business scenarios that demonstrate the viability of these projects and execution of generation projects	Supportive in conducting negotiations and fundraising and financing
d. Digitization of operation processes (Communication, O&M, network and customer registration, customer care service etc.)	Improvement of management capacity, commercial, corporate and operational efficiency, and quality of service	Implementing digitization initiatives and establishing a secure and reliable data center	Resource mobilization to finance the operation's digitization initiatives
e. National Dispatch Center	Increased efficiency in the management of energy distribution and visibility, and reliability of network operations	Implementation of digital transformation programs	Resource mobilization to finance transformation programs
f. Gender Equity Program to be reached 40% in 2030	A better business performance, through teams representing the Mozambican population	Implementation of the Gender Promotion Strategy and reinforcement of preferential recruitment measures	Legislation and cross-sectoral mobilization to adopt similar programs to accelerate institutional change
g. Optimization of operational resources	Expansion of the electricity network and customers requires selective effort of resources	Assess the need for reallocation of resources	
h. Balance sheet restructuring	Provide EDM with greater capacity for contracting financing for structural investments	Study of scenarios, solutions and negotiation with the Government	Cancel the debt portion of loans to EDM through retrocession agreements and conversion of a certain portion of EDM's recurring debt into equity
i. Protection of infrastructure against acts of vandalism	Minimizing investments in infrastructure replacement as well as operating expenses with corrective maintenance	Design of protection and mitigation programs	Public awareness and support for infrastructure protection

EDM believes that the implementation of these initiatives will have special relevance and preponderance in the ability to achieve the goals it proposes in the presented business scenario.

Since the goals of economic and financial performance assumed in the business plan had as a guiding principle the promotion of a balance between expenses and revenues, aiming to generate positive profitability and the progressive financial sustainability of the company.

## Summary of the success factors to the government's consideration

Critical Success Factor	Government's Responsibility
<b>Debt Settlement of the Retrocession Agreements</b>	<p>Retrocession agreements are concessionary debts contracted by the State to international development agencies and transferred to EDM E.P with the following contractual terms, Interest well below the market, extended grace period and amortization schedule.</p> <p>The figure registered on 12/31/2019 was of MZN 43,466 million, of which 91% (MZN 39,595 Million) are exposed to exchange rate variation. In the last 5 years, this debt has gone from MZN 8,959 Million to the current levels, largely due to exchange rate variations. To mitigate this effect on the Financial Statements, the following actions are proposed:</p> <ul style="list-style-type: none"> <li>■ Conversion all foreign debt to local Currency, of the entire debt portfolio through the retrocession agreements expressed to date in the financier's currency, in the amount of MZN 39,594,873,062.00, using the exchange rates at the time of contracting for this purpose;</li> <li>■ Settlement and conversion of the total debt into social capital (Single Debt + Convertible), past due and not yet due, in the amount of 43,465,806,781 MT;</li> <li>■ Future retrocession agreements must be passed on to EDM E. in counter value in Meticaís:</li> </ul> <p><b>IMPACT:</b> Improvement of the following indicators</p> <ul style="list-style-type: none"> <li>■ Average general liquidity of the five-years period without settlement is of 90.5% and with sanitation it improves to 87.8%;</li> <li>■ Average indebtedness index for the five-years period without settlement is of 66% and with sanitation it improves to 46%; and</li> <li>■ Average net income for the five-years period without settlement is of MZN 1,880 million negative and with sanitation it improves to MZN 8 million negative;</li> </ul>
<b>200MW firm power Additional Allocation from HCB</b>	<p>The internal demand for energy has grown by 20% in the last 5 years to the current 998 MW. It is expected to reach a peak of 1,265 MW in 2024, meaning a 32% growth. Currently, HCB supplies 51% of the energy demanded, which in terms of cost represents 14%, IPP's supply 35% of the volume of energy demanded, which represents 64% of the total cost. This combination translates into an average power purchase cost of 5.8 c\$/kWh and an average power supply cost of 14.8c \$/kWh which is higher than the average power selling price (11.7 c \$ / kWh). With an additional 200 MW firm allocation from HCB, EDM and the Country will have the following gains:</p> <ul style="list-style-type: none"> <li>■ Reduction of the average acquisition power cost to 5 c\$/kWh,</li> <li>■ Increase in the availability of energy for the export market, bringing more foreign currency to the country, thus improving the balance of payments;</li> <li>■ With a higher sales margin, EDM will be able to settle the debt with HCB, creating a dedicated escrow account for the payment of HCB invoices;</li> <li>■ Relief from pressure avoiding the increase of the domestic customers tariff;</li> </ul>
<b>Sovereign Warranties</b>	<p>Obtaining the sovereign guarantees for financing contracting for commercially viable structuring projects clearly identified in this business plan, valued at 1.2MMUSD (see figure 36)</p>
<b>Reduction of the VAT on power purchase</b>	<p>EDM E.P has differentiated treatment in deductible and settling VAT, which has created an operating cash flow imbalance, placing the company in a perpetual position as the State's creditor, therefore, on 12/31/2019, the VAT amount to be recovered is of MZN 6,394 Million (97 MUSD).</p> <ul style="list-style-type: none"> <li>■ <b>Deductible VAT</b> - Tax invoiced on the purchase of goods and services by taxable person. EDM pays 17% VAT on the purchase of energy from HCB and IPP's;</li> <li>■ <b>VAT to be paid (Article 15; Nº 2; j)</b> - In the sale of energy, VAT is levied on only 62% of the total invoice.</li> </ul> <p>With this differentiated treatment, the Company becomes in deficit, further worsening, due to the fact that export sales are not subject to VAT. The following actions are to be taken:</p> <ul style="list-style-type: none"> <li>■ Reduce the VAT base on invoices for the purchase of energy from HCB and from IPP's, similar to the treatment given to VAT to be settled on the purchase of energy (Article 15; Nº 2; j); and</li> </ul> <p>.Assign the status of free zones to the Ressano Garcia gas power generation park and the barge installed in Nacala.</p> <p><b>IMPACT:</b></p> <p>With this measure, the company's treasury will have a relief of about 3 MUSD per month, allowing it to affect savings for the payment of debts from energy suppliers and also activities to improve the quality of services provided.</p>
<b>Power consumption of Public Lighting and Traffic Lights</b>	<p>This cost represents 20% of the total costs of Supply and services, about 25 MUSD per year related to energy consumption and maintenance of infrastructure. The municipalities do not assume this cost and EDM accounts as a loss in revenue. The following actions are to be taken:</p> <ul style="list-style-type: none"> <li>■ Allocation of these costs to the municipalities</li> </ul>

<sup>1</sup> Firm power from 2021 making up an average cost reduction of 17%

<b>Tariff Adjustment</b>	<p>The tariff system for electricity sale, provides for tariff adjustments to be made whenever variables such as the power purchase costs, the cost of consumables for production, the exchange rate of the metical against the US dollar and the rand, level of inflation, achieve a combined variation of 3% or more. The following actions are to be taken:</p> <p><b>IMPACT:</b></p> <ul style="list-style-type: none"> <li>■ Financially sustainable and profitable company</li> <li>■ Positive net results, allowing the payment of taxes contributing to the increase in the State's tax revenue;</li> <li>■ Increase in social responsibility actions</li> </ul>
--------------------------	--

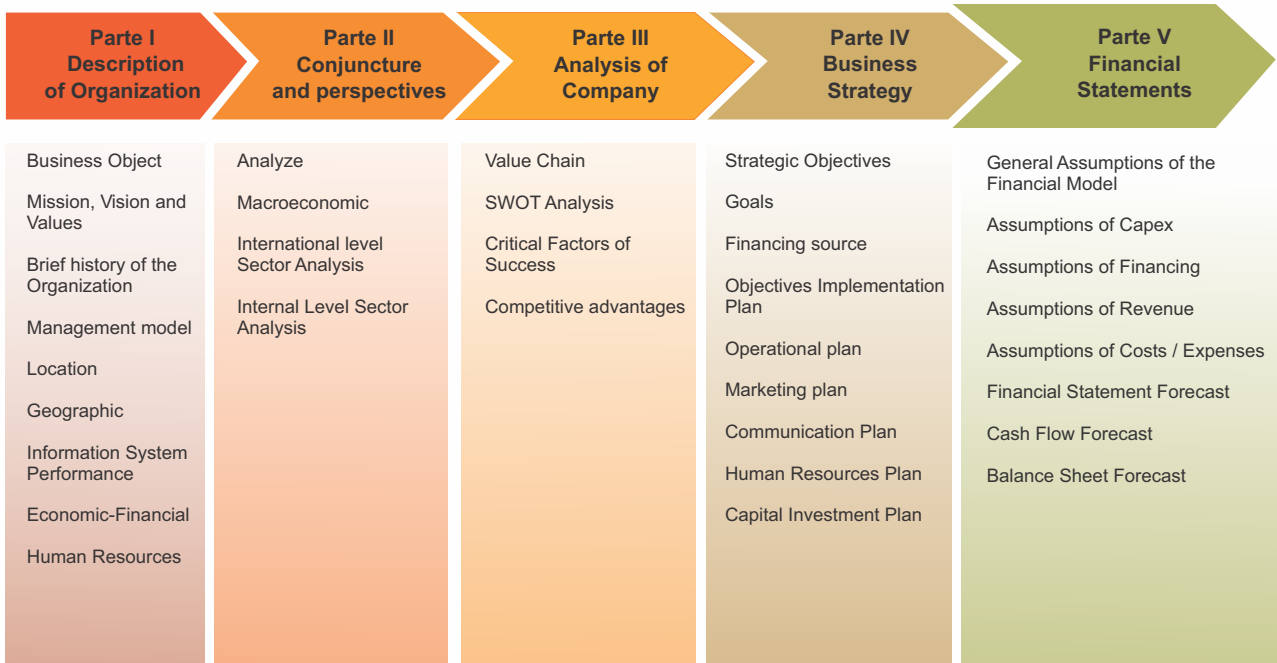
## 2. WORK METHODOLOGY

The GoM defined the energy sector as having a fundamental role in changing the national development trajectory towards greater prosperity and inclusion for the Mozambican people. EDM is the main player in the implementation of the policies defined by the Government in the energy sector. The State Business Sector Law (Law No. 2/2018, of 19 June) guides state-owned companies to improve its economy and financials, reduce fiscal risk and adopt a commercial approach. The Business Plan is one of the management instruments that must be adopted by public companies.

Thus, based on these premises, EDM developed this Business Plan for the next five-year period 2020-24, having, for this purpose, internally organized a Business Plan Development Team with the aim of collecting and organizing the information needed to complete the various sections required by IGEPE, and also a Secretariat to facilitate and complete the document.

It should be noted that for the elaboration of the Business Plan, IGEPE developed a guide instrument to be followed by public companies, as shown in the following diagram:

Figure 1 IGEPE Guide Instrument



Thus, the process of preparing the Business Plan began in October 2019, with the approval of the Terms of Reference for the work, having subsequently followed the different stages of validation of the different processes, through meetings and seminars between the Business Plan

Development Team with those who are responsible for the different Business and Support Areas, in addition, EDM Board of Directors and the Consultant. This process culminated in the preparation and submission of the final Business Plan to IGEPE in May 2020.



# SECTION II

GENERAL  
CHARACTERIZATION  
OF THE COMPANY  
AND THE SECTOR

## II-1. ABOUT ELECTRICIDADE DE MOÇAMBIQUE, E.P. (EDM)

### Brief history and historical review

Electricidade de Moçambique was created in 1977 under the legal name of state-owned company, as a result of the merger of several municipality electricity services.

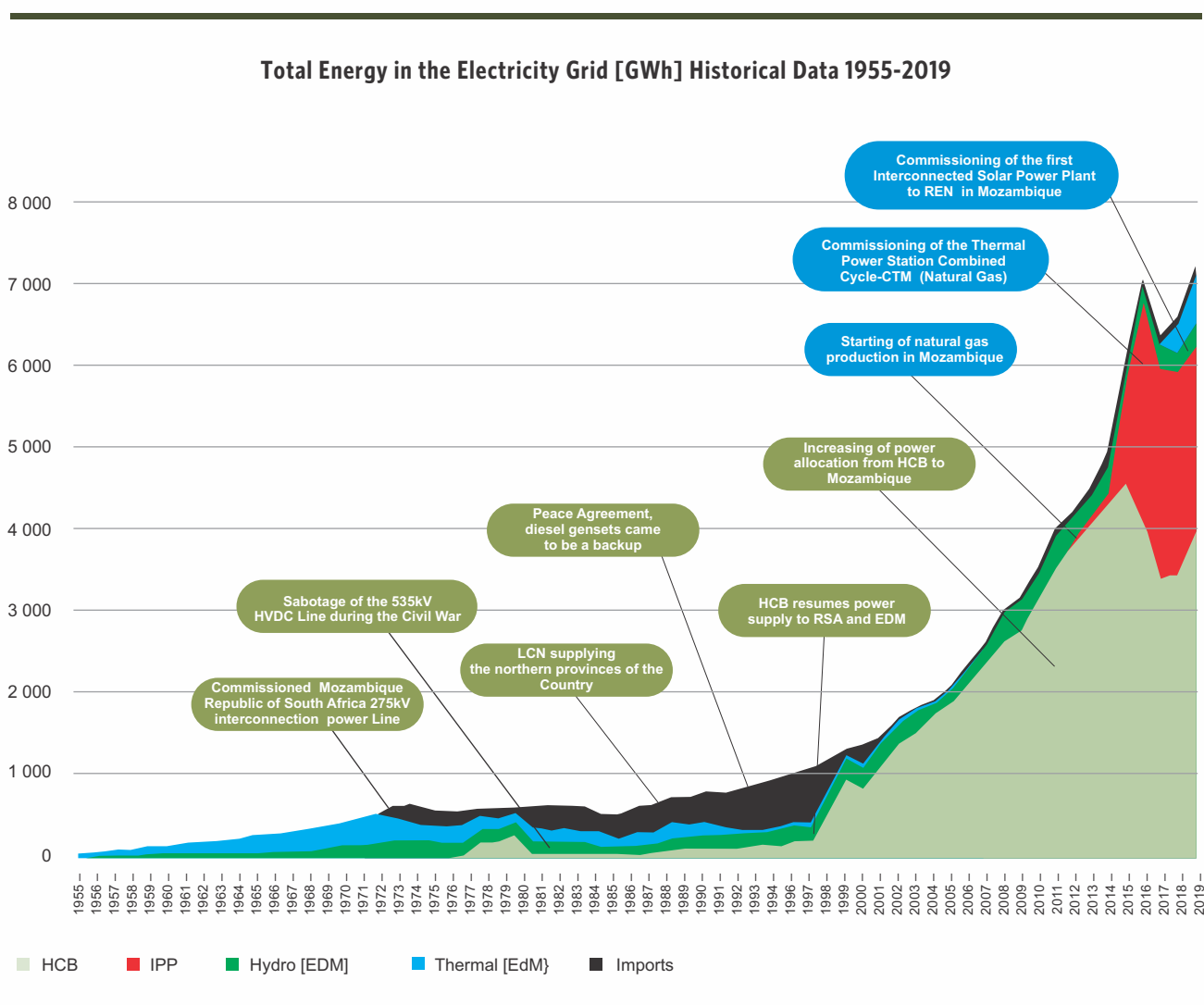
At that time, only three provincial capitals were connected to the National Electricity Network (REN). In the period 1977-1992, electrical infrastructures, like the whole country, were heavily damaged, since then until 1992, REN's energy was only available in some cities, not yet in the provinces such as Inhambane, Cabo Delegado and Niassa, that were powered by diesel generators.

Between 1985 to 1997, HCB, the main source of energy supply to the country, was forced to interrupt its supply to

South Africa, and also to the national territory, due to the civil war.

In 2005, the connection of all provincial capitals to REN was completed, as a result of the Government of Mozambique's (GoM) effort to expand and intensify access to electricity. From then on, the accelerated national electrification effort begins, culminating in the connection, in 2015, of all district headquarters to REN. With the new administrative division adopted by the GoM in 2013, the number of districts went from 128 to 154. EDM was also challenged to electrify the remaining districts, a process that ended in 2019.

Graph 1 Power Sources



The figure above presents some milestones worthy of highlighting the history of EDM in particular, which coincide with the history of the country in general.



## Corporate object, mission, vision and values

EDM, as a State-owned company in the Electricity Sector, must guarantee a Public Service based on the achievement of the following objectives:

Figure 2 EDM Business Scope

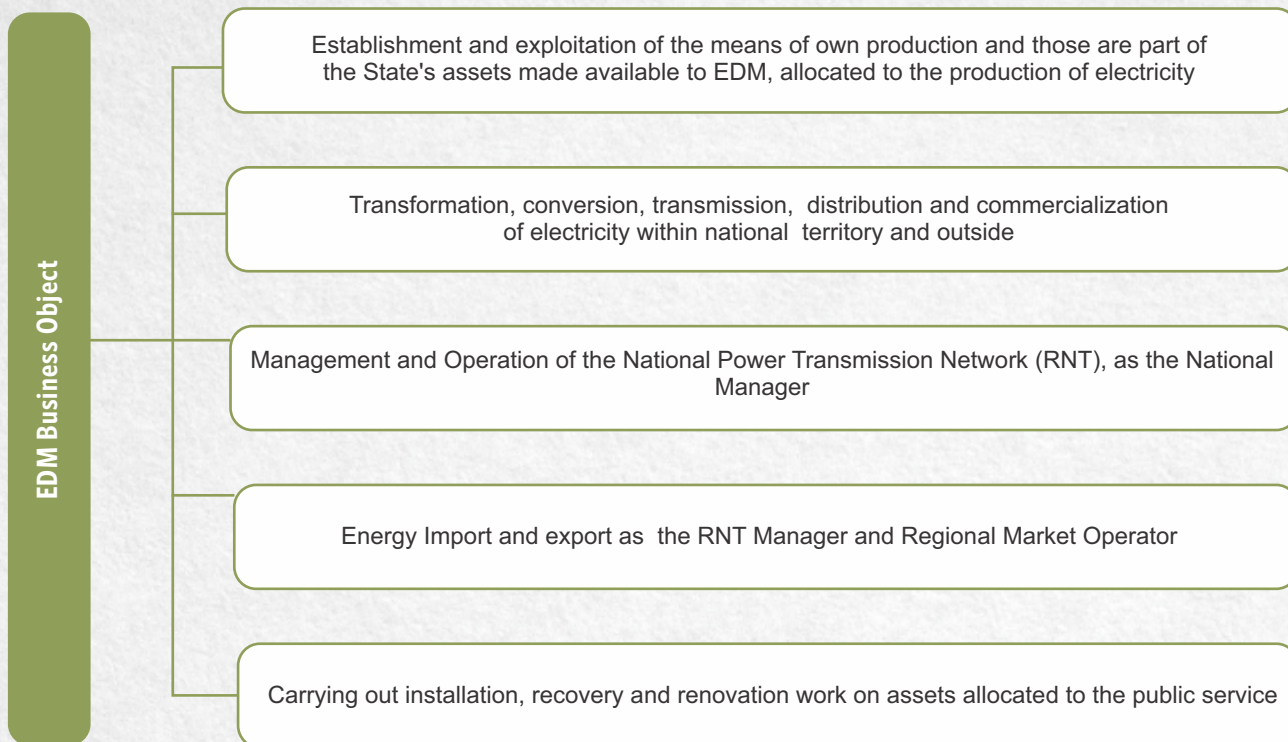


Figure 3 Mission, Vision, Values



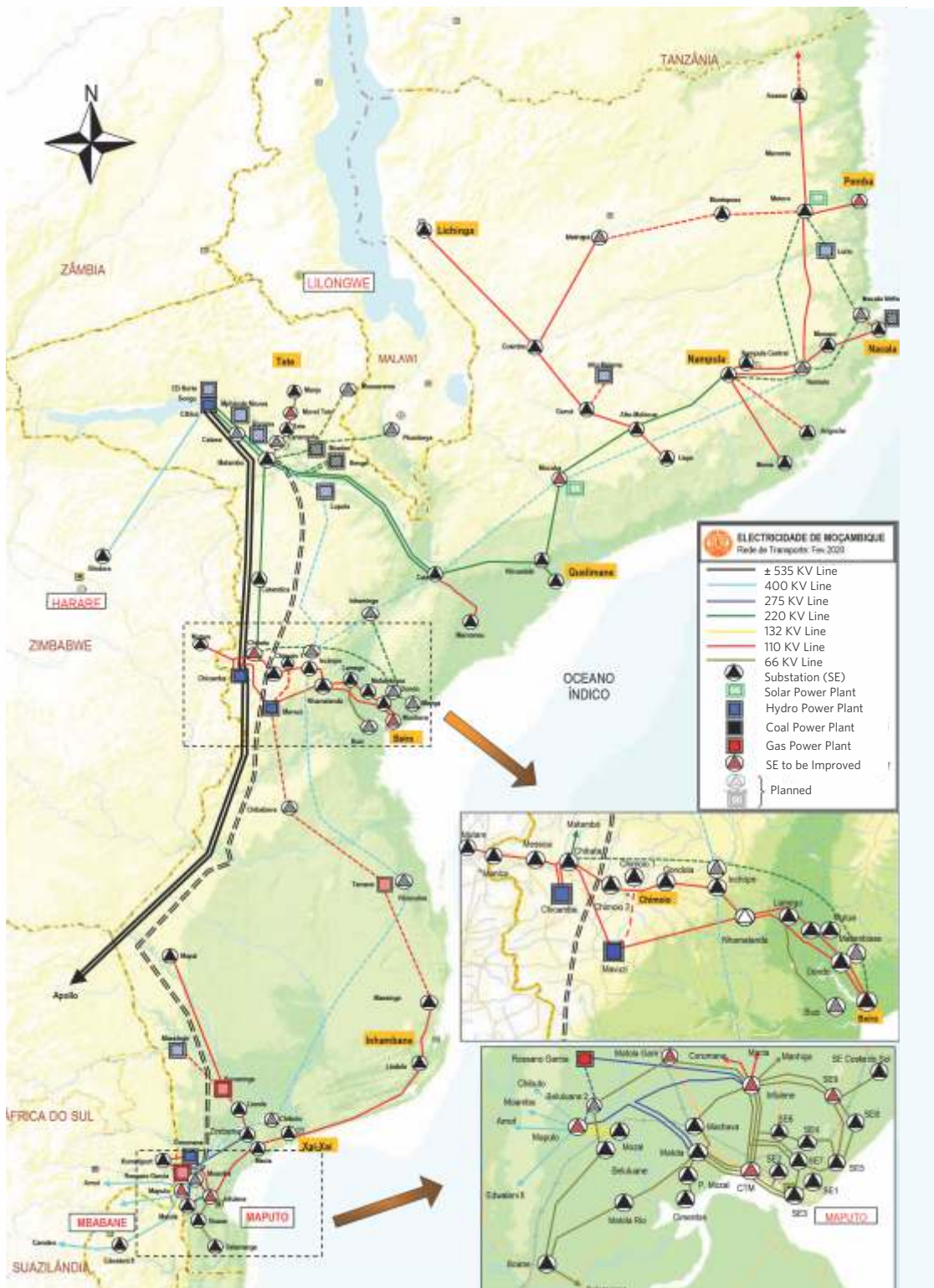


# Structure and Operation

## Location and relevant contacts

EDM is a company that is present throughout the national territory. However, the commercial agreements served by EDM, whether bilateral or within the scope of their insertion in SAPP, give it a relevant regional role and influence in the commercialization of electricity in the SADC region. Below is the Map of the National Energy Transmission Network (RNT).

Figure 4 RNT Map





## Corporate governance and management model

The process of appointing and electing new members of EDM's governing bodies, in particular the Board of Directors, following the procedures amended in the Regulation of the Law of the State Business Sector (LSEE) (Decree No. 10/2019 of 26 February).

EDM's core business is the Production, Transmission, Distribution and commercialization of Electricity to the endusers. For the pursuit of its activity, a management model has been defined that comprises three execution levels as the figure below:

Figure 5 Governance model



**Strategic Level:** Comprises the Chairman of the Board of Directors (executive) and 6 (six) Executive Directors responsible for the leadership of the following areas: Distribution, Commercial and IT; Production and Transmission; Business Development; Finance, Electrification and Projects; and Human Resources.

The Board of Directors is mandated and reports to the IGEPE General Assembly, pursuant to Decree 10/2019, of 26 February.

**Management Level:** Comprises twenty-six (26) Central Departments, whose main mandate is to support the Operational Divisions with regard to the implementation of policies, standards and procedures that aim to regulate the company's activity in the various specialty and / or segments performance.

**Operational Level:** This level is subdivided into Energy Generation, Transmission, Distribution and Customer Care Services, comprising twenty-three (23) Customer Service Areas spread across the country, in many cases with headquarters in large cities, whose function is customer service. To ensure the continuity and interconnection of power transmission systems, there are three Transmission Divisions, one in each Region of the Country. Finally, we have two Power Production Divisions, one in the south and another in the center.



# HIGH LEVEL ORGANIZATIONAL STRUCTURE



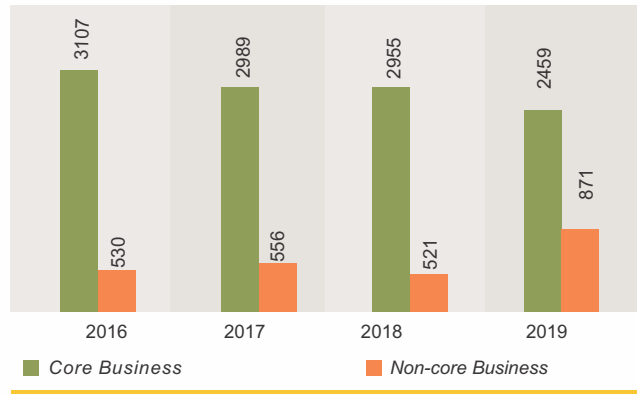


## Organization and Human Resources

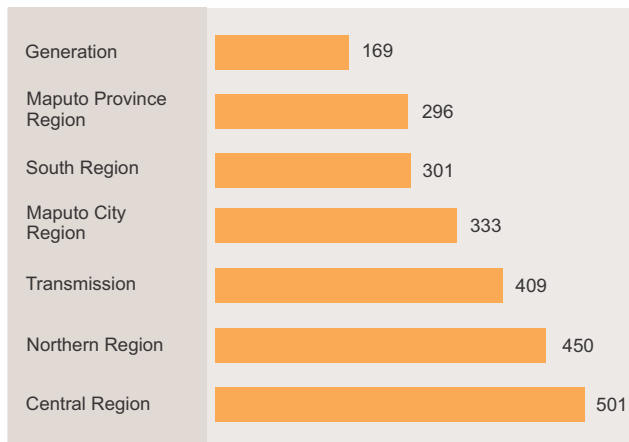
In terms of human resources allocation, the core business centers and non-core business centers, in the period from 2016 to 2018 presents a relative consistency in the proportion between them, which did not occur in the year of 2019.

It can be seen that the weight of effective workers in the non-core business, went from 15% to 26% of the total workers, in 2018 and 2019 respectively.

Graph 2 Employee Allocation



Graph 3 Employee Allocation by Business Center

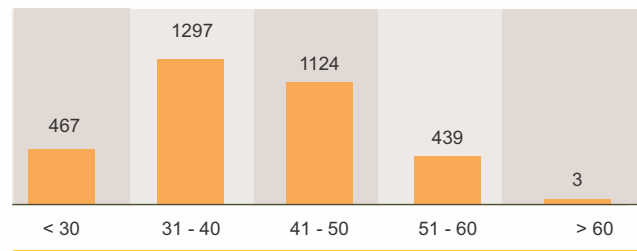


According to the graph on the side, as it can be seen that the power distributors have the largest number of workers in the business centers (76%), with the Center Region having the most workers, representing, in 2019, 15% of the total workers of the company and 20% of the total number of workers in business centers.

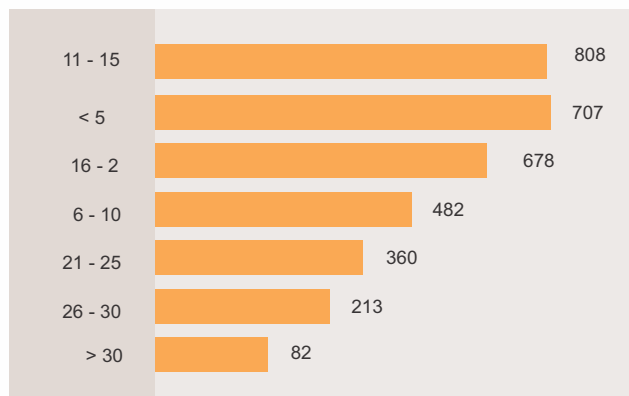
Despite this reality, the customers / workers ratio is the highest of all distributors, standing at 1,220 customers for each worker. This reality is a proof that more human and / or technological resources must be mobilized to reinforce the functions involved in the customer care service process.

The chart on the side illustrates the distribution of EDM's workforce by age group. EDM has an effective workforce mainly composed of workers under the age of 40 (39% of the total), with only 13% being over 50 years of age. This prevalence of young resources (average age 40 years) is synonymous with greater aptitude for modernization and change.

Graph 4 Employees by Age Group



Graph 5 Workers by Years of Service

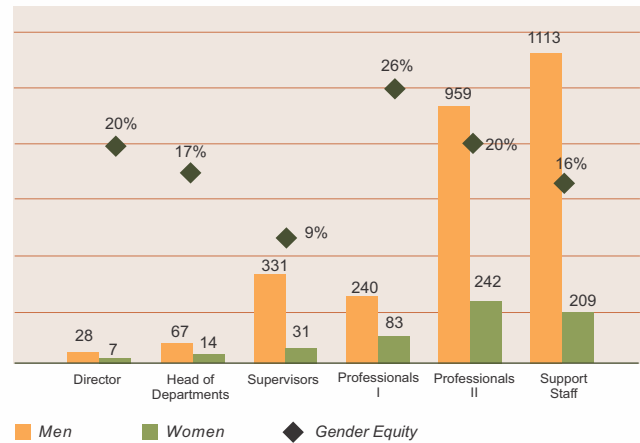


In relation to seniority, it should be noted that about 36% of workers have less than 10 years of service in the company, a clear sign of the investment made by the company in recent years to recruit new blood for its human resources structure. About 60% of the company's workers are under the age of 15, and about 20% of the company's workers will retire in the next 10 years.

As it can be seen from the following graph, there is a greater concentration of workers in the careers of professionals II (technicians) and support personnel (basic technicians and 12th grade), representing 86% of the total permanent workers. Managers represent 3% of the total workers, being on average, one manager per 28 employees.

Workers in professional career I (senior technicians), represent 11% of the total of permanent workers. In total, the gender equality index is at 18%, with 586 female workers mostly placed in administrative functions.

Graph 6 Workers by Career



### Information and operational system and technologies

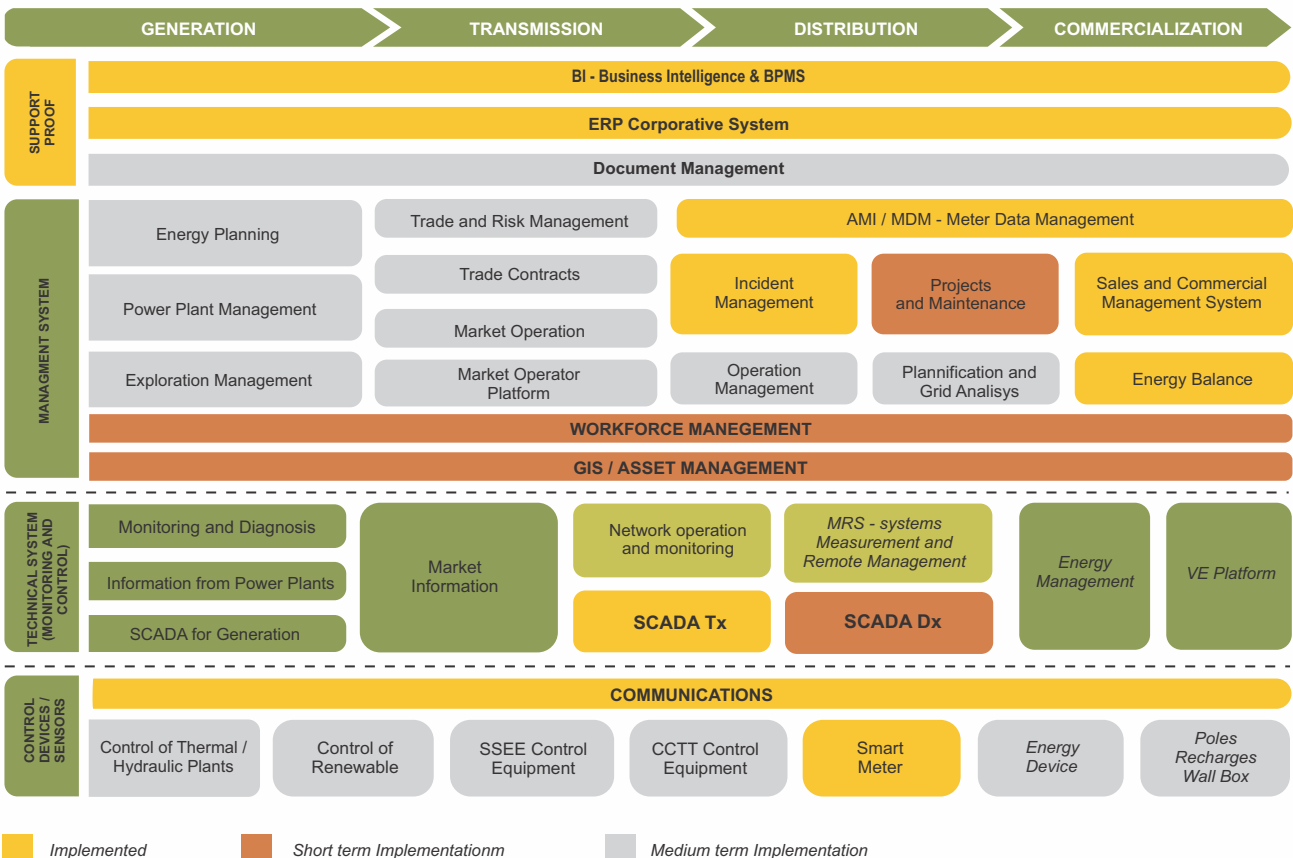
Information Systems play a key role in the institutional reform process currently underway at EDM, particularly in the areas of business process automation, commercial management and revenue protection, automation of distribution systems, customer relationship management and reduction of technical and commercial losses.

It is for this reason that EDM will continue to invest more and more in the implementation of Information Systems in its entire value chain (Production, Transmission,

Distribution and Commercialization), as shown in the figure below, where the following stand out: Systems Corporate support; Management Systems; Technical Systems, and Control Devices/ Sensors.

EDM's Digital Strategy 2018-2022 was approved in 2018 and based on this an investment program was designed in data, telecommunications and internet infrastructure, as well as in operational and corporate applications, which will allow a more transparent activity, more efficient, and capable of embracing new technologies for counting and controlling electrical systems.

Figure 7 Information Systems



The systems whose implementation has been completed and contribute to the modernization of corporate operations and management are:

■ **Corporate Support Systems**

- a. **The. Business Intelligence (BI)** - Decision support tool based on historical corporate data;
- b. **Business Performance Management System (BPMS)** - Business Performance Management System, which displays the dashboards of each functional unit;
- c. **Enterprise Resource Planning (ERP):** Application solution for Corporate Resource Planning to support the operational procedures of all corporate activities, including accounting and finance, human resources, health and social assistance to personnel, general administration, procurement and, logistics (warehouse management), asset management, corporate planning and matters related to regulation (economic regulations and quality of service).
- d. **Agile Office:** developed solution to implement the "paperless office" and expand the functions of document and administrative management of people and assets in the company. In the go-live phase, this application also includes a Project Registry which, when activated, will introduce a digitized process for managing the project approval cycle (CAP) in the company.

■ **Management Systems**

- a. **The Meter Data Management (MDM):** This system stores and manages data provided by smart meters. These data consist mainly of usage data and imported events into AMI (Advanced Metering Infrastructure);
- b. **Commercial Management System (CMS):** Application to support the Company's commercial and operational processes, contract management, customer orders, facilities, meters, readings, invoicing, collections, cuts and re-connections, debt, fraud, inspections and inspections. This area is fundamental to EDM's operations because it is the main interface with customers, being responsible for billing, collection and accurate recording of EDM's energy sales;
- c. **Incident Management and Fault Reporting System (WHO):** Application that aims to attend, recognize and take care of the customer in real time, dealing with processes such as complaints, invoice checking, fault reporting, communication of readings, information requests, etc.

■ **Technical systems**

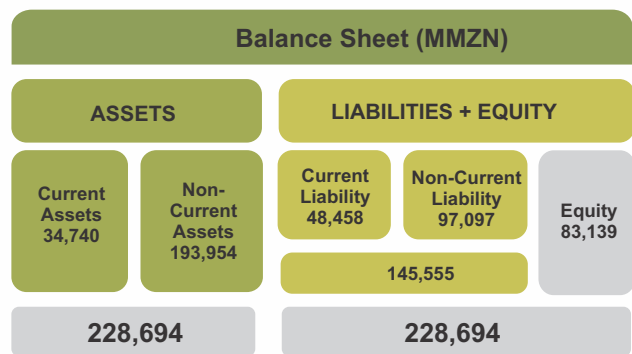
**The SCADA Transmission:** Supervision, control and data acquisition system for the Transmission network, including training systems for operators and team management, among others.

## II-2. EDM'S ECONOMIC AND FINANCIAL PERFORMANCE

### Performance in the last 10 years

The purpose of this section is to make the financial context of EDM, therefore, looking back over the last 10 years (2009 to 2019) and evaluating the evolution of (i) assets, (ii) of its short, medium and long term obligations before the different suppliers of goods and services, with greater emphasis on the obligation with the GoM regarding the financing debt by the retrocession agreements (iii) Equity, (iv) Income and (v) Main Economic-Financial Ratios.

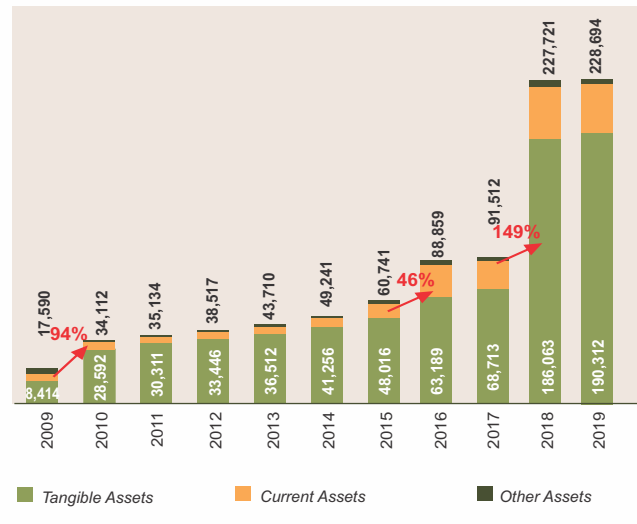
Figure 8 Balance Sheet in the last 10 years



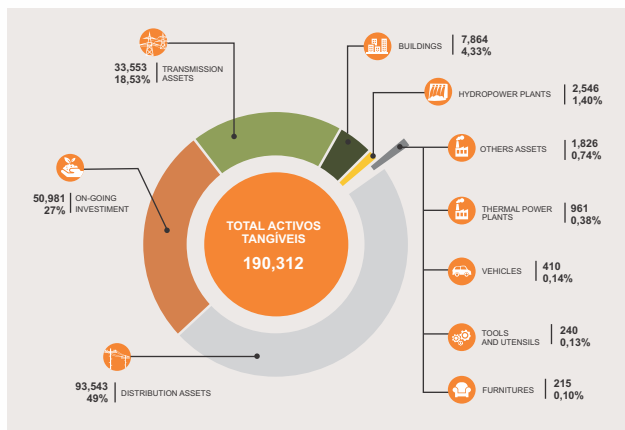
## Total Assets

In the last 10 years (2009 - 2019), the company's total assets grew significantly, becoming 13 times greater than the asset recorded in 2009, from MZN17,590 Million to MZN 228,694 Million in 2019, meaning an average growth 35% per annum. In proportional terms, the tangible assets that, among others, incorporate the generation, transmission and distribution infrastructures represent 82% of the total assets. During the period under analysis, the highlights were the growths of 94% and 149% in 2010 and 2018 respectively, due to the revaluation and review of the useful lives of tangible assets, however in 2016 was of 46%, due to the incorporation of infrastructures of the new electrification projects completed and started in the year in question.

Graph 7 Total Assets



Graph 8 Forecast Balance Sheet 2019/12/31



Distribution Infrastructures represent 49% of the total value of tangible assets, which means an increase of 26% after the revaluation and review of useful lives carried out in 2017. The contribution of the remaining items of this asset has been illustrated in the graph beside.

EDM has in its balance sheet financial assets held for sale, as a result of holdings in companies not quoted on the stock exchange, so their values are reflected in the balance sheet at acquisition cost, deducted any impairment losses, see fig.16.

**CEZA SA:** Incorporated as an SPV within the scope of the reversal of HCB;

**SDCM:** Maputo Corridor Development Society: Incorporated in 1997, having as its main object, the scope of activities directly or indirectly related to the Development of the Maputo Corridor;

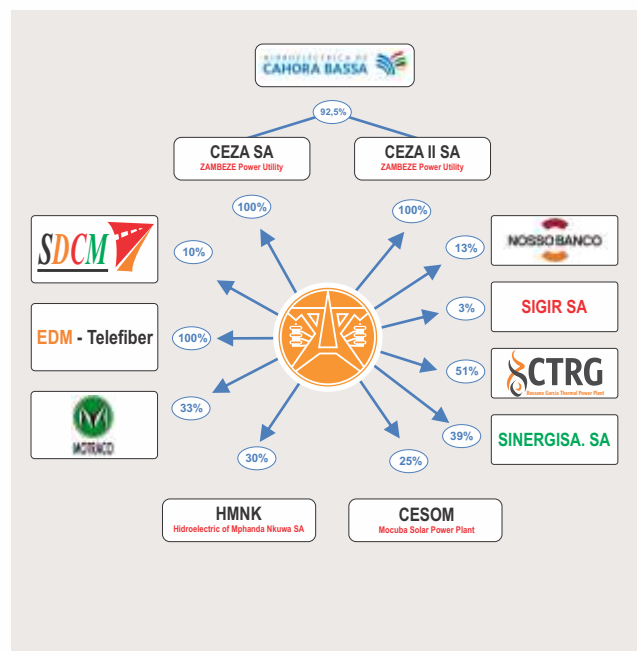
**NOSSO BANCO:** The Central Bank revoked the license of Nosso Banco, for failure to comply with the Solvency ratio limit;

**EDM - TELEFIBER:** It never went into operation;

**SOGIR:** Society for Integrated Resource Management SARL - Incorporated in 1998, having as its corporate purpose, development support and promotion activities;

**MOTRACO:** Founded in 1998 as a joint venture between EDM, ESKOM and SEC, with a 33.33% stake each, with the corporate purpose of transmitting energy through the South Africa's transmission system to MOZAL, EDM, SEC and ESKOM;

Figure 9 Financial Asset



**SINERGISA:** In liquidation process, the other partners are PETROMOC, ENH, INTELEC, COSMOS and

**CTRG:** (Ressano Garcia Thermal gas Power Plant) with 175 MW Power Plant Installed Capacity (152 MW Contracted with EDM), the latter is Incorporated through a joint venture between EDM and SASOL;

**CESOM:** Central Solar de Mocuba: A fotovoltaic power

plant with an Installed Capacity of 41 MWp, created through a joint venture between EDM (25%), Scatec Solar (52.5%) and KLP Norfund Investments (22, 5%);

**HMNK:** Mphanda Nkuwa Hydro Power Plant Project (1500 MW), Incorporated through a joint venture between EDM (30%), Camargo Correia (35%) and Insitec (33%). The Government is restructuring the project.

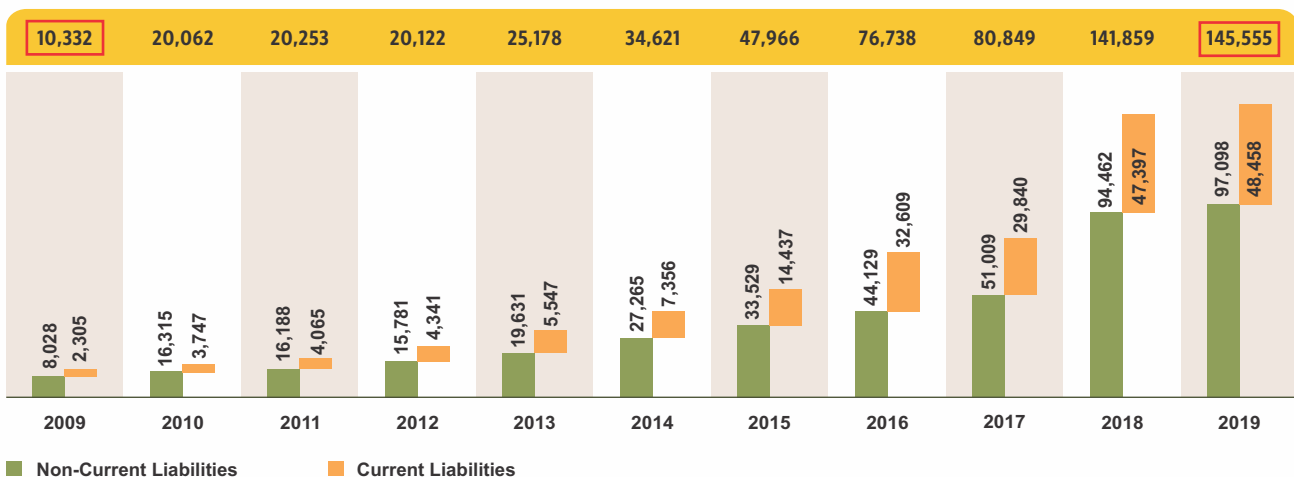
## Total Liabilities

During the period under review, the company's TOTAL LIABILITIES grew significantly, becoming 14 times greater than the liability recorded in 2009, from MZN 10,332 Million to MZN145,555 Million in 2019, meaning an average annual growth of 34%.

In total liabilities, non-current liabilities that express obligations with third parties in the medium and long term represent 74%, and current liabilities that express short-term obligations represent 26%. The outstanding items that make up the total liabilities are:

**Provisions** - Represent expectations of asset losses or estimates of amounts to be disbursed, generated by accounting facts that have already occurred.

Graph 9 Evolution of Total Liabilities



**Bank loans** - Taking of values from the bank creditor, with the obligation to return within the agreed term with additional interest charges and other contracting expenses. Of these loans, we highlight those contracted by direct agreements with foreign creditors. Six (6) financing operations are in progress, the most significant being that from AFD, which is financing EDM's financial participation in Ressano Garcia Thermal Gas Power Plant (CTRG), therefore, EDM shares guarantee the financing in this venture. The figure below lists the financing and the respective maturity dates.

Figure 10 Direct Agreements

Direct Agreements	Loan Amount	Maturity Year	YEARS													
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027		
AFD- Strengthening the Central System	48 Mfranco	2019														
AFD- Interconnection HCB/Zimbabwe	60 Mfranco	2018														
BEI- Motraco Capital Subscription	9.9 MEUR	2019														
DSBA - Matola City	12 MUSD	2022														
DSBA Beira City	15.6 MUSD	2020														
AFS - CTRG	42.5 MUSD	2015														

**Suppliers** - The Company has recorded as a short-term obligation to its short-term creditors about MZN 25.894 Million, equivalent to USD418 M. Of this debt, 77% represents debt with energy suppliers.

From 2009 to 2019, short-term debt with suppliers grew significantly, becoming 16 times greater than the debt recorded in 2009. The average annual growth in this period was of 39%, with emphasis on the growth seen in 2015 and 2016 by 106% and 139% respectively, motivated by the worsening of the company's inability to make payments due to the power acquisition from new generation sources (IPP's). The high level of indebtedness has serious implications for the Company's economic and financial indicators, as well as for the institution's credibility and eligibility with creditors and potential investors.

Figure 11 Debt with suppliers

DEBT [MMZN]	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HCB	470	1,123	1,424	1,404	1,624	1,753	4,184	5,673	799	3,105	5,406
IPP's		0	0	40	57	62	1,527	7,894	10,985	13,998	14,507
Others	1,188	1,708	1,499	1,639	2,102	3,047	4,306	10,385	8,740	6,474	5,981
Debt	1,658	2,831	2,923	3,084	3,783	4,863	10,018	23,523	20,523	23,577	25,894
Growth [%]		71%	3%	5%	23%	29%	106%	139%	(14%)	15%	10%

**Deferred taxes** - Amount of tax that will be required on profit in a predetermined future, according to taxable temporary differences. They are taxes on gains, the receipt of which will occur in future years.

**Retrocession agreements** - These are those contracted by the GoM from foreign creditors, and transferred to EDM under certain conditions. The debt for retrocession agreements was contracted to finance rural electrification projects (district headquarters and administrative posts), which are recorded in EDM accounts in the financier's currency and converted to Meticals at the exchange rate at the end of the year. This situation exposes EDM to the volatility of exchange rate shocks, a fact that has contributed significantly to the growth of medium and long-term liabilities. As result of contracting these loans on the condition of recognition referred to above, EDM owes the State about MZN 43.466 Million, equivalent to USD 701 M, degrading the solvency ratio and limiting the Company's financial sustainability. Beside here is the list of the referred financing and the maturity date.

Figure 12 Retrocession Agreements

Retrocession Agreements	TERM	YEAR 20XX																																															
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48															
BADEA-Maputo / Beira distribution equipment and reinforcement	2023	█																																															
BADEA- Nampula/Pemba Transmission line	2025	█																																															
World Bank - Domestic Energy	2026	█																																															
World Bank - Low and High Voltage Rehabilitation	2026	█																																															
World Bank - Low and High Voltage Rehabilitation	2026	█																																															
World Bank-Interconnection Mozambique Malawi	2032	█																																															
Belgium-Mobile Substations II	2030	█																																															
Belgium-Acquisition of 3 Mobile Subscriptions	2032	█																																															
Belgium-Replacement of Electrical Systems damaged by floods	2029	█																																															
BID-Nampula / Pemba Transmission Line	2026	█																																															
FAD-Consumables of CTM and Xai-Xai backup power station	2051	█																																															
Kuwait-Matola Substation	2037	█																																															
NDF- Domestic Energy	2027	█																																															
NDF-HCB / Zimbabwe interconnection	2026	█																																															
OPEC- Matola Substation	2014																																																
Rehabilitation of Chimoio Substation and Acquisition of Mobile Substation	2023	█																																															
India Exim Bank -Rural Electrification of Nampula, Zambézia and Inhambane	2038	█																																															
India Exim Bank -Rural Electrification of Niassa, Cabo Delgado and Manica	2028	█																																															
Korea Exim Bank - Rural Electrification of Northern Gaza	2028	█																																															
OPEC-Electricity IV	2047	█																																															
BID-Electricity of Niassa	2027	█																																															
World Bank-EDAP	2031	█																																															
AFD-EDAP	2033	█																																															
AFD - Rehabilitation of Chicamba and Mavuzi Dams	2042	█																																															
BADEA-Electrification of Niassa	2032	█																																															
Nordea Bank- Rehabilitation of the Transmission Network	2033	█																																															

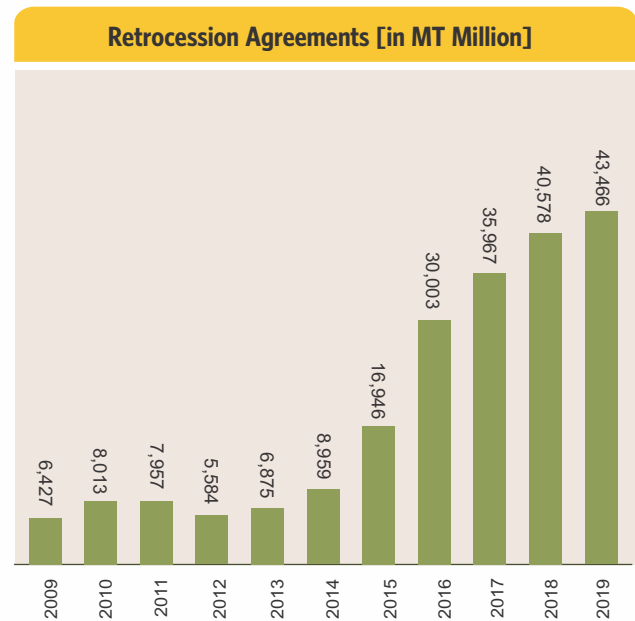


In the last 10 years (2009 - 2019), debts from retrocession agreements have grown significantly, becoming 7 times greater than the debt recorded in 2009, from MZN 6.427 Million to MZN 43.466 Million, in 2019, meaning an annual average increase of 25%.

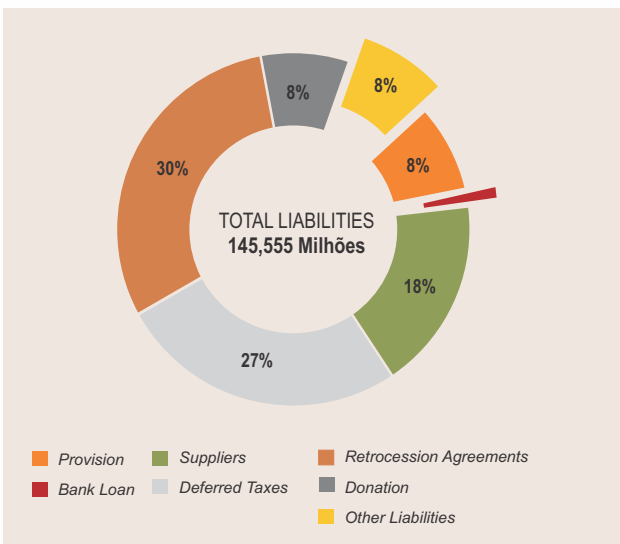
The reduction of 30% was due to the conversion of part of the debt into accessory capital installments of the donations granted to the State. The increase verified in the years 2013 and 2014 of 30% and 23% respectively, were accounted in the new retrocession agreements: (i) EUR 50 Million loan to finance the refurbishment of the Chicamba and Mavuzi dams, (ii) USD 52 million to finance the non-equity stake of CTRG, and YEN 17,269 Million to finance construction from CTM.

The increases observed in the years 2015 and 2016 of 89% and 77% respectively, in addition to new contracted agreements, were due, largely, to the devaluation of the Metical against the financing contracting currencies (USD, EUR and SDR).

Figure 10 - Debts due to Retrocession Agreements



Graph 11 Total Liabilities



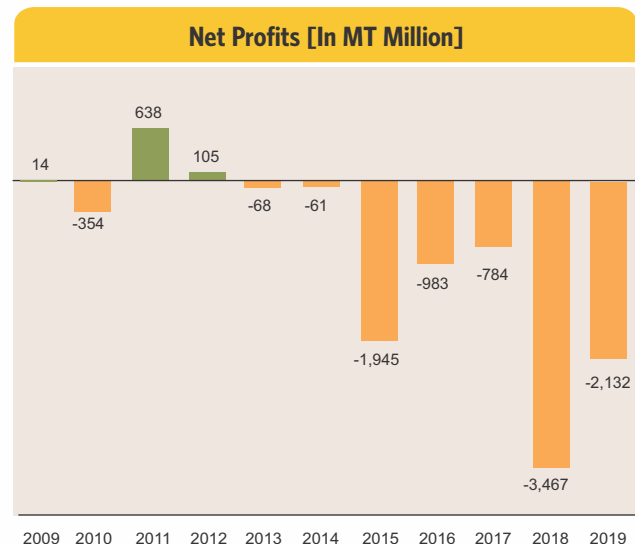
**Donations for investments** - Donations received to finance the construction of fixed assets. During the construction period, the amount received is as shown in the deferred income accounts and may be recognized as a final income by the share of the annual depreciation of this asset when it finishes its construction and being transferred to the fixed assets. On the balance sheet, this debt is valued at MZM12,882 Million, equivalent to USD 208M. This liability does not represent a liability for the company in terms of cash disbursement.

The weight of each item that makes up the total liability has been illustrated in the figure on the side, with emphasis on obligations with the State, with a weight of 57%, with respect to taxes due and payment of credit for retrocession agreements.

## EQUITY

During the period 2009 - 2018, equity increased on an annual average by 9%, as result of the combined action of converting debt by retrocession agreements into ancillary installments, by decapitalizing capital and incorporating the negative net results for the years, as shown in the graph on the side (Values in millions of Meticais).

Graph 12 Equity

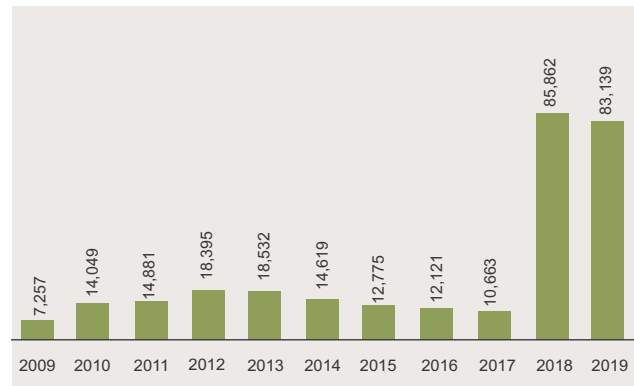


The 705% growth seen in 2018 is due to the process of revaluation of tangible assets that comprise the items of construction, hydro and thermal generation, transmission and distribution, which reflected in an increase of tangible assets in MZN115.686 Million.

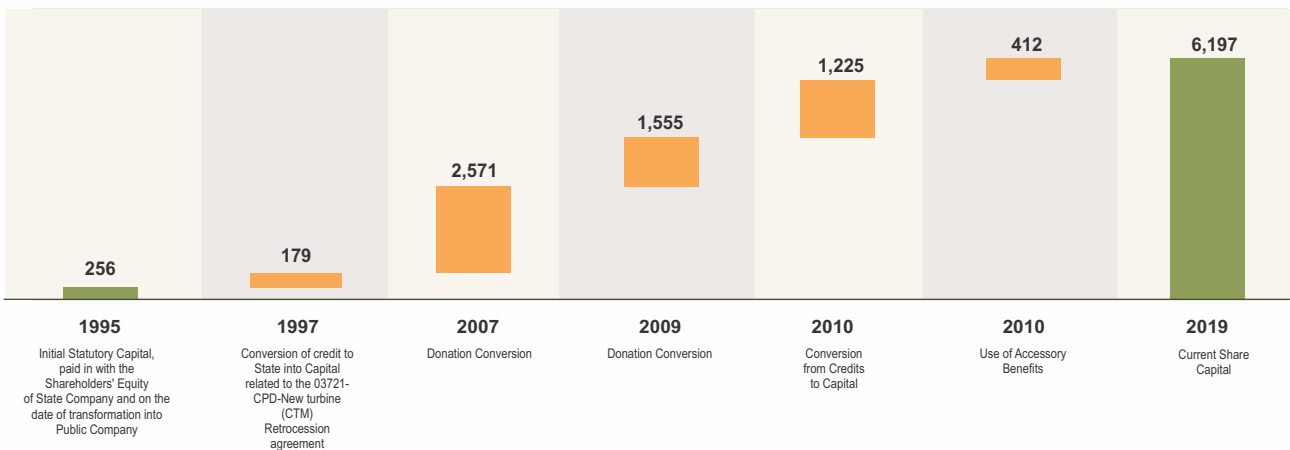
The chart on the side illustrates the evolution of equity expressed in millions of Meticais.

Equity also comprises the share capital item valued at MZN 6,197 Million, which is fully subscribed and paid up, and is held by the Mozambican State. The evolution of the Capital Stock item is as shown in the figure beside.

Graph 13 Evolution of Equity



Graph 14 Share Capital



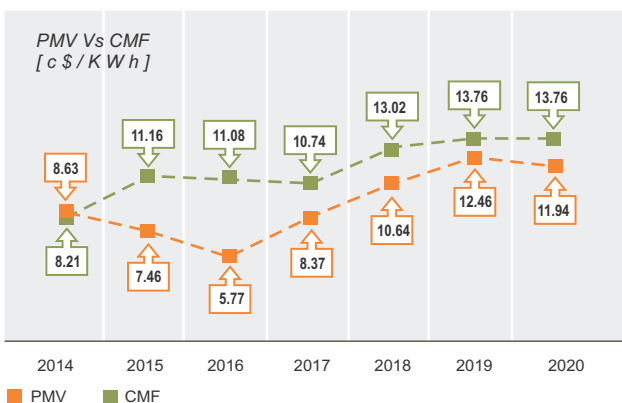
## Key financial ratios

Operating Results have been deteriorating sharply since 2010, becoming negative as of 2015. The following factors contributed to this situation, with greater relevance:

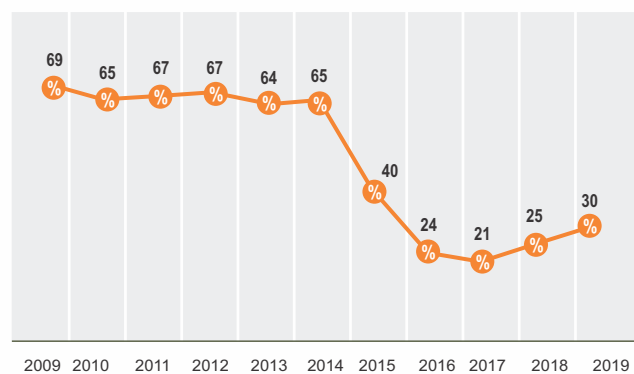
- CNo tariff adjustments from 2010 to 2015;
- Sales tariffs that do not reflect supply costs: Sales prices less than the cost of supply;
- HCB power allocation deficit,
- Devaluation of the Metical against USD and ZAR, currencies indexed to the rates of IPP's and HCB,
- Increase in power losses, derived from energy theft, which create an annual loss of USD 130 M.

The graphs below illustrate EDM's economic and financial situation:

Graph 15 Operating Results

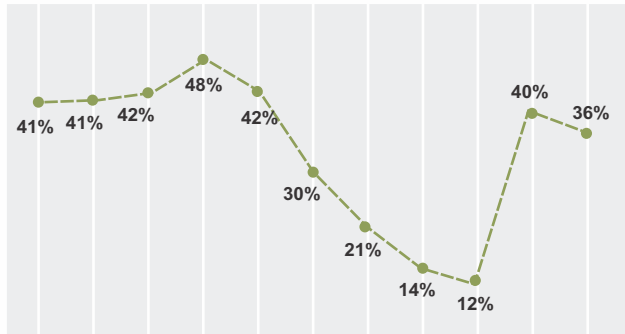


Graph 16 Sales Margin



**Financial Autonomy** (chart on the left) had an exponential degradation from 48% in 2012 to 12% in 2017, recovering to current levels of 36%, due to the incorporation in Equity of the revaluation reserve amounting to MZN 75,199 Million. This ratio indicates the percentage of equity that serves to finance the activity of a company.

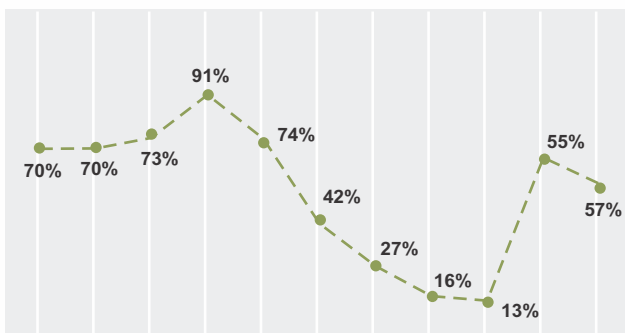
Graph 17 Financial Autonomy



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

**Total solvency decreased sharply** from 91% in 2012, to 13% in 2017, improving to current levels of 57%, due to revaluation reserves. Indicates the company's ability to honor its Medium and long terms commitments, as shown in the graph on the side

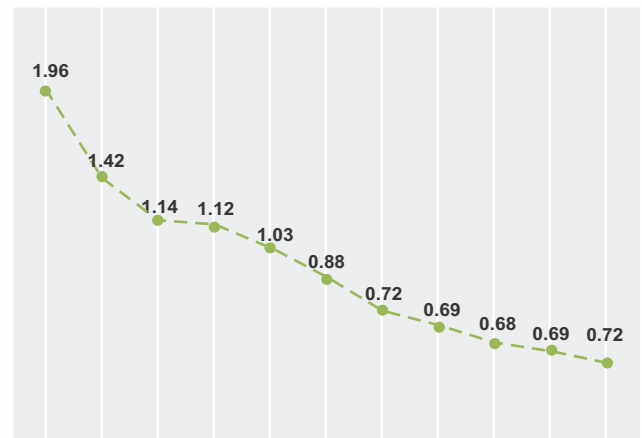
Graph 18 Total solvency



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

**General Liquidity** decreased from 1.96 to 0.72. The graph on the left shows the company's ability to honor short-term commitments.

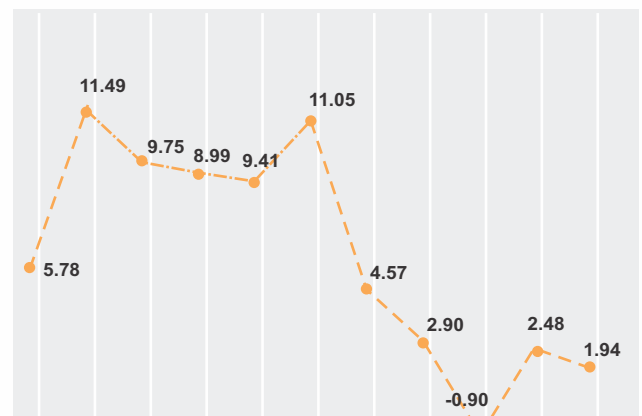
Graph 19 General Liquidity



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

**Interest Coverage** decreased from 11.05 to 1.94. The graph on the right shows the company's ability to pay financial charges.

Graph 20 Interest Coverage



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

## II-3. ABOUT THE ENERGY SECTOR

### Value chain and institutional framework of the sector

The energy sector in Mozambique involves a group of entities, mostly public, whose attributions can be grouped into five (5) sub-sectors of activity, namely:

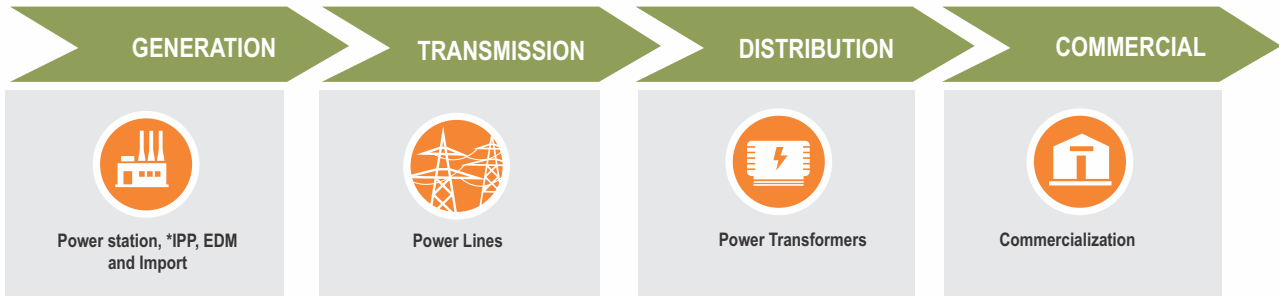
- Guardianship and regulation, which includes the definition of the legislative and regulatory framework;
- Energy promotion, which includes the definition of strategies for the development of the sector and promotion of access to energy;

- Power Production, which represents the entities that actually produce electricity;
- Power transmission and distribution, which includes the entities responsible for the transmission of electricity and those that distribute it, in order to guarantee access to electricity for the population, industries and companies in general; and
- Commercialization, which covers entities that sell and buy electricity.

EDM is a vertically integrated public company and a natural monopolist in the electricity sector in Mozambique, acting on a single buyer model.

The company is present throughout the entire value chain, from the production, transmission, distribution and sale of electricity, in addition to also acting as an importer and exporter of electricity.

Figure 13 EDM Value Chain



As a single buyer, EDM supplies energy from its own production from gas (CTM and Temaninho) and hydro-electric power plants (Corumana, Chicamba, Mavuzi, Cuamba and Lichinga). The company purchases electricity from independent producers, namely HCB, Kuvaninga, CTRG, Gigawatt, Mocuba Solar Power Plant and imports from neighboring countries. Of HCB's 2.075 MW of installed capacity, only 500MW is available for the national market. This situation forced EDM to resort to very expensive energy from IPP's (Independent Energy Producers) to respond to the growing demand that in 2019 reached around 955MW.

As System and Market Operator, EDM manages the RNT; however, the total amount of power purchased and imported has been transmitted to consumption centers in high, medium and low voltage, according to the category

of consumers within the national territory. The surplus energy available during off-peak hours has been optimized through bilateral agreements for the regional market.

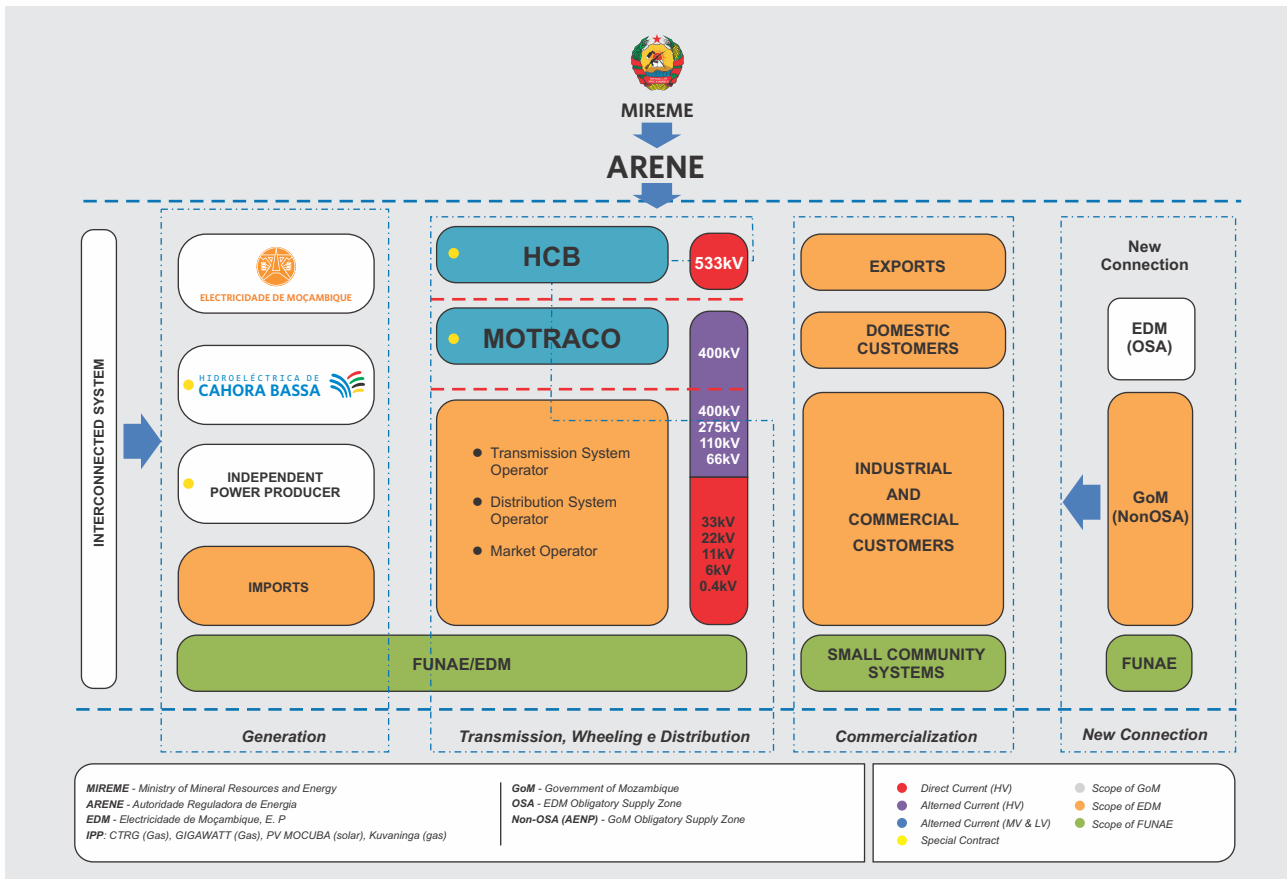
As manager of the REN, EDM has a fully responsibility to ensure an effective and efficient management of the activities of operation and maintenance of the energy transmission and distribution networks.

The section of the EDM value chain is the sale and promotion of electricity to the final consumer, therefore, all marketing, sales and customer care activities.

The human resources, information and communication technologies, as well as procurement and logistics services guarantee the activities on the value chain.

The following figure illustrates the structure of the Institutional Framework in force in Mozambique:

Figure 14 Institucional Framework



## LEGAL AND REGULATORY FRAMEWORK

Summary of the Legal and Regulatory framework:

**1977**

Creation of Electricidade de Moçambique, through Decree N° 38/1977, of 27 August, results from the merger of several isolated services for the generation of various levels of Municipalized electricity services, as well as private electricity exploration companies. Between 1977 to 1995 EDM functioned as a State company.

In the period 1977-1992, the electrical infrastructures, like the whole country, were heavily damaged, hence until 1992, the energy from the national grid was only available in some cities, not yet in cities like Inhambane, Cabo Delgado and Niassa, which were fueled by diesel generators. Between 1985 and 1997, HCB, mainly a source of energy supply to the country, was forced to interrupt its supply to South Africa, and also to the national territory. Due to the war.

**1995**

Through Decree No 28/1995, of 17 July, EDM becomes a Public Company, having gained autonomy, financial, Administrative, legal and patrimonial.

**1997**

The Electricity Law was enacted, which applies to the Generation, transmission, distribution and commercialization in the territory of the Republic of Mozambique as well as its import and exploitation to or from the national territory, opening the market to the participation of the private sector.

The National Electricity Council, also known as CNELEC, was created, with a consultative function, in defense of the public interest, also serving as a means of listening to public opinion on relevant Issues of national electricity policy.

**1998**

For a better implementation of the rehabilitation, reconstruction and development projects, from 1998 onwards the Energy Policy is approved through Resolution 05/98 of 03 March, where among several attributions, it defines:

- Improving the reliability of energy to be supplied;
- The increase in domestic availability;
- Institutional capacity building; and
- Promotion of new power plants and electrical projects, especially the Zambezi Valley, etc.

**2000**

Through Decree No 25/2000, the organic statute of the National Electricity Council, Known as CNELEC, was approved.

**2003**

Through Decree No 29/2003 of 23 June, the Tariff System for the sale of electricity from Electricidade de Moçambique, E.P.

The tariff system for the sale of electricity defines the rules and prices used by EDM for invoicing electricity supplies to Consumers in the country.

**2005**

Decree No 42/2005: Approves the Regulation that establishes the norms regarding the Planning, Financing, Construction, Ownership, Maintenance and Operation of Electricity Production, Transport, Distribution and Commercialization Facilities, as well as the rules and procedures related to management, global operation and development of the National Electricity Transport network.

Decree No 43/2005 promulgating the company Electricidade de Moçambique, Public Company, was promulgated to perform the Public service of the Manager of the National Electricity Transport Network and the Respective Dispatch Center.

**2010**

Through Ministerial Diploma No. 105/2010, the procedures for accessing the Medium Voltage Agricultural tariff were approved.

All Medium Voltage electrical installations that supply irrigation systems for agricultural food production, including the preparation of agrochemical fertilizers, are eligible for this tariff.

**2011**

Law 15/2011

The purpose of this Law is to establish the guidelines for the process of contracting, implementing and monitoring public-private partnership enterprises, large-scale projects and business concessions

**2012**

Law 6/2012

The Public Companies Law was approved.

**2017**

Law 11/2017

Creates the Energy Regulatory Authority, referred to as ARENE for short...

**2018**

NES - Launch of the National Electrification Strategy, in which the roles of EDM, MIREME and FUNAE are defined in the process of expanding domestic access to electricity.

## Sectorial Ratios

Mozambique is a country in the process of revitalizing its industry, with considerable industrial production rates.

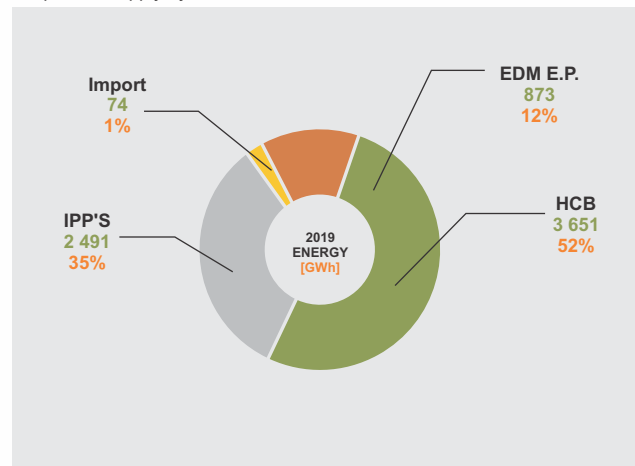
Despite the various conjunctural factors, namely, the rise in fuel prices and the fall in the price of raw material exports, which have contributed in a not very favorable way to industrial development, the production of the manufacturing industry grew by 70.8 thousand Million Meticaís (2014) to 89.4 thousand Million (2018). Annually the industry grew 9.4% (2015), 6.4% (2016), 0.3% (2017) and 6.7% (2018). The manufacturing industry is the third sector that most contributed to GDP, with an average participation of 9.0%, from 2014 to 2016, and a contribution of 8.6%, in the first half of 2017.

In the current five-year period, 902 industries have been licensed, creating approximately 16,145 jobs, with emphasis on cement companies, cereal mills, which add value with limestone and national cereals, respectively.

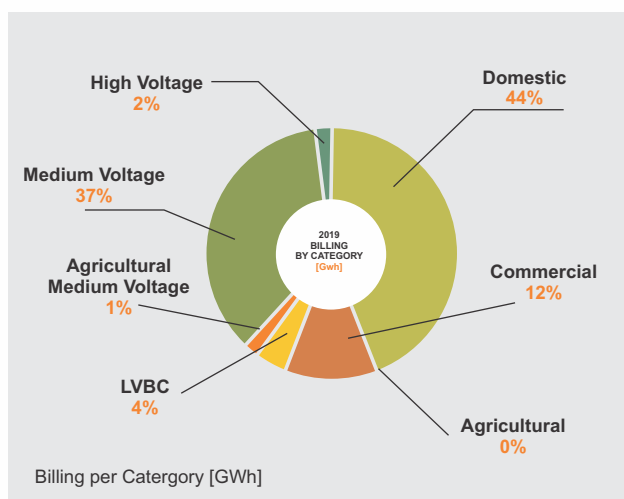
The country has registered a development and expansion of the industrial sector, highlighting the entry into operation of large and medium-sized companies (LIMAK - Maputo Province, Cement Factory - Beira City, Cement Factory - Cabo Delgado Province, Maiaia Cement Factory - Nacala City , Coca-Cola (soft drinks) - expansion in Maputo Province, INALCA (meat processing) - Maputo Province; Pembe Mozambique (wheat), Martifer (metal structures) and Merc Nacala (wheat flour) in Nampula Province, GS Beverages (soft drinks and water) - Zambézia Province, ETG Group (processing of boer beans and sesame) in Nampula and Sofala Provinces, and Espiga D'ouro (Bread maker and seller) - Maputo Province; Beauty (synthetic fiber processing to obtain artificial hair), Heineken (Beers) and Xinavane Sugar Refinery - These 3 factories are located in Maputo Province.

The contribution of HCB has been decreasing because of the entry of more energy sources of production in the supply matrix of EDM, having in 2019 represented 52% of the total energy against 35% of the IPP's (independent power producers), 12% of own production of EDM, 1% imported from South Africa and other neighboring countries through the high voltage and medium voltage network, respectively, connected to the border villages.

Graph 21 Supply by source

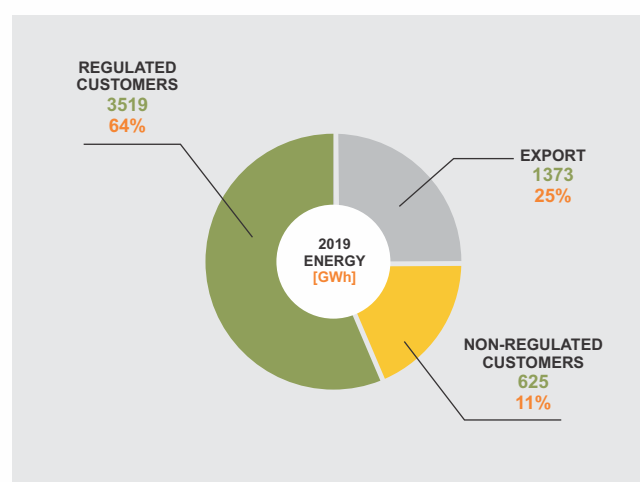


Graph 22 Structure of regulated customers



The chart on the side represents the structure of regulated tariff customers. As you can see, this structure is majority dominated by low voltage consumers with 60%, the rest being medium and high voltage with a weight of 40%.

Graph 23 Market Framework of Power Consumption



The consumer market, made up of regulated tariff customers, represents 64% of EDM's total sales, followed by exports to the regional market with 25% and lastly we have non-regulated tariff customers (special customers) weighing 11%.



# SECTION III

ANALYSIS OF THE CONJUNCTURE  
AND OUTLOOK FOR EDM



# III-1. MACROECONOMIC ANALYSIS

## World Economy: Future prospects

In recent years, the world economy has grown at the weakest pace recorded since the global financial crisis a decade ago, reflecting common influences between countries and specific national factors. Growth continues to be weakened by increased trade barriers and geopolitical tensions.

We estimate that trade tensions between the United States and China will cumulatively freeze the level of world GDP to growth levels of no more than 3.6% by 2024. Growth is also being pressured by specific national factors in several emerging market economies, as well as by structural forces, such as low productivity growth, mainly affected by natural storms, and demographic aging in advanced economies.

Graphic 24 - GDP Growth



The weakness of growth is caused by a sharp deterioration in the activity of the manufacturing industry and world trade, with higher tariffs and a prolonged uncertainty regarding trade policy, hampering investment and demand for capital goods.

Today, the development and consolidation of mutually beneficial ties with African countries and their integration associations are among the foreign policy priorities of the main world economic powers. Because of this, several bilateral summits were held between Africa and the USA, Russia, India, China, the United Kingdom, with a view to establishing new trade agreements with fast-growing economies in Africa, after officially leaving the European Union on 31 January 2021. Like other world powers, they are also attentive to Africa. France has planned a summit with Africa to be held in Bordeaux from 4 to 6 June 2020.

All summits converge on the following priority areas of cooperation, with concrete results expected in the 2020-2024 five-year period: (i) Sustainable Financing, (ii) Infrastructure; (iii) Fair trade; (iii) Mining and modern processing, (iv) Agriculture, (vi) Geological exploration, and (v) Transformation with Clean Energy.

The Africa - European Union Summit is scheduled for 2021.

Monetary policy is expected to play an important role in supporting economic growth in the next five-year period 2020 - 2024. In the absence of inflationary pressures and in the face of weakening activities, major central banks are expected to lower interest rates to reduce the risks of deteriorating growth and prevent the discouragement of inflation expectations. Otherwise, without this monetary stimulus, world growth would be 0.5 percentage points lower, accumulated until the year 2024.

Advanced economies continue to decelerate towards its long-term potential. The growth forecast has been corrected to 1.7% in 2019 (compared to 2.3% in 2018) and is expected to remain at that level in the coming years. The soundness of labor market conditions and the stimulus provided by policies are helping to offset the negative impact of weakening foreign demand in these economies.

Growth in developing economies and emerging markets has also been corrected downwards, to 3.9% in 2019 (compared to 4.5% in 2018), due in part to uncertainties surrounding international trade and domestic policies and the structural slowdown in China. The slight rise in world growth in 2020 is driven by developing economies and emerging markets, which are expected to recover to 4.6% growth.

To breathe a new life into economic growth, economic authorities must take the following actions into account:

- Remove the trade barriers through durable agreements, such as geopolitical tensions and reduce uncertainty around internal policies;
- Economic policy must support activities in a more balanced manner. On the other hand, one must have the aftermath of fiscal policy, as long as it has room for maneuver and its current orientation is no longer too expansionist;
- For growth to be sustainable, it is important that countries carry out reforms to increase productivity, improve resilience and reduce inequality, investing in the quality of the workforce and in promoting gender equity, among other ethical governance practices and transparency;



- The world trading system must be improved and not abandoned. Countries need to work together because multilateralism remains a solution to address important issues, such as the risks arising from climate change, the risks of cybersecurity, tax avoidance and evasion, and to deal with the opportunities and challenges emerging financial technologies.

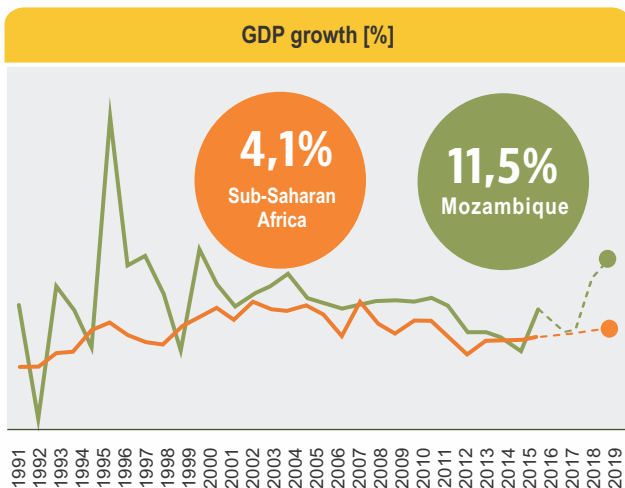
### Sub-Saharan African Economy: opportunities and challenges for Mozambique

The development challenges faced by Mozambique are shared by many Sub-Saharan African countries. High levels of debt, high incidence of poverty, including extreme poverty, private sector slow development, limited employment opportunities, especially for young people are unfortunately family characteristics of many countries in our region.

Nevertheless, there are many examples that stand out, such as policies to achieve and sustain macroeconomic stability and accelerate the pace of economic and institutional transformation, can contribute to increasing productivity and attracting private investment. This can stimulate a cycle of growth and poverty reduction.

Based on its history, as it can be argued that Mozambique has potential for its future. Over the past 20 years, Mozambique has had a strong economic performance. Growth reached an average annual rate of 7% between 1998 and 2014, making it one of the economies in Sub-Saharan Africa with a consistently high growth rate. Unfortunately, from 2015 onwards the economy slowed as result of the discovery of hidden debts of 2.2 billion dollars, leading the country to the worst financial crisis ever seen.

Graphic 25 - GDP Growth

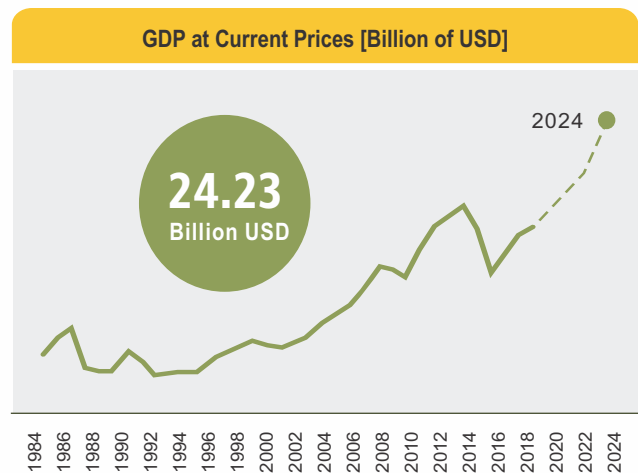


This high and sustained growth has also contributed to the improvement of living standards. The share of Mozambicans living below the poverty line dropped from 70% in 1997 to 53% in 2003 and 46% in 2015. Some progress has also been made in reducing income inequal-

ity, with the Gini coefficient falling from 47% to 46% in 2003 and 2015 respectively.

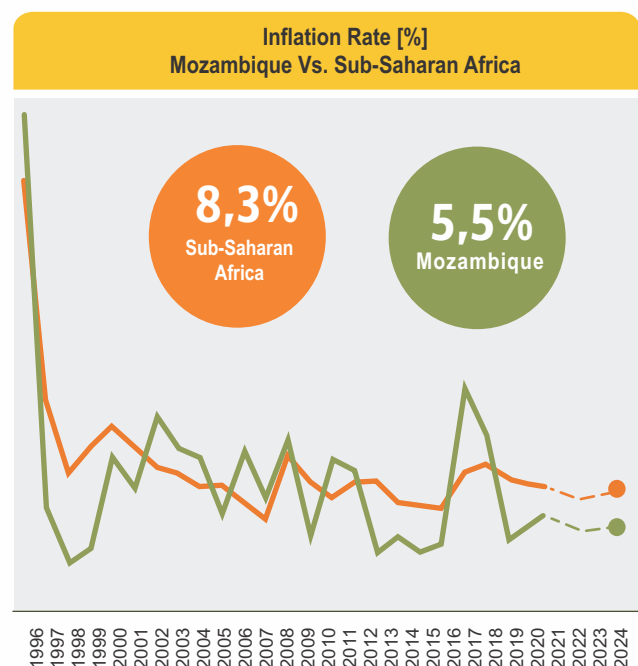
In recent years, growth has been moderate, revised downwards in 2019, due to the harmful consequences caused by cyclones IDAI and Kenneth, which hit the central and northern regions of the country, affecting productive capacity, particularly agriculture. The economy is expected to recover from the year 2020, reaching levels of USD 24.23 billion in 2024.

Graph 26 GDP at Current Prices



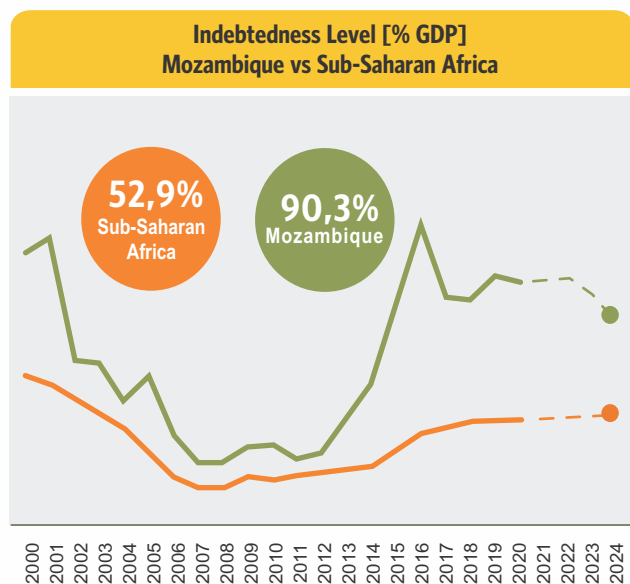
On the monetary policy side, despite the cyclone shock, inflation remains at a low digit and well-anchored inflation expectations have allowed the Bank of Mozambique to reduce the basic interest rate several times in the past two years, contributing to a nascent recovery in credit to the private sector. International reserve buffers have been rebuilt to a comfortable 7-month level.

Graphic 27 - Inflation Rate



On the fiscal side, the government implemented gradually fiscal consolidation, prioritizing spending on education, health and social protection. Together with debt relief, these efforts, if it had to continue by the new government, would put the public debt in better shape and create a fiscal space to help mitigate and deal with the effects of future natural storms

Graph 28 Level of indebtedness



Mozambique's medium-term outlook has increased significantly. The peace process between the Government and Renamo was signed, the recent elections were held peacefully and the process of demobilization, disarmament and reintegration of Renamo combatants is taking place within the agreed principles and timetable. The government's continued efforts to maintain peace and increase social cohesion are essential to promote sustainable economic development and inclusive growth.

The country is about to become a major exporter of liquefied natural gas (LNG), which can be a major catalyst for economic transformation, development and inclusive growth, alleviating poverty for millions of Mozambicans, only if the right policies are implemented.

There are three areas, which require special attention:

1) The Government needs to follow its commitment to strengthen the governance structure, Increase transparency and fight corruption. The fight against corruption is

a shared responsibility of all members of Mozambican society.

2) Properly manage the revenues from natural resources. Although more significant tax revenues from LNG production are expected in the late 2020s, it is essential to reflect in advance on the correct institutional structure to manage future LNG wealth.

- A Transparency about how resources are used is the key to ensuring the successful management of natural resource wealth;
- Softening spending over time helps to ensure that new investments can be planned and implemented properly, especially when faced with restrictions on absorption capacity;
- A credible medium-term fiscal structure, with rules to guide public investment and savings policies, together with a sovereign wealth fund, can help share wealth for all Mozambicans.

3) Harnessing the benefits of regional integration will be essential to increase economic resilience and help the Mozambican economy to grow faster and better navigate the uncertainties of the global economy. The region's broad support for the African Continental Free Trade Area (AfCFTA) is encouraging. To maximize the great benefits of AfCFTA, such as creating trade, it will be important to eliminate non-trade barriers and increase the diversification and complexity of our economy to increase its competitiveness.

The growth in Sub-Saharan Africa is expected to remain at 3.2% in 2019 and accelerate to 3.6% in 2020. Growth is slower in about two-thirds of countries in the region than that predicted previous projections. This downward revision reflects a more complex external environment, persistent production disruptions in oil-exporting countries and weaker than expected growth in South Africa.

The growth prospects for 2020 and following years vary considerably between countries in the region. Growth is expected to remain strong in non-resource rich countries, standing on average at 6%. As result, in 24 countries - representing a total population of 500 million people - income per capita will rise more rapidly than in the rest of the world. Conversely, growth is expected to be slower in resource-rich countries (2.5%). Thus, 21 countries are expected to register growth per capita below the world average.

## III-2. ANALYSIS OF THE SECTOR AT INTERNATIONAL AND REGIONAL LEVEL

### Characterization and trends in the market

#### International context:

The old paradigm of the national electrical system is in the middle of a transformation. Technological evolution and innovation have changed the traditional models of energy supply, and with them the respective legal and regulatory systems. The following four trends are having a strong impact and changing the rules of the energy sectors around the world:

Table 1 International Context

Decarbonization and Diversification of the Energy Matrix	Decentralization	Tecnology	Electrification
<ul style="list-style-type: none"> <li>→ The need to reduce the greenhouse gas needed in the electricity sector in response to climate change, led to a rapid expansion of renewable energy, changing the shape of the energy matrices, and in many cases it is recurrent to observe a lower bet on fossils, coal and diesel by intermittent solutions (eg solar and wind sources.).</li> <li>→ Advances in the integration of intermittent sources in national networks have helped utilities to accommodate more renewable sources in the best energy matrices.</li> </ul>	<ul style="list-style-type: none"> <li>→ Stimulated by the sharp drop in the cost of distributed energy resources (DERs), such as distributed storage, distributed generation, demand flexibility and energy efficiency.</li> <li>→ The transition from the electrical network from one with centralized generation and unidirectional energy flows, to a more dynamic localized network, incorporating a wide range of distributed energy resources (DERs). This includes technology and market development for electricity customers and utilities, new hardware and software for the distribution network and a new regulatory paradigm for the energy sector.</li> </ul>	<ul style="list-style-type: none"> <li>→ Digitalization of the network with intelligent metering, automation and digital devices in network technologies, has improved efficiency, reduced costs, increased reliability and provided better customer service.</li> </ul>	<ul style="list-style-type: none"> <li>→ Electrification of large sectors of the economy, such as transport. We are at the beginning of the global proliferation of electric vehicles. This has an impact on fuel demand, electricity loads and energy markets, which will require new business models and infrastructure;</li> <li>→ Universal Access - Bringing modern solutions to 1.2 billion people worldwide who remain without access to electricity and bringing reliable energy to a multitude of people, who face frequent service interruptions, will reshape the global energy sector. This includes technical solutions ranging from the extension of the grid to micro-grids, policy challenges and impacts on general energy demand and greenhouse gas emissions.</li> </ul>

The aforementioned trends will only be successful with the investment of human capital and institutional training and full use of human and artificial intelligence aimed at electricity companies.

Energy is an essential facilitator in advancing a country's economy, so its safety and reliability are critical. To ensure energy security, utilities around the world are adapting to changes in the energy landscape through digital transformation, consisting of the following pillars:



Production will evolve towards a more diversified and decentralized network with less capacity, more flexible and intelligent units for auto ramp, auto-balance / stabilization and selfdiagnosis - they will be activated by comprehensive monitoring, intelligence and automated controls that increase the rates of heat, availability and response to Demand.



Future networks will be selfcorrecting and enabled for communications, able to increasingly act as an entity - bidirectional energy flow management, complex demand / response management and asset health that dramatically reduce asset intensity and Operating costs, culminating in increased reliability.



Companies will improve their relationship and get to know their customers better, implementing advanced Self-service solutions, mobile apps, data analysis, communication and energy management.



The User will have digitally enabled corporate / shared services, providing fully automated and integrated services. Corporate services characterized by predictive analysis, forecasting and robotics to minimize manual Intervention and optimize the number of employees, increasing the user experience.

## PILARS

Reduce O&M costs and optimize capital in a low volatility environment

Reduce costs and improve the value through cognitive intelligence

Translate based on customer experience an energetic margin.

### African regional context

While African utilities still face long-standing challenges, as shown in the table below, they also need to adapt to the main paradigms facing the African energy sector to ensure the necessary growth.

## CHALLENGES

Inadequate generation capacity.

Infrastructure poor transportation.

Unqualified personnel or reduced number of qualified labor.

Poor maintenance of existing power plants..

Inadequate measurement and billing systems, resulting in unreliable delivery.

Inefficient technical performance.

Inadequate financial sustainability.



PARADIGMS	DESCRIPTION
AFRICA'S ECONOMIC GROWTH	<ul style="list-style-type: none"> <li>▪ Growing industrial commercial sector</li> <li>▪ Emerging middle class</li> <li>▪ Improved access to electricity</li> </ul>
DIVERSIFICATION OF THE ENERGY MATRIX	<ul style="list-style-type: none"> <li>▪ Greater investment in alternative energy sources, for example: wind, solar, biomass, water, nuclear, gas, etc.</li> </ul>
CHANGE OF CLIENTS 'ROLES	<ul style="list-style-type: none"> <li>▪ Customers that complement the role of producers through Auto-generation, co-generation, and new generation, for example solutions outside the network or micro-network.</li> </ul>
MARKET RESTRUCTURING	<ul style="list-style-type: none"> <li>▪ Change from centralized monopolies to disaggregated structures, entry of IPPs, changes in market regulation.</li> </ul>
SMART UTILITIES	<ul style="list-style-type: none"> <li>▪ Smart networks, analytics, smart metering.</li> </ul>
RENEWABLE TECHNOLOGY	<ul style="list-style-type: none"> <li>▪ Accessibility of renewable technologies.</li> <li>▪ Accelerated concerns about climate change.</li> </ul>

### CHALLENGE OF AFRICAN ELECTRICITY COMPANIES:

#### GENERATION AND ACCESS

Africa is at a disadvantage when compared to other regions of the world, namely in terms of generation capacity, per capita consumption of electricity and household access to electricity.

#### FINANCIAL SUSTENTABILITY

Two determining and important aspects for determining whether the electricity sector will be able to meet demand and expand access are the financial sustainability of utilities and the ability of families to pay tariffs.

#### EXTERNAL FACTORS

External shocks, such as changes in oil prices, currency or precipitation, can improve or aggravate the prospects for the financial viability of an energy sector.

#### ACCESSIBILITY

Many families are unable to pay energy taxes and fees, largely limiting the expansion of access to electricity.



## Opportunities and challenges for EDM

The matrix below outlines the opportunities and challenges that EDM has, through a SWOT analysis, which is an internal and external diagnostic tool for the company that portrays the current competitive situation.

The content of its four analysis quadrants, combined with the diagram of the critical success factors, resulted in the definition of the strategic objectives and goals that will deserve special attention from the Company during the execution of this Business Plan.

Figure 15 SWOT ANALYZE



## III-4. COMPETITIVE ADVANTAGES, CRITICAL FACTORS OF SUCCESS

EDM's main competitive advantages are shown below:

### ■ Main driver of Mozambique's electricity sector

EDM is a vertically integrated public company, natural monopolist of the electricity sector in Mozambique responsible for the Generation, Transmission, Distribution and Commercialization of energy. Its field of action is national and international presence, with a sound knowledge of the sector and has also been playing a key role since 1977, with a technical knowledge that in the moments of little institutional clarity, it leads the planning processes definition of tariffs, advising MIREME and the energy sector authority regulator (ARENE).

EDM proposes to collaborate proactively in the creation and transfer of resources to different players in the sector at national level.

Given its extensive experience in structuring and implementing Generation and Transmission projects, under a public-private partnership (PPP) regime, mobilizing financing through international and national retrocession agreements as well as direct agreements, EDM will continue to be a main arm of the government in pursuing the national development strategy, universalizing the population's domestic access to REN.

EDM embraced the modernization agenda and started a transformation process, based on a broad program of digitization of processes and tools and human training, for the establishment of an inclusive, ethical, transparent

professional culture, sensitive to gender equity issues, and, above all, a culture of good performance and compliance with high standards of technical and management quality. This program gave the company international visibility and contributed to EDM's reputation establishing itself as an institution with transformative capacity and based on strong principles of transparency and professional integrity.

■ **Allied geostrategic location and presence in SAPP**

Mozambique has enormous energy potential, which, combined with its privileged geographical location, bordering 6 countries, gives it favorable conditions to become a power generation hub in the Southern African region. Projections suggest that electricity demand will increase by around 50% in the region by 2030, which is a major commercial opportunity for EDM in energy supply. Thus, EDM defined as one of the three strategic objectives, to become a regional energy pole to take advantage of the commercial opportunities that the regional electricity market offers. To this end, it is engaged in the development and implementation of the Temane Combined Cycle Power Plant Project (400MW), whose construction is scheduled to start in 2021. At the same time, regional interconnection projects are under development, with emphasis on the STE transmission project, the construction of which is

expected to start in 2020.

The export of energy is a major objective of the company, which will be materialized through the establishment of bilateral commercial transaction agreements at the level of SAPP (Southern Africa Power Pool).

■ **Access to the abundance of resources that allow the diversification of the energy matrix**

Mozambique has abundant natural resources, including gas and coal, and renewable sources (such as water, solar, wind, biomass and geothermal), which make up a total of 187 GWh, placing the country at the top of the potential for energy generation in southern Africa. Currently, hydroelectric energy represents about 81% of installed capacity. However, the Electricity Master Plan 2018-2043 recommends the development of natural gas generation projects and renewable energy sources, which will gradually occupy a larger share and diversify the national energy matrix through solutions inside and outside the grid. A correct use of this wide range of resources opens possibilities to guarantee, simultaneously, the planning of projects of optimized cost and national energy security.

The following figure outlines the Critical Success Factors for EDM:

Figure 16 Critical Success Factors









# SECTION IV

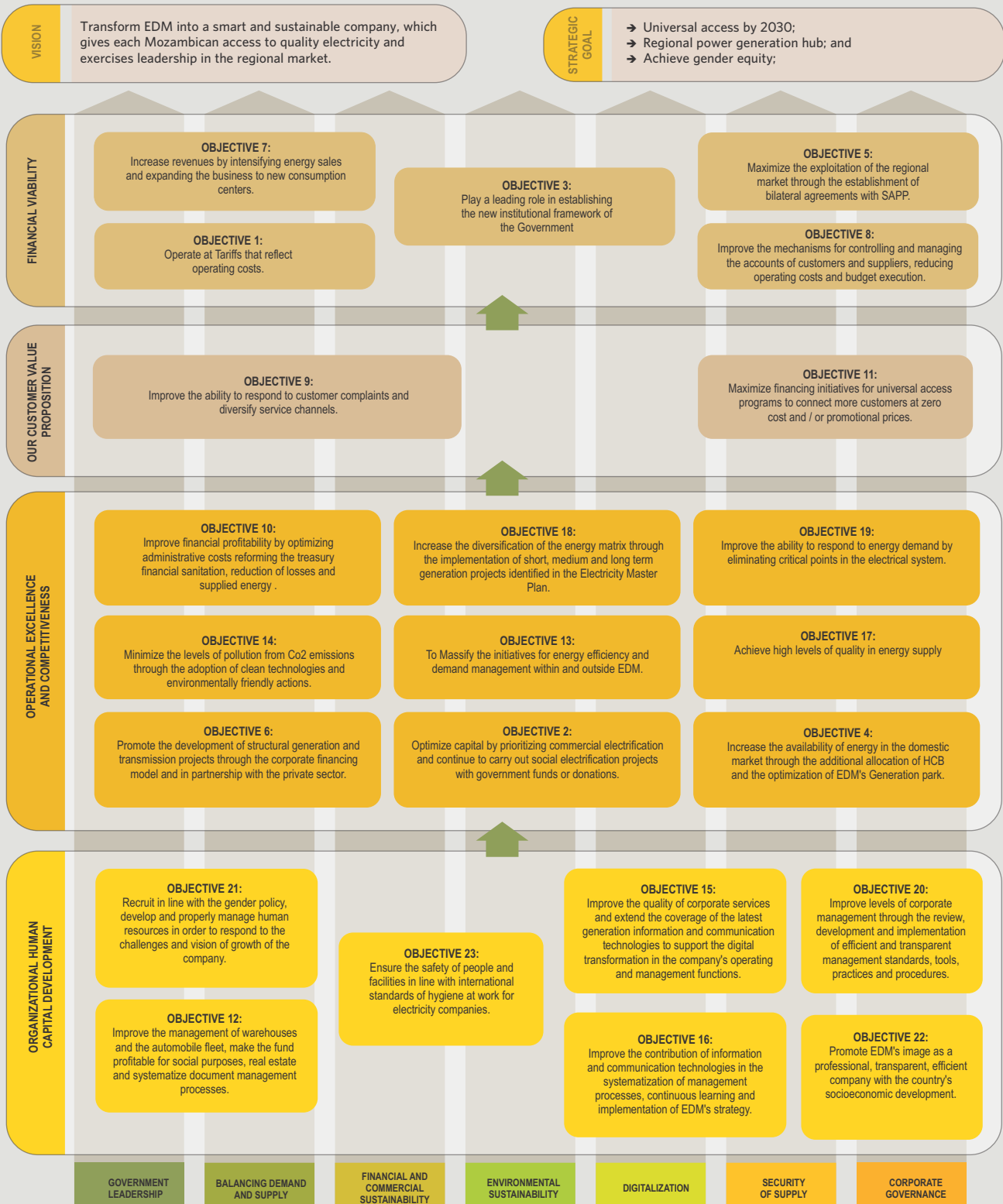
BUSINESS STRATEGY

# IV-1. STRATEGIC MAP, OBJECTIVES AND TARGETS

The following strategic map seeks to demonstrate the logic of how the twenty-three strategic objectives fit into each stage of the value chain and the respective contribution to guide EDM to achieve its three strategic priorities, namely:

- 1) The scope of universal access to electricity;
- 2) Mozambique's position as an energy hub in SADC region; and
- 3) The establishment of a model company of public electricity service, which optimizes gender equity, business and operational excellence.

Figure 17 Strategic map, objectives and targets



Then, the seven vectors are presented, in which the previously defined objectives are grouped, namely:

## Vector 1: Government leadership

**Expected Strategic Outcome:** *An EDM that operates with tariffs that reflect operating costs, focuses on Commercial Electrification and that only performs Social Electrification when financed by the government or donations*



Specific goals of Vector 1 - Strategic objectives							
Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024
1	Average Sales Price for Special Customers	[MT/kWh]	7.3	7.8	8.2	8.5	8.9
	Export Average Sales Price	[MT/kWh]	4.1	5.5	5.6	6.3	5.7
	Regulated Customers Average Sales Price	[MT/kWh]	8.7	9.3	9.7	10.1	10.5
	Average Selling Price	[MT/kWh]	7.5	8.3	8.8	9.4	8.7
	Average acquisition cost	[MT/kWh]	3.8	4.3	4.4	4.8	5.4
2	New connections (EDM)	[un]	130 000	90 000	80 000	80 000	80 000
	New connections (ProEnergia)	[un]	110 000	210 000	220 000	220 000	220 000



## Vector 2: Balancing demand and supply.

**Expected Strategic Outcome:** Development of priority projects, identified in the Electricity Master Plan, with a view to guaranteeing the satisfaction of internal demand and surplus availability of energy that can enable the SAPP regional market exploitation plan.

<b>VECTOR 2:</b>  <b>Balancing demand and supply:</b>	<b>Objective 4:</b> Increase the availability of energy in the domestic market through the additional allocation of HCB and the optimization of EDM's Generation park.
	<b>Objective 5:</b> Maximize the exploitation of the regional market through the establishment of bilateral agreements with SAPP.
	<b>Objective 6:</b> Promote the development of structural generation and transmission projects through the corporate financing model and in partnership with the private sector.

Specific goals for Vector 2 - Strategic objectives

Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024	TOTAL
4	Additional allocation from HCB's Firm Energy	[MW]	0	200	0	0	0	200
	Recovered and additional power in EDM's own generation	[MW]	38	60	25	0	100	223
5	Reserve margin during peak hours	%	9.9	9.5	6.7	11.7	21.3	N/A
	Firm power contracted under bilateral agreements	[MW]	50	50	50	50	50	N/A
6	Additional generation capacity of IPP's.	MW	40	60	50	430	30	610
	Built Kilometers of transmission line for national and regional interconnection	km	159.4	562.4	635	370	0	1726.8





### Vector 3: Ensure the financial viability and commercial sustainability of EDM.

**Expected Strategic Outcome:** Financial restructuring, reduction of current debts with suppliers, collection of outstanding invoices from customers, establishment of a budget control system, customer satisfaction, low energy losses, reliable commercial systems, financial profitability and availability of capital.

<b>VECTOR 3:</b>  Ensure the EDM financial viability and commercial sustainability	<b>Objective 7:</b> Increase revenue by intensifying energy sales and expanding the business to new consumption centers.
	<b>Objective 8:</b> Improve the mechanisms for controlling and managing the accounts of customers and suppliers, reducing operating costs and budget execution.
	<b>Objective 9:</b> Improve the ability to respond to customer complaints and diversify service channels.
	<b>Objective 10:</b> Improve financial profitability by optimizing administrative costs, reforming the treasury, financial sanitation, reducing losses and non-supplied energy.
	<b>Objective 11:</b> Maximize financing initiatives for universal access programs to connect more customers at zero cost and / or promotional prices.
	<b>Objective 12:</b> Improve the management of warehouses and the automobile fleet, make the fund profitable for social purposes, real estate and systematize document management processes.

Specific goals for Vector 3 - Strategic objectives							
Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024
7	Energy exported	GWh	1 363	1 221	1 016	902	3 057
	Energy sold to regulated customers	GWh	3 375	3 697	4 028	4 386	4 773
	Energy sold to special customers	GWh	566	718	730	746	991
8	% of prepaid customer accounts analyzed	%	100	100	100	100	100
	Frequency of commercial visits to big consumption customers	Days	60	60	60	60	60
	Degree of budget achievement	%	100	100	100	100	100
	Average receiving period (PMR)	Days	50	40	30	24	20
	Average payment period [PMP]	Days	60	60	60	60	60
	Collection rate	%	96	97	98	98	98
9	Customer care´s response average time	hours	03:00	03:00	03:00	03:00	03:00
	Response time for new connection	Days	5	5	5	5	5
	Customer service average time (in store)	hh:mm:ss	00:45:00	00:45:00	00:30:00	00:30:00	00:30:00
	Availability of self-service channels	Hours a Day	24	24	24	24	24
10	Gross Margin	%	33.4%	35.3%	35.5%	34.3%	25.3%
	Total energy losses	%	30.1%	29.1%	27.3%	26.0%	24.0%
11	Number of new connections	Un	240 000	300 000	300 000	300 000	300 000
	Domestic electricity access rate to REN	%	35%	39%	42%	46%	49%
12	coverage of fleet management system	%	20	40	60	65	75
	implementation of credit management system	%	15	40	70	98	100
	coverage of the warehouses computerization	%	100	100	100	100	100
	implementation of documental management system	%	20	60	80	98	100
	coverage of the property management system	%	5	20	50	65	80

## Vector 4: Environmental Sustainability.

**Expected Strategic Outcome:** Diversified energy matrix, leadership in the adoption of energy efficiency measures, clean energy and environmentally friendly initiatives.

### VECTOR 4:

Perform  
a key role in national and  
regional environmental  
sustainability

**Objective 13:** Massify the EDM efficiency and demand management initiatives inside and outside

**Objective 14:** Minimize pollution levels and CO2 emissions through the adoption of clean technologies and environmentally friendly actions

#### Specific goals for Vector 4 - Strategic objectives

Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024
13	Coverage of Efficient equipment in EDM buildings	%	0	5	8	10	15
	Number of served customers to change light bulbs	un	0	200000	200000	100 000	100 000
	Delivery points with power metering devices nationwide	%	100	100	100	100	100
	Demand saved by Demand Side Management actions	MW	0	10	10	5	5
	Number of solar power systems installed in EDM parking lot	un	0	1	1	0	0
	Introduction of hourly pricing	year	0	0			
	Coverage of automatic shutdown devices in public lighting	%	50	65	75	85	100
14	Number of obsolete vehicles with black smoke	%	5	3	2	1	1
	implemented projects with issued environmental licenses	%	100	100	100	100	100
	report preparation and publication on greenhouse gas emissions	year	0	0		0	0
	Number of photovoltaic systems granted to serve communities	un	0	1	1	1	0
	Level of CO2 reduction resulting from energy efficiency programs	tCO2/year	0	25000	25000	12500	12500
	Degree of compliance with EDM fleet preventive maintenance	%	80	90	100	100	100

## Vector 5: Digital Transformation

**Expected Strategic Outcome:** Expansion of the telecommunications network, internal and external customer satisfaction, stabilization and optimization of the database and business management systems (CMS, GIAF, NCIS, BPMS and OMS), implementation of the corporate information portal, business process re-engineering, digital administrative processes, corporate data warehouse integrated in the geo-referenced database.

### VECTOR 5:

#### Digitalization

**Objective 15:** Improve the quality of corporate services and extend the coverage of the latest generation information and communication technologies to support the digital transformation in the company's operating and management functions.

**Objective 16:** To improve the contribution of information and communication technologies in the systematization of management processes, continuous learning and implementation of EDM's strategy.

### Specific goals for Vector 5 - Strategic objectives

Strategic Objective	Key Performance Indicator	Units	2019	2020	2021	2022	2023	2024
15	ICT technicians with specialization / certification	Un	N/A	8	13	15	17	20
	Customer satisfaction with ICT services	%	75	80	85	90	95	99.5
	Resolution of user requests with internal staff	%	N/A	80	85	90	95	98
	Data center availability	%	N/A	95	95	95.5	99.5	99.9
	Redundancy in IT / OT communications	%	N/A	95	95	95.5	99	99.5
	1st and 2nd line incident resolution rates	%	70	75	80	85	90	95
16	Paperless project implementation	Un	N/A	1	2	2	3	3
	Availability of commercial systems	%	95	95	95.5	99	99.5	99.9
	Video-Conference Rooms	Un	N/A	8	8	12	16	20
	Sites with Updated Data (local Networks)	Un	N/A	68	168	325	330	340
	Digital Access Index	%	N/A	60	70	75	80	85
	Number of interruptions due to unscheduled IT services	un	15	13	12	10	7	5

## Vector 6: Quality and Security of Supply.

**Expected Strategic Outcome:** Greater availability, power supply quality without interruption, expansion and renewal of the generation, transmission and distribution infrastructure at national level.

<b>VECTOR 6:</b>  <b>Create security and quality of supply</b>	<b>Objective 17:</b> Achieve high levels of quality in energy supply
	<b>Objective 18:</b> Increase the diversification of the energy matrix through the implementation of short, medium and long term generation projects identified in the Electricity Master Plan
	<b>Objective 19:</b> To improve the capacity to respond to energy demand by eliminating critical points in the electrical system

Specific goals for Vector 6 - Strategic objectives							
Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024
17	SAIFI (Transmission)	Un	30.14	28.89	27.84	27.20	25.14
	SAIDI (Transmission)	hh:mm	46:20	44:09	42:34	40:51	37:45
	SARI (Transmission)	hh:mm	01:32	01:31	01:31	01:30	01:30
	Transmission Losses	%	6.7	6.6	6.6	6.5	6.4
	SAIDI (Distribution)	hh:mm	00:31	00:30	00:29	00:29	00:29
	SAIFI (Distribution)	Un	0.72	0.71	0.69	0.68	0.68
	SARI (Distribution)	hh:mm	00:43	00:43	00:43	00:43	00:43
	Generation Load factor - GLF (Internal generation)	%	86	98	98	98	98
	Unplanned capacity loss factor -UCLF	%	40	52	52	52	52
18	Energy use factorEUF (Internal generation)	%	45	53	53	53	53
	Unplanned capacity loss factor -UCLF	%	13	0.5	0.5	0.5	0.5
	Weight of thermal production over total energy	%	42	37	37	52	52
	Weight of renewable production over total energy	%	58	63	63	48	48
19	Additional transformation capacity [HV / MV]	MW	323	586	216	60	0
	ND / 100km (400kV Transmission network)	Un	0	0	1	1	1
	ND / 100km 275kV (Transmission network)	Un	3	3	3	3	3
	ND / 100km 220kV (Transmission network)	Un	3	3	3	3	3
	ND / 100km (110kV Transmission network)	Un	11	11	11	11	11
	ND / 100km (66kV Transmission network)	Un	18	18	17	16	16



## Vector 7: Corporate Governance

**Expected Strategic Outcome:** Implementation of the corporate governance code, maturity of corporate risk, access to capital markets for project financing, good corporate image, gender equity, accountability culture and operational excellence.

<b>VECTOR 7:</b>  Lead the implementation of corporate governance	<b>Objective 20:</b> To improve the levels of corporate management through the review, development and implementation of standards, tools, practices and procedures for effective and transparent management
	<b>Objective 21:</b> Recruit in line with the gender policy, develop and properly manage human resources, in order to respond to the challenges and vision of growth of the company
	<b>Objective 22:</b> Promote EDM's image as a professional, transparent, efficient company, engaged with the country's socio-economic development
	<b>Objective 23:</b> Guarantee the safety of people and facilities, in line with international standards of hygiene and safety at work for electricity companies

Specific goals for Vector 7 - Strategic objectives							
Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024
20	Approval of Previous Year's Accounts	Month	April	April	April	April	April
	Approval of the Activity Plan and Budget for the Subsequent Year	Month	Dec.	Dec.	Dec.	Dec.	Dec.
	Elaboration and disclosure of corporate governance policy	Month		Aug.			
	Deadline for publishing EDM's corporate reports for the previous year	Month	Jun	Jun	Jun	Jun	Jun
	Implementation of the investment prioritization and management system	Month		Oct.			
	Network code review completion deadline	Month			Jun		
	Implementation of the management system based on business risk	Month		Jun			
	Completion of updating of network construction and operation rules and procedures	Month			May		
	Mapping and automation of Organizational Processes				Aug.	Aug.	Aug.
	Completion of updating commercial and georeferenced customer procedures	Month		May			
21	Gender equity index	%	21.3	23.4	25.4	27.4	29.1
	Number of permanent workers	Un	3475	3619	3786	3928	4053
	Number of female workers	Un	739	848	962	1076	1180
	Implementation of a knowledge management and e-learning solution	Month	Jul				
	Rehabilitation and modernization of EDM Training Centers (Maputo and Chimoio)				Dec.		
	Implementation of a training management platform and registration of trainees (academic record)	Month	Nov.				
	Establishment of an Electricity Museum	Month					Dec.

Strategic Objective	Key Performance Indicator	Units	2020	2021	2022	2023	2024
21	Develop assistance and social security systems						
	Number of workers trained	un	1170	1300	1350	1500	1650
	Gender index among trained workers	%	30	35	40	45	50
22	Number of social tariff customers	un	6000	7500	10000	15000	17500
	Index of Workers committed to the EC	%	75	100	100	100	100
	Development of the ethical risk matrix	Month			Sept.		
	Review of the Code of Ethics	Month		Jun			
23	Number of fatal accidents against workers	Un	0	0	0	0	0
	Number of electronics security systems installed	Un	6	6	6	6	6
	Number of awareness-raising and community engagement lectures	Un	30	45	70	100	100
	Number of fatal accidents against third parties	Un	0	0	0	0	0



## IV-2. STRATEGIC SOURCES OF FINANCING

For the materialization of the strategic objectives and goals, contained in the present business plan, EDM being a public company and governmental arm of the Government in the energy sphere, will continue to prioritize donations, concessional and semi-concessional financing, through agreements directed to it and retrocession through the Government of Mozambique.

The following is a list of signed financing and others to be, which will package EDM's business in the current five-year period:

### Direct Agreements

Financier	Project Name	Financing		Maturity
		Currency	Amount	
MOZA	Short-term reinforcement in the Southern and Central-North Systems	MZN	583 296 000	17/07/2022
DBSA	Rehabilitation of Matola Distribution Networks	USD	12 064 000	31/03/2022
DBSA	Rehabilitation of Beira Distribution Networks	USD	15 643 440	31/03/2020
KFW	Rehabilitation of Mavuzi and Chicamba Hydroelectric Plants	EUR	17 635 530,10	30/09/2025

### Retrocession Agreements

Financier	Project Name	Financing		Maturity
		Currency	Amount	
BADEA	Reinforcement of Maputo / Beira Distribution Network and its equipments	USD	10 000 000	01/07/2023
BADEA	Nampula-Pemba Transmission Line	USD	13 800 000	01/02/2025
BADEA	Rural Electrification of Niassa	USD	5 000 000	11/12/2042
FAD	CTM's Fuel	USD	4 000 000	31/12/2042
ICO (Spain)	Xai-Xai Backup Power Station	USD	3 169 726	13/09/2037
OPEC	Matola Substation	USD	7 739 403	25/10/2023
OPEC	Rural Electrification - Electricity IV	USD	10 400 000	15/08/2027
Export Import Bank (India)	Rural Electrification of Nampula, Zambézia and Inhambane	USD	15 000 000	21/06/2028
Export Import Bank (India)	Rural Electrification of Niassa, Cabo Delgado and Manica	USD	12 500 000	30/11/2028
Export Import Bank Coreia)	Rural Electrification of Gaza Province	USD	24 541 000	30/11/2047
IDA (WB)	Domestic Energy	SDR	3 350 000	01/08/2026
IDA (WB)	Low and High Voltage Network Rehabilitation	SDR	3 460 000	01/10/2026
IDA (WB)	Low and High Voltage Network Rehabilitation	SDR	3 970 000	01/10/2026
IDA (WB)	Mozambique - Malawi interconnection	SDR	9 100 000	01/07/2032
IDA (WB)	EDAP	SDR	34 200 000	15/11/2039
NDF	Domestic Energy - NDF / 1/89	SDR	1 940 000	01/08/2026
NDF	HCB / Zimbabwe interconnection	SDR	3 700 000	31/12/2041
Kingdom of Belgium	Mobile Substations II	EURO	1 022 000	30/04/2030
Kingdom of Belgium	Mobile Substations II	EURO	678 000	30/04/2030
Kingdom of Belgium	Acquisition of 3 Mobile Substations	EURO	849 000	09/05/2032
Kingdom of Belgium	Replacement of Electrical Systems Damaged by Floods	EURO	810 000	23/03/2029
Kingdom of Belgium	Rehabilitation of Chimoio Substation and Acquisition of a Mobile Substation	EURO	3 055 000	11/02/2038
AFD	Participation in CTRG Capital	EURO	52 000 000	22/04/2033
NORDEA BANK	Rehab, Strength., and Extension of the National Energy Transmission Network	EURO	58 135 481	15/11/2033
AFD	Rehabilitation of Mavuzi and Chicamba Hydroelectric Plants	EURO	50 000 000	07/08/2042
AFD	EDAP	EURO	20 000 000	30/04/2033
BID	Nampula-Pemba Transmission Line	ID	7 000 000	31/07/2026
BID	Rural Electrification of Niassa	ID	3 485 000	30/11/2033
BID	Chimuarua-Nacala Transmission Line	USD	200 000 000	
Kuwait	Matola Substation	KWD	3 250 000	01/12/2027
JICA	Development of a Thermoelectric Gas Power Plant in Maputo	YEN	17 269 000 000	08/01/2064
Single Debt	Rural Electrification	MZN	3 012 985 891	02/01/2055
World Bank	Rehabilitation of electrical infrastructures	USD	2 000 000	21/09/2040
Cota Fund Niassa RI	Retrocession Agreement	USD	9 053 184	28/12/2038

## Donations

For the development of its activities, EDM in addition to financing has also donations.

### Donations

Financier	Project Name	Financing	
		Moeda	Valor
World Bank	PERIP	USD	148 000 000.00
World Bank	Mozambique-Malawi interconnection	USD	3 600 000.00
World Bank	CESUL	USD	5 000 000.00
KFW	Construction of the Beluluane Substation	EUR	20 785 000.00
World Bank	ProEnergia	USD	56 000 000.00
Government of Norway	Mocuba Solar Power Station	NOK	32 000 000.00
ASDI	KPY Systems	SEK	18 450 000.00
Government of Norway	STIP	NOK	53 369 690.85
ASDI	Rehabilitation of the Chicamba and Mavuzi plants	EUR	321 694 126.00
ASDI	Institutional Training	SEK	63 800 000.00
ASDI	Preparation Facility	SEK	52 500 000.00
ASDI	Vilanculos Rural Electrification - Phase I	SEK	8 2. 149.00
ASDI	Revue-Tsate Basin Feasibility Study	SEK	10 106 29E1.00
ASDI	Massinga-Vilanculos Feasibility Study	SEK	1 997 920.00
ASDI	Corumana Dam Rehabilitation Study	SEK	2 000 000.00
ASDI	Nampula-Angoche Feasibility Study	SEK	1 675 385.72
JICA	Infulene Substation Rehabilitation	USD	12 000 000.00
JICA	Rehabilitation of Nacala Backup Power Station	IEN	142 000 000.00
JICA	Namialo Substation	JPY	2 012 000 000.00
Government of Norway	Technical Assistance for large scale Projects - Phase III	NOK	30 000 000.00
Government of Norway	Feasibility Study for Metro-Palma Transmission Line	NOK	4 700 000.00
Government of Norway	Procurement Reform	NOK	23 000 000.00
AFD	Modernization of EDM Training Centers	EUR	5 000 000.00
AFD	Renewable Energy Generation	EUR	4 000 000.00
KFW	Mozambique - Malawi interconnection	EUR	30 000 000.00
KFW	STIP - Lote A	EUR	17 000 000.00
KFW	Rehabilitation of Mavuzi and Chicamba Power Station after Idai	EUR	3 000 000.00

In the current five-year period, EDM will mobilize around USD 1.0 billion for new projects, according to the table below:

Project Name	Costs [Musd]	Financier
Interconnection project between Mozambique and Malawi (MOMA)	127	WB, KFW and Norway
Rehabilitation and Strengthening of Distribution Networks of Quelimane and Mocuba	96	N/A
110kV Transmission Line Nampula - Angoche	39.4	
275kV Bebeluane- Salamanga Transmission Line	35.6	
400kV Namialo - Meteoro Transmission Line	132	
Transmission Line 400kV Chimuaru - Nacala - Phase 2 (Alto - Molócué - Namialo) and Phase 3 (Namialo - Nampula and Namialo - Nacala)	420	
National Dispatch Center (CND)	60	
Improving the Quality of Energy Supply to Maputo and Matola Cities	250	Exim Bank of India
Mitigation Project - TREP	24	N/A
Loss Reduction Program	15	



## IV-3. IMPLEMENTATION PLAN FOR THE STRATEGIC OBJECTIVES

EDM developed a matrix for the implementation of strategic objectives, which are strongly in connection to each of the component (areas of functionality) and to the strategic vectors for transforming the energy sector in Mozambique. This matrix also includes EDM sectors that are responsible for its implementation, as shown in the following table:

Strategic Vector	Functionality Area		Description of strategic objectives	Responsibility by area
GOVERNMENT LEADERSHIP	Cost recovery mechanisms	1	Operate with tariffs reflect operating costs.	Finance
	Regulatory and legal framework	2	Play a leading role in establishing the new framework.	Human Resources and Governance
	Mobilization of funds and financing	3	Optimize own funds prioritizing commercial electrification and continue to carry out social electrification projects with government funds or donations.	Electrification
BALANCING DEMAND AND SUPPLY	Increase in revenue	4	Maximize the dispatch of surplus energy through the exploration of the regional market through the establishment of bilateral agreements with SAPP.	Business Development
	Power contracting and energy generation	5	Increase the availability of energy in the domestic market through the additional allocation of HCB and the optimization of EDM's production facilities.	Generation and Transmission
	Regional energy generation hub	6	Promote the development of structural generation and transmission projects through the corporate financing model and in partnership with the private sector.	Business development
FINANCIAL COMMERCIAL FEASIBILITY	Business growth	7	Increase revenues by itemizing energy sales and expanding the business to new consumption centers.	Distribution, Commercial and IT
	Financial management and planning	8	Improve the mechanisms for controlling and managing the accounts of customers and suppliers, reducing operating costs and budget execution.	Finance
	Customer Care Service	9	Improve the ability to respond to customer complaints and diversify service channels.	Distribution, Commercial and IT
	Operational Excellence	10	Improve financial profitability by optimizing administrative costs, reforming treasury, financial sanitation, reducing losses and non - Supplied energy.	Finance, Distribution, Commercial and IT
	Universal access	11	Maximize financing initiatives for universal access programs to connect more customers at zero cost and / or promotional prices.	Distribution, Commercial and IT
	Asset management	12	Improve the management of warehouses and the automobile fleet, make the fund profitable for social purposes, real estate and systematize document management processes.	Finance
ENVIRONMENTAL SUSTAINABILITY	Safety and energy conservation	13	Massify the EDM initiatives for energy efficiency and demand management inside and outside	Distribution, Commercial and IT
	Carbon footprint	14	Minimize pollution levels and CO2 emissions through the adoption of clean technologies and environmentally friendly measures.	Electrification
DIGITALIZATION	Smart utility	15	Improve the quality of corporate services and extend the coverage of the latest generation information and communication technologies to support the digital transformation in the company's operating and management functions.	Distribution, Commercial and IT/ Generation and Transmission
	Corporate performance	16	Improve the contribution of information and communication technologies in the systematization of management processes, continuous learning and implementation of the EDM strategy.	Distribution, Commercial and IT/ Generation and Transmission
QUALITY AND SAFETY OF SUPPLY	Transmission and distribution networks	17	Achieve high levels of quality in energy supply.	Distribution, Commercial and IT/ Generation and Transmission
	Increased energy availability	18	Increase the diversification of the energy matrix through the implementation of short, medium and soon term generation projects identified in the Electricity Master Plan.	Business Development
	Management and maintenance	19	Improve the ability to respond to energy demand by eliminating critical points in the electrical system.	Distribution, Commercial and IT/ Generation and Transmission
CORPORATE GOVERNANCE	Standardization of processes and procedures	20	Improve levels of corporate management through the review, development and implementation of efficient and transparent management standards, tools, practices and procedures..	Finance e Governance
	Motivated workforce	21	Recruit in line with the gender policy, develop and properly manage human resources, in order to respond to the challenges and vision of growth of the company.	HR and Governance
	Organizational culture	22	Promote EDM as a professional, transparent and efficient company, engaged with national development.	HR and Governance
	Health and safety at work	23	Ensure the safety of people and facilities, in line with international SH standards for electricity companies.	HR and Governance

Following are the activities EDM decided to develop in each strategic vector of excellence, with a view to achieving the goals of each strategic objective.

Given that EDM has a culture of accountability, in addition, the internal entities responsible for carrying out the activities, the completion period, as well as the source or/and financing program will be presented.

SUBSTATION (SS) DESCRIPTION	Strategic Vector	Program / Source of Funding	Availability (MVA)	Expected additional capacity (MW)					Responsible Area	
			2019	2020	2021	2022	2023	2024		
SS Chicumbane	Quality and Security of Supply	EDM (Hyosung)	40	80						PE & PPT
SS 9			60	70						
SS Machava			60	80						
SS Tete			22	40						
SS Nacala			70	96	120					
SS Chimoio II			50		90					
SS Mavita			12,5		52,5					
SS Macia			16		56					
SS Dondo			30		70					
SS Mocuba			40		80					
SS1			30		70					
SS2			30		70					
SS4			30		70					
SS5			40		80					
SS7			30		70					
SS8		30		70						
SS 9		60		80						
SS Matola Gare		40		100						
SS Grande Maputo		0		80						
SS Infulene (Panel)		430		430						
SS CTM (Panels 66&33kV)		STIP	em curso	X						
SS Maputo 275		Microcredit	0	360						
SS Beluluane		KfW	0		80					
SS Mahoche			0		40					
SSMatola 275		EDM	320	400						
SS Ndzimbene			250	500						
SS Vilanculos		WB, NOR, AfDB, OFID, DBSA	0				150			
SS Chibuto			0				150			
SS Matalane			0				400			
SS Infulene		JICA	250	880						
SS Mobile in Matola Gare			40	80						
Specialized services for the maintenance of 28 DTNO, DTCE & DTSU panels		EDM			X					
Reconfiguration of the Chimoio II Substation				X						
Commissioning of the Chicamba TR1					10					
Infulene TR4 repair				680	730					
Installation of 275 kV protection bus at Matola-275 kV substation					X					
Infulene, 275 kV R Garcia						X				
Installation of a new 110 / 33kV bay at Macia Substation						X				
Installation of 10 new cells (11kV) at Nacala Substation						X				
Maintenance of 22 33 kV panels at Nacala Substation and 13 panels at the Monapo Substation							X			
TR1 repair at Chibata substation						12,5				
Construction of the new Mavita substation						X				
Replacement of the CTM TR13 voltage regulator										
SS Moatize										
SS Chimura II (Projecto Chimuara-Nacala)	Islamic Bank						250			
Alto Molocue Substation (Chimuara - Nacala Project)								250		
Namialo Substation (Chimuara - Nacala Project)	BAD									
Nacala Velha Substation (Chimuara - Nacala Project)	JICA									
SS Nampula 220 kV (Chimuara - Nacala Project)	JICA									
SESMatambo (Moçambique - Malawi Project)	World Bank									
Lindela STATCOM	EDM		X							
Installation of reactors at the Chimuara and Matambo substations					X					

PE - Electrification and Projects

PPT - Generation and Transmission

**Component:** Management and Maintenance of Transport Network Assets (substations)

DESCRIPTION	Strategic Vector	Program / Source of Funding	Availability (MVA)	Expected additional capacity (MW)					Responsible Area
			2019	2020	2021	2022	2023	2024	
Upgrading of DL2 & DL10 lines	Quality and Security of Supply	WB (PERIP)	38		120				PE & PPT
Upgrading of DL3 & DL21 lines			50		120				
Upgrading of DL4 & DL22 lines			50		120				
Upgrading of DL9 lines			50		120				
Upgrading of DL11 lines			50		120				
Upgrading of DL12 lines			50		120				
Upgrading of DL13 lines			50		120				
Upgrading of DL14 lines			50		120				
66kV Line Project from SS5 to SS1			0		120				
Projecto da Linha de 66kV from SS7 to SS1			0		120				
66kV Line Project from SS7 to SS1			0		120				
66kV Line Project from SS11 to SS Marracuene			0		120				
66kV Line Project from SS11 to SS5			0		120				
110kV Temane-Casa Nova Line		0		99					
400kV Temane-Maputo transmission Line		WB, NOR, AfDB, IfDB, OFID, DBSA	0				900		
Rehabilitation of 5 km of C38 Line (Macomia - Auasse)					X				
Installation of 3 Series Capacitor banks at LCN					X				
Combat against erosion of the 12 towers of lines C32, C33 and C39					X				
Substituição de 1600 isoladores em Tensão na B=3 (141 torres) e B08 (402 torres)					X				
Combat against erosion in tower 364 of B07 line		EDM			X				
Rehabilitation of the BL2 line				X					
Replacement of 500km of CL1 Line conductor				X					
Reconstruction of 15km of DL5 line on concrete poles				X					

**Component:** Management and Maintenance of Transmission Network Assets (powerlines)

PROJECT NAME	Strategic Vector	Program / Source of Funding	Expected additional capacity (MW)					TOTAL	Responsible Area
			2020	2021	2022	2023	2024		
Expansion of the Temane power station	Quality and Security of Supply	EDM	3					3	PPT
Temane Thermal Power Station		EDM/JBIC					100	100	
Nacala Emergency Project / Mobile Turbine		JICA - Donative		40				40	
Pemba Emergency Project		EDM		6				6	
Maputo GTGII turbine rehabilitation and conversion		Partners / Loan			22			22	
Beira turbine rehabilitation		Potential Partners		14				0	
Rehabilitation of Lichinga mini-hydro		Potential Partners / KFW			0,75			0,75	
Rehabilitation and expansion of the Cuamba mini-hydro		Potential Partners / KFW			2,5			2,5	
<b>TOTAL</b>				<b>3</b>	<b>60</b>	<b>25,25</b>	<b>0</b>	<b>100</b>	

**Outcome:** Increasing power availability (power projects)

PROJECT NAME	Strategic Vector	Programa/ Fonte de Financiamento	Expected additional capacity (MW)					TOTAL	Responsible Area
			2020	2021	2022	2023	2024		
Renewable Energy Auction Project (PROLER)	Quality and Security of Supply	UE/AFD		30	30	30		90	PPT & PDN
PV Cuamba		EDM/Promotor		30				30	
PV Mecufi		EDM/ MOZENERGIY			20			20	
PV Metoro		EDM/ NEOEN	30					30	
Namaacha Wind Farm		EDM/ Promotor					30	30	
<b>TOTAL</b>				<b>30</b>	<b>60</b>	<b>50</b>	<b>30</b>	<b>30</b>	

PE - Electrification and Projects

PPT - Generation and Transmission

PDN - Business Development

**Component:** Energy efficiency and reduction of CO2 emissions

PROJECT NAME	Strategic Vector	Program / Source of Funding	CONCLUSION					Responsible Area
			2020	2021	2022	2023	2024	
National program for replacing incandescent lamps with LEDs - Consultancy for a commercial project document - SIDA.	Environmental Sustainability	SIDA	X					PE & PDCI
Project to install efficient equipment in EDM buildings to be rehabilitated.		EDM	X	X				
Project to install efficient equipment in EDM buildings to be rehabilitated.	Commercial and financial viability	EDM	X	X			PDCI & PF	
Control of energy flows and preparation of energy balance (inspection of metering systems).		EDM	X	X	X			
Tariff studies in the hourly tariff component in coordination with DGC / ARENE / MIREME / CTA.		EDM	X	X				
The implementation of the study for the "Reduction of transmission and distribution losses from reactive energy compensation in industrial customers.	Environmental Sustainability	GIZ	X	X			PE & PDCI	
Implementation of the marketing project for energy efficiency products from the Credelec platform for internal consumption.		EDM	X	X				
Implementation of the education and awareness strategy for the rational use of energy and compensation for reactive energy.		EDM	X	X	X	X		X
Energy audits and technical assistance services to identify and implement opportunities of saving energy and improve energy efficiency.		EDM	X	X				

PDCI - Distribution, Commercial and IT

PE - Electrification and Projects

PF - Finance

**Component:** Mobilization of funds for social electrification

PROJECT NAME	Strategic Vector	Program / Source of Funding	CONCLUSION				Responsible Area
			2020	2021	2022	2023	
Energy Efficiency in Public Lighting with Low Consumption Technology (LED, GS)	Environmental Sustainability	EDM					PE & PDCI
Energy Efficiency in Public Lighting with Solar Renewable Technology		CONVIVUM					
Public Lighting Registration and Geographical referencing Phase II		EDM					
Energy Quality and Efficiency Improvement Project (PERIP)	Quality and Security of Supply	Banco Mundial					
Training of Public Lighting Technicians in Network Repair and Maintenance Services with Low Consumption Technology (LED and SOLAR)	Corporate governance	EDM					
Energy Project for All	Government Leadership	World Bank /SIDA/NORAD					
EDAP - Intensification of power Connections in Rural Areas		BEI					
Expansion of public lighting in expanding Zones		EDM					
On-Grid Rural Electrification Project in Niassa Province		NORAD					
Vilanculos Rural Electrification Project		ASDI					
Electrification of Administrative Posts and Localities (Matibana and Alua)		GdM					
Electrification of Administrative Posts and Localities in the country		EDM/ SASOL					
220kV Metoro-Palma Line Feasibility Study		NORAD					
Feasibility Study for ESIA Vilanculos - Missinga	ASDI					PDCI	
Social and Environmental Viability Study of the 110kV Nampula -Angoche Line							
Studies for Electrification of Administrative Posts							
Maputo Temane Electricity Transmission Line Project (TTP)							
Metoro Solar Power Station	Balancing demand and supply	WB/BAD/NORAD/BID/ OFID/DBSA				PDCI	
Mecufi Solar Power Station		AFD/PROPACO					
		MBHE, MOZ ENERGY, CARNEGIE-ENERGIE					
Post Cyclone Idai and Kenneth Reconstruction - Package 1 (NORAD)	Quality and Security of Supply	NORAD				PDCI	
Post Cyclone Idai and Kenneth Reconstruction - Package 2 (WB)		World Bank					
Post Cyclone Idai and Kenneth Reconstruction - Package 3 (BAD)		BAD					

PDCI - Distribution, Commercial and IT

PE - Electrification and Projects

PDCI - Business Development



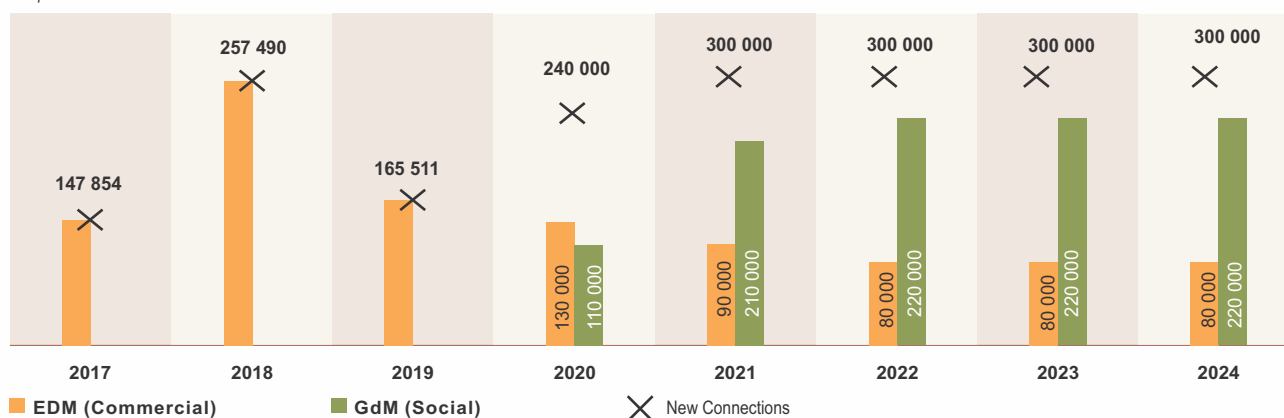
**Component:** Mobilization of funds for social electrification

PROJECT NAME	Strategic Vector	Program / Source of Funding	Province	CONCLUSION			Responsible Area
				2021	2022	2023	
Vilanculos Rural Electrification Project	Liderança do Governo	ASDI	Inhambane				(Electrificação) & (Distribuição, Comercial e Informática)
EDAP - Intensification of Power connection in Rural Areas		BEI	Maputo				
Energy Project for all (ProEnergia)		Banco Mundial / SIDA/ NORAD	Maputo / Gaza / Inhambane				
EDAP - Intensification of Power connection in Rural Areas		BEI	Manica				
Energy Project for all (ProEnergia)		Banco Mundial / SIDA/ NORAD	Sofala / Manica / Zambézia/ Tete				
Energy Project for all (ProEnergia)			C. Delgado / Niassa / Nampula				

**Component:** Universal Access

The Program of Energy for All, known as “Programa de Energia para Todos”, launched by His Excellency, the President of the Republic, means EDM's share in connecting new customers will drop, from 54% in 2020 to around 27% in 2024. Thus, EDM will focus its efforts and resources on maintenance activities, asset management and customer care service. Graph 31, shows the plan for new connections under the scope of program.

Graphic 31 New Connections Plan



**Outcome:** Increased revenue, customer satisfaction and smart company

PROJECT NAME	Strategic Vector	Program / Source of Funding	CONCLUSION					Responsible Area
			2020	2021	2022	2023	2024	
Revenue protection program	Commercial and Financial Feasibility	PERIP	X					PDCI
Customer Human Centered Design (HCD)		USAID/SAEP	X					
Customer Survey		PERIP	X	X	X	X	X	
Corporate service in provincial capitals		EDM	X	X	X	X	X	
Technical audits of high consumption customers			X	X	X	X	X	
Consolidation of SIGEM	Digitalization	PERIP		X				PDCI & PE
Implementation of standards, policies and business processes	Corporate governance	EDM	X	X	X	X	X	
Commercial Seminars			X	X	X	X	X	
ISO 9001 quality certification of business processes			X					

PDCI - Distribution, Commercialization and IT

PE - Electrification and Projects

**Explanation of the Business Scenario for 2020-24 five-year period**

The achievement of the projected financial performance for the next 5 years depends, largely, on the identification and maintenance of an optimal balance between a set of levers that influence EDM's operations.

In this context, the determination of the level of ambition and financial performance of EDM must consider the

balance between Revenue Generation, Energy Supply Conditions, Capacity and Efficiency of Delivery of Energy to the Market, Operational and Productive Capacity and Investment Effort and Financing Capacity.

In this context, the determination of the level of ambition and financial performance of EDM must consider the balance between Revenue Generation, Energy Supply Conditions, Capacity and Efficiency of Delivery of Energy to the Market, Operational and Productive Capacity and Investment Effort and Financing Capacity.

The following table presents a summary of EDM's Business Scenario, main projections, key performance indicators and

its evolution over the next 5 years, at the level of each key business components mentioned above:

Figure 18 Main Indicators of the Business Scenario

STRATEGIC BET VECTOR	Key components of the business scenario		Base Year	Forecast				Average Growth	5 yrs Growth		
			2019	2020	2021	2022	2023			2024	
STRATEGIC BET VECTOR	Component 1:										
	Profitability (EBIT) (M MZN)	Evol.	-3,247	-2,991	-1,451	-2,458	-2,612	-4,815	19.4%	-48.3%	
	Gross margin (M MZN)	Growth	11,978	13,355	16,711	17,742	19,592	19,592	10.3%	63.6%	
Ensure EDM's financial viability and commercial sustainability	Component 2: Revenue generation	Invoicing (M MZN):									
		- Regulated customers	26,981	29,412	34,226	39,014	44,244	50,128	11.0%	85.8%	
			Growth	-	9.0%	16.4%	14.0%	13.4%	13.3%		
		- Non-regulated customers	4,399	4,145	5,596	5,968	6,353	8,806	14.9%	100.2%	
			Growth	-	-5.8%	35.0%	6.6%	6.5%	38.6%		
		- Export	5,627	5,605	6,718	5,701	5,652	17,523	25.5%	211.4%	
			Evol.	-	-0.4%	19.9%	-15.1%	-0.9%	210.0%		
		<b>Total Revenue</b>	<b>Growth</b>	<b>37,007</b>	<b>39,161</b>	<b>46,540</b>	<b>50,682</b>	<b>56,249</b>	<b>76,457</b>	<b>15.6%</b>	<b>106.6%</b>
					6%	19%	9%	11%	36%		
		Number of customers (Un):									
		- Regulated customers	2,052,685	2,304,916	2,616,741	2,928,691	3,240,767	3,552,971	9.7%	73.1%	
			Growth	-	12.3%	13.5%	11.9%	10.7%	9.6%		
		- Non-regulated customers	21	21	23	19	21	21	0.0%	0.0%	
			Growth	-	0.0%	9.5%	-17.4%	10.5%	0.0%		
<b>Total Customers</b>	<b>Growth</b>	<b>2,052,706</b>	<b>2,304,937</b>	<b>2,616,764</b>	<b>2,928,710</b>	<b>3,240,788</b>	<b>3,552,992</b>	<b>11.6%</b>	<b>54.1%</b>		
			12%	14%	12%	11%	10%				
Balancing demand and supply	Component 3: Energy Supply Conditions	Energetic balance:									
		- Own generation (Gwh)	887	805	937	937	937	894	0.4%	0.8%	
			Growth	-	-9.3%	16.5%	0.0%	0.0%	-4.6%		
		- HCB allocation (Gwh)	3,651	3,600	3,464	3,416	3,416	3,416	-1.0%	-6.4%	
			Growth	-	-1.4%	-3.8%	-1.4%	0.0%	0.0%		
		- Acquisition from IPPs (Gwh)	2,491	2,529	2,973	3,138	3,418	6,283	19.6%	152.3%	
			Growth	-	1.5%	17.6%	5.5%	8.9%	83.8%		
		- Imports (Gwh)	74	70	70	65	60	50	-7.6%	-32.5%	
			Growth	-	-5.5%	0.0%	-7.1%	-7.7%	16.7%		
		<b>Total Generated</b>	<b>Growth</b>	<b>7,103</b>	<b>7,004</b>	<b>7,445</b>	<b>7,557</b>	<b>7,832</b>	<b>10,644</b>	<b>8.7%</b>	<b>49.8%</b>
		<b>Maximum Demand</b>	<b>Growth</b>	<b>954</b>	<b>941</b>	<b>1,000</b>	<b>1,015</b>	<b>1,052</b>	<b>1,429</b>	<b>9.2%</b>	<b>49.8%</b>
					-1%	6%	1%	4%	36%		
					-1%	6%	1%	4%	36%		
		Average energy cost (MZN / kWh)	Growth	3.9	3.8	4.1	4.4	4.7	5.4	6.7%	38.3%
			-	-3.3%	8.2%	8.5%	7.3%	13.5%			
Quality and Security of Supply	Component 4: Capacity and efficiency in delivering energy to the market	Transmission Capacity (MVA)	2,886	3,365	3,489	3,389	5,289	5,289	12.9%	83.3%	
		- Km of Transmission Network	6,230	6,230	6,460	6,660	6,860	6,960	2.2%	11.7%	
		- SAIDI (hh:mm:ss)	49:12:00	46:20:00	44:09:00	42:34:00	40:51:00	37:45:00	-5.2%	23.3%	
		- SAIFI (Un)	31.39	30.14	28.89	27.84	27.2	25.14	-4.3%	19.9%	
		Distribution Capacity (MVA)	2,520	2,730	2,940	3,150	3,360	3,570	7.2%	41.7%	
		- Km of Transmission Network	43,766	45,205	46,692	48,227	49,813	51,451	3.3%	17.6%	
		- SAIDI (hh:mm:ss)	0:34:00	0:31:00	0:30:23	0:29:46	0:29:28	0:29:11	-3.0%	14.2%	
		- SAIFI (Un)	0.75	0.72	0.71	0.69	0.68	0.68	-2.0%	9.6%	
		Energy losses:									
		- Transmission Losses (Gwh)	388	378	411	432	450	486	-0.4%	26.2%	
		- Transmission Losses (%)	6.8%	6.7%	6.6%	6.6%	6.5%	6.4%			
		- Distribution Losses (Gwh)	1,311	1,273	1,346	1,335	1,331	1,320	-6.1%	0.7%	
		- Distribution Losses (%)	23.7%	23.4%	22.5%	20.7%	19.5%	17.6%			
		<b>Total Losses</b>	<b>Growth</b>	<b>1,699</b>	<b>1,651</b>	<b>1,757</b>	<b>1,767</b>	<b>1,781</b>	<b>1,806</b>	<b>6.28%</b>	<b>6.28%</b>
Ensure EDM's financial viability and commercial sustainability	Component 5: Operational capacity and productivity	Performance of operational means (operating costs per kWh sold or revenue)	22%	21%	20%	20%	21%	17%	-	-4.5%	
		- Number of operational employees	2,731	2,862	2,989	3,137	3,264	3,378	23.7%	23.7%	
		- Performance of support structure (structure costs per revenue)	24%	24%	20%	21%	21%	17%	6.9%	6.9%	
		- Number of workers in support functions	596	613	630	649	664	675	13.3%	13.3%	
		- Prepayment coverage ratio (%)	97%	98%	99%	99%	99%	99%	2%	2%	
		- Customer debt balance	14,690	2,476	5,119	4,481	4,266	4,652	2.6%	68.3%	
			Growth	-	-83.1%	106.7%	-12.5%	-4.8%	9.0%		
		- Customer debt recovery rate	10%	10%	10%	10%	10%	10%	-	-	
		- Average Receiving Period (days)	56	50	40	30	24	20	-	64.3%	
		- Effective collection rate	80%	96%	97%	98%	98%	98%	-	-	
		Investment Volume (M MZN)	Growth	8,645	18,393	22,284	27,231	23,372	25,387	25.1%	193.7%
					-	112.8%	21.2%	22.2%	-14.2%	8.6%	
		Investment Volume on Cash Flow Released	Growth	200%	128%	129%	138%	133%	222%	-	23%
		Accumulated debt value (and reduction) (M MZN)	Growth	-13,026	28,465	-16,304	-18,212	-12,772	-11,675	-83.8%	10.4%
			-	-318.5%	-157.3%	11.7%	-29.9%	-8.6%			
Proportion of non-commercial financing	Growth	-	81%	88%	77%	96%	94%	-	-		
Average cost of financing	Growth	-	24%	23%	19%	13%	16%	-	-		

The assumed Business Scenario, although conservative, presents an expansion of EDM's business, with significant growth in Gross Margin and EBIT, supported essentially by an increasing capacity of energy supply and a favorable energy balance for exports.

On the other hand, it is expected a significant growth of the customer base in the domestic market and a growing demand motivated by the existing customers. For catalyzing the expansion of the business, major investments are planned to improve the capacity of own generation and extension of the transmission, distribution and maintenance services of the existing network.

In the following points, an explanation is elaborated for each of the key components of the Business Scenario and how they are influencing the company's profitability.

### **Component 1:**

The behavior of all other components, in general, has a direct impact on the profitability. If certain projections foresee growth or deceleration over the 5 years, this variation will be reflected, either in the Gross Margin (Revenues after deducting Variable Costs) or in EBIT (Earnings before interest and taxes), as well as in the other variables that determine the company's profitability. The profitability growth is conditioned by a set of betting initiatives, such as, the growth of the customer base implies an energy sale and revenue increases. The electrification program will considerably increase the number of power connections per annum, consequently revenue increasing. Carrying out investment projects that will ensure the extension of the transmission and distribution powerline to neighboring countries with an increase in exports and the optimization of energy costs for the reduction of charges on purchase.

### **Component 2:**

Regarding the Generation of Revenue, EDM takes into account a set of variables that determine its behavior, such as the customer base, the volume of energy and tariffs. The main betting initiatives undertaken by EDM to increase revenue are the electrification program, to be financed and executed by EDM, and also the electrification to be financed through a National Electrification Account from GoM contributions, concession fees and International Development Financing Institutions, as well as other sources of financing that can be decided. With these betting initiatives, the regulated customers sales are expected to increase as a result of the increase in the number of connections in this segment. In EDM's history, annual electricity sales to this customer segment generally grew from 100% to 120% of the annual GDP growth rate between 2006 and 2015, however, noting that this was a very limited period of increase electricity prices. Since 2015, the demand for electricity from this customer

segment has been affected, on the one hand, by lower economic growth and higher inflation (mainly during the period 2015-2017), on the other, by cumulative increases in electricity tariffs, of about 150% (nominal value in metical) on average in the last 4 years.

Regarding the Generation of Revenue, EDM takes into account a set of variables that determine its behavior, such as the customer base, the volume of energy and tariffs. The main betting initiatives undertaken by EDM to increase revenue are the electrification program, to be financed and executed by EDM, and also the electrification to be financed through a National Electrification Account from GoM contributions, concession fees and International Development Financing Institutions, as well as other sources of financing that can be decided. With these betting initiatives, the regulated customers sales are expected to increase as a result of the increase in the number of connections in this segment. In EDM's history, annual electricity sales to this customer segment generally grew from 100% to 120% of the annual GDP growth rate between 2006 and 2015, however, noting that this was a very limited period of increase electricity prices. Since 2015, the demand for electricity from this customer segment has been affected, on the one hand, by lower economic growth and higher inflation (mainly during the period 2015-2017), on the other, by cumulative increases in electricity tariffs, of about 150% (nominal value in metical) on average in the last 4 years.

There are a set of external risks which EDM has no control that can negatively contribute to the achievement of the expected revenue goals, such as, rising of raw materials cost at the international level, the reduction in prices due to the power supply excess placed in the regional market (DAM), reduced power demand in the regional market due to the economic crisis, natural disasters (eg Cyclones, Covid-19) and other factors. Failure to implement the initiatives will have a negative impact on the total revenue due to the reduction of power consumed and consequently, on the gross margin and EBIT, tending to record losses over the years.

### **Component 3:**

There are a set of external risks which EDM has no control that can negatively contribute to the achievement of the expected revenue goals, such as, rising of raw materials cost at the international level, the reduction in prices due to the power supply excess placed in the regional market (DAM), reduced power demand in the regional market due to the economic crisis, natural disasters (eg Cyclones, Covid-19) and other factors. Failure to implement the initiatives will have a negative impact on the total revenue due to the reduction of power consumed and consequently, on the gross margin and EBIT, tending to record losses over the years..

#### Component 4:

The capacity and efficiency in the power delivery to the market are determined by the ability EDM has in the transmission and distribution power lines, in an efficient way, by reducing losses and interruptions that occur in its transmission and distribution supply chain. EDM has planned investments for the extension of the transmission and distribution networks, with funding from the World Bank, EIB, KfW and other bilateral cooperation partners. EDM plans to implement a loss reduction program, through the definition of processes and systems, with the GoM support in raising awareness and creating programs to encourage the legalization of connections.

#### Component 5:

Another important component of the business scenario is the operational capacity and productivity, which shows the main ratios to analyze the necessary production capacity and resources, sufficient to generate necessary energy to reach the revenue projections. Productivity is determined by the capacity that operating costs have to be absorbed by the revenue generated, the greater the reduction in operating costs, the greater the revenue. Also in this component, we analyze the ability EDM has to place energy on the market (sales) and the time it takes to collect these revenues. It is critical to consider the quality and representativeness of human resources, with regard to the representation of the female gender, as well as in regional representation nationwide. In the perspective that the current evaluation and training system does not favor

hidden talents in these categories of potential workers and which, due to their diversity and quality, can give the company the human impulse that is so difficult to mobilize.

#### Component 6:

The Investment Effort and Financing Capacity component analyzes the investments planned by EDM, the capacity for its realization and the main risks associated with the assumptions made (e.g. impact of the Covid-19 pandemic on the national and international economy). The CAPEX program is analyzed, according to the commitments secured and foreseen over the 5 years. Failure to comply with contractual commitments may result in either cancellation or deferral of financing consequently delays in completing the investment calendar, which may affect EDM's ability to deliver.

#### Risk factors and constraints to be considered

As will be demonstrated in Section IV-4 regarding the Financial - Economics projections and its main assumptions, therefore, the assumed business scenario presupposes significant and sustainable improvements in the financial indicators supported by high growth in demand and energy supply. Although there are a number of risk factors that may jeopardize the materialization of the forecasts of the positive evolution of the business, among which we highlight the following:





Risk factors	Constraints	Impact
Targets foreseen in the national electrification program	The growth of the customer base and demand for energy by regulated customers is anchored in the investment and connection goals provided for in the national electrification program.	Delays, reprogramming or non-compliance with these goals can significantly impact the projected financial performance
EDM's borrowing capacity	EDM projects a high debt ratio over the next 5 years	Decrease in the ability to attract future financing to face large structural investments that allow it to increase or solidify its supply capacity
Materialization of the energy balance forecast	The availability of energy is dependent on the additional allocation from HCB and the start-up and continuity of supplies by a significant number of IPPs, whose operations are not under the direct control of EDM	The availability of energy is dependent on the additional allocation from HCB and the start-up and continuity of supplies by a significant number of IPPs, whose operations are not under the direct control of EDM
Possible changes in the start-up of CTT	Growth in electricity sales due to increased consumption by Regulated and Special Customers, as well as the expected reduction in system losses, electricity exports are expected to increase significantly, from an estimated 1,048 GWh in 2019 to around 3,042 GWh, in 2024. This projection is anchored in the timely materialization of the CTM project, with a capacity of 400 MW expected to enter commercial operation during the second half of 2023	Any rescheduling of the commissioning of this plant may put EDM in a precarious net position in terms of imports from 2024
Fluctuations in Gross Domestic Product (GDP)	The growth in average customer consumption depends to some extent on the behavior of GDP	A reduction in GDP may force customers to contain consumption, thereby reducing demand and corresponding revenue
Adverse events such as natural disasters	Occurrence of events beyond the control of EDM such as natural disasters, epidemics such as COVID-19	Impact on macroeconomic assumptions that will be reflected in the growth projections assumed by EDM
Reduction in the production capacity of special customers	Reduction in the productive capacity of special customers due to the decrease in GDP, access to sources of financing and a recession in the market and world economy and the consequent lack of placement of their products in the respective markets	Little demand for energy and reduced growth prospects
Activity assignment or rescheduling of operations by one or two special customers	Loss of a special customer or reprogramming of production operations by a special customer	Significant reduction in energy demand and decrease in revenue generated
Export market price reductions	Price reduction due to excess energy supply in the regional energy placement (DAM) market	Decrease in the amount of revenue generated and overall profitability of EDM
Worsening of energy losses	Difficulty in reducing EDM losses, despite the various loss reduction initiatives in perspective	Reduction in planned energy supply
Lack of appetite for recruiting capable and skilled labor, as a result of competition in the labor market and the modernization of youth workforce expectations	Achieving the Company's strategic objectives requires a specialized workforce. The absence of a policy of attracting and retaining qualified staff can reduce potential candidates and compromise results.	Difficulties in rejuvenating the workforce with highly qualified and specialized personnel.

## IV - 4. Economic-financial projections and main assumptions

### Economic-financial projections and main assumptions

The situation of the national, regional and domestic economy has a direct impact on EDM's business, given that part of its energy is placed on the regional market and its operation, in terms of supply chain, depends on the international market.

In this context, and in terms of the average variation of prices practiced by producers (US PPI), a constant variation is projected over the 5 years, which implies very controlled levels of inflation or with a tendency to reduce and a slight devaluation of the currency over time. Changes in this scenario could have an impact on energy costs and tariffs, particularly export tariffs denominated in US \$.

Figure 19 Macro-economic assumptions

MACROECONOMIC ASSUMPTIONS							
		BASE YEAR					
INDICATOR		2019	2020	2021	2022	2023	2024
US PPI (%)		1.3%	1.7%	1.5%	1.5%	1.5%	1.5%
	Growth (%)	-	31%	(12%)	0%	0%	0%
Inflation (%)		3.5%	6.5%	6.0%	5.5%	5.0%	5.0%
	Growth (%)	-	86%	8%	(8%)	(9%)	0%
Average Exchange Rate MT/US\$		62.2	65.0	69.5	72.4	75.1	77.7
	Growth (%)	-	5%	7%	4%	4%	3%
End of Year		62.1	68.0	71.0	73.8	76.4	79.0
	Growth (%)	-	10%	4%	4%	3%	3%

### Detail of revenue generation projections and assumptions

The Revenues are ensured by three customer segments, namely, Regulated Customers, Non-Regulated Customers and the Exports. This segmentation results from the need to model the new arrangements agreed as part of the National Electrification Strategy (ENE) approved by the Government of Mozambique (GoM) in October 2018, aiming at universal electricity access by 2030.

In this context, ENE divides electrification efforts into two parts

- i. The electrification to be financed and executed by EDM, with a sustainable commercial base, adjusted for the projection of the 130,000 new connections per year until 2030, should cover approximately the following number of customers in 2020: 130,000 customers; 2021: 90,000 customers; 2022: 80,000 customers; 2023: 80,000 customers and 2024: 80,000 customers;
- ii. Electrification to be financed through a National Electrification Account, resulting from GoM contributions, concession fees, International Development Financing Institutions (DFIs) and other sources that can be found and available. In this second part, EDM will still be responsible for the execution of electrification programs and for subsequent operations, but without the burden of anticipating the financing of that electrification.

Thus, in global terms, the projections point to an accumulated increase of 107% in revenue from the sale of energy in the next 5 years, going from the current MT 37.007 million in 2019 to MT 76.457 million in 2024. This revenue growth is supported by partial growth predicted at the level of the three customer segments, as shown in the table below:

Figure 20 Revenue (Values in mMT)

REVENUE   Values in mMT								
		BASE YEAR						
CUSTOMER CATEGORY		2019	2020	2021	2022	2023	2024	Evol. Acum. 5 anos
Regulated Customers		26,981	29,412	34,226	39,014	44,244	50,128	86%
	Growth (%)	-	9%	16%	14%	13%	13%	-
Non-Regulated Customers		4,399	4,145	5,596	5,968	6,353	8,806	100%
	Growth (%)	-	(6%)	35%	7%	6%	39%	-
Exports		5,627	5,605	6,718	5,701	5,652	17,523	211%
	Growth (%)	-	0%	20%	(15%)	(1%)	210%	-
Total Revenue		37,007	39,161	46,540	50,682	56,249	76,457	107%
	Growth (%)	-	6%	19%	9%	11%	36%	-

Thus, in global terms, the projections point to an accumulated increase of 107% in revenue from the sale of energy in the next 5 years, going from the current MT 37.007 million in 2019 to MT 76.457 million in 2024.

This revenue growth is supported by partial growth predicted at the level of the three customer segments, as shown in the table below:

### Sale of Energy (regulated customers)

Revenue projections for regulated customers point to an accumulated growth over the 5 years in the order of 86%, going from MT 26.981 million in 2019 to MT 50.128 million in 2024. This growth is the result of ambitious projections at the level of growth of the customer base for this segment, anchored to the national electrification program, whose forecasts point to 240,000 new customers in 2020, and should gradually reach more than 300,000 customers per year from 2021 onwards.

Revenue projections for regulated customers point to an accumulated growth over the 5 years in the order of 86%, going from MT 26.981 million in 2019 to MT 50.128 million in 2024. This growth is the result of ambitious projections at the level of growth of the customer base for this segment, anchored to the national electrification program, whose forecasts point to 240,000 new customers in 2020, and should gradually reach more than 300,000 customers per year from 2021 onwards.

Figure 21 Regulated Customers

REVENUE   REGULATED CUSTOMERS							
BASE YEAR							
DESCRIPTION	2019	2020	2021	2022	2023	2024	Evol. Acum. 5 anos
Regulated Customer (mMT)	26,981	29,412	34,226	39,014	44,244	50,1288	86%
Growth (%)	-	9%	16%	14%	13%	13%	-
Number of Regulated Customers	2,052,685	2,304,916	2,616,741	2,928,691	3,240,767	3,552,971	73%
Annual evolution of number of customers		252,231	311,825	311,950	312,076	312,204	-
Growth (%)	-	12%	14%	12%	11%	10%	-
Volume of Energy Sold (MWh)	3,359,219	3,374,547	3,696,588	4,027,468	4,385,716	4,772,457	42%
Evolution of energy volume		15,327	322,042	330,879	358,248	386,742	-
Growth (%)	-	0%	10%	9%	9%	9%	-
Average Selling Price (MT / kWh)	8.0	8.7	9.3	9.7	10.1	10.5	31%
Growth (%)	-	9%	6%	5%	4%	4%	-

The projections considered three sub-segments of Regulated Customers, namely the total base of Regulated Customers at the end of 2019 (being the starting point in the financial forecasting model), the new customers to be connected by EDM and the new customers to be connected under the scope of the national electrification program.

Historically, in the periods from 2006 to 2015, the annual revenue from the energy sale to regulated customers until the end of the year 2017 observed growths between 100% and 120% of the annual GDP growth rate in the same periods, however this period experienced very limited increases in energy tariffs.

Since 2015, electricity demand of this customer segment has been affected, on the one hand, by a slowdown in economic growth and higher inflation (mainly during the 2015-17 period), on the other, by average cumulative increases in electricity tariffs, around 150%. As a result, the historical link between GDP and electricity demand growths from Regulated Customers has ceased to show a strong correlation. Consequently, when determining revenue forecasts, the annual growth in power demand, changes in unit consumption per customer for the different tariff categories of regulated customers have been defined on a yearly basis. The most recent average tariff increases of 25% were implemented for medium and high voltage customers from November 2018 and for low voltage customers from March 2019.

Taking into account the reaction of customers to recent tariff increases and with electricity sales in 2019 even more negatively impacted by the two cyclones that hit Mozambique in early 2019, the unit consumption per customer is generally reduced from 2% to 4 %, in 2019, for the different categories of regulated customers, after having dropped 2-3% in 2018. Unit consumption per customer is expected to stabilize in 2020, and then gradually recover over the period up to 2024, when that demand growth is again expected to more closely reflect a link with annual performance.

The GDP growth rate, with annual growth per unit of customer consumption until 2024, is expected to reflect 75% of the annual GDP growth rate at that time. GDP growth is expected to recover to around 6% per year by 2024, from 3% lower in 2019, having cyclones impacted negatively on the country's economy.

According to ENE, the second segment of Sales from regulated customers include sales to new customers, resulting from EDM's obligation to connect 130,000 new customers per year from 2019.

However, for the purposes of this Business Plan, this target has been revised taking into account EDM's real connection capacity with own funds, having considered the following scenario of connections by EDM: Yr. 2020: 130,000 customers; Yr. 2021: 90,000 customers; Yr. 2022: 80,000 customers; Yr. 2023: 80,000 customers; and Yr. 2024: 80,000 customers. The difference between the initial forecast of connections under the responsibility of EDM of 130,000 customers per year and the scenario of connections above is expected to be assumed by the national electrification program in addition to the target already established. It is expected that 1/2 (50%) of these new customers will have an average consumption of 60 kWh/month, while the remaining 1/2 (50%) will have an average consumption of 100 kWh/month.

On the other hand, it is assumed that EDM finances CAPEX and OPEX related to assisting new customers from the operating cash flows. In addition, all new customers were assumed to be prepaid customers.

For new regulated customers, whose CAPEX is financed through the National Electrification Account, EDM will assume responsibility for the operating and maintenance expenses of these customers as soon as they are connected, with an expected average consumption of 60 kWh / month, reflecting more "social" nature of the program.

The financial model assumes annual tariff adjustments for regulated customers based on a structure recommended in the 2017 Service Cost Study, with tariff adjustments made based on a formula to reflect changes in annual inflation, exchange rate and variation in fuel prices.

### **Sale of Energy (special customers/not regulated)**

Special customers include medium and high voltage power supplies, and the tariffs applied are the result of an agreement between the customer and EDM, subject to the approval of the supervising Minister, after hearing ARENE. Revenue projections for this customer segment point to 100% cumulative growth in 5 years, representing an evolution from MT 4.399 million in 2019 to MT 8.806 million in 2024.

EDM updated its previous electricity sales forecast for this segment, being these who are supplied at the transmission voltage level (66kV or higher). This part of EDM's business is considered "unregulated", since the electricity tariff is defined in direct negotiation between EDM and the customers. At the end of 2019, EDM had 21 special customers, the most important of which were Vale and Kenmare (both mining companies).

In general, demand from this part of EDM's customer base is assumed to be increasing by 50% of the annual GDP growth underlying the financial forecast (while demand from regulated customers is expected to increase in line with annual GDP growth). However, with the current situation of COVID-19, cautious projections for 2020 were made in terms of sales to Special Customers, as there are still uncertainties about how the pandemic will affect the economy in general.

In general, demand from this part of EDM's customer base is assumed to be increasing by 50% of the annual GDP growth underlying the financial forecast (while demand from regulated customers is expected to increase in line with annual GDP growth). However, with the current situation of COVID-19, cautious projections for 2020 were made in terms of sales to Special Customers, as there are still uncertainties about how the pandemic will affect the economy in general.

Vale Mining Company announced a major shutdown of its operations in Mozambique in 2020, with an expected duration of four (4) months, with reduced consumption in this period by 17 MW (with an average occupancy rate of 74%), representing a reduction in EDM sales by 36 GWh in 2020, when compared to the same period of 2019.

Vale Mining Company announced a major shutdown of its operations in Mozambique in 2020, with an expected duration of four (4) months, with reduced consumption in this period by 17 MW (with an average occupancy rate of 74%), representing a reduction in EDM sales by 36 GWh in 2020, when compared to the same period of 2019.

Two more new special customers are expected to enter in 2021 (including a beer factory and a new airport), as well as two more new customers in 2024 (heavy sand mining in Chibuto, from 2024 to 2026 and a new port in development).

Figure 22 Special Customers

REVENUE   SPECIAL CUSTOMERS							
DESCRIPTION	BASE YEAR						Evol. Acum. 5 anos
	2019	2020	2021	2022	2023	2024	
Revenue from Special Customers (mMT)	4,399	4,145	5,596	5,968	6,353	8,806	100%
Growth	-	(6%)	35%	7%	6%	39%	-
Number of Special Customers	21	21	23	19	21	21	0%
Growth	-	0%	10%	(17%)	11%	0%	-
Energy Sold (MWh)	624,558	566,285	717,762	730,443	745,599	991,129	59%
Growth	-	(58,273)	151,477	12,680	15,157	245,530	-
Growth	-	(9%)	27%	2%	2%	33%	-
Average Selling Price (MT / kWh)	7.0	7.3	7.8	8.2	8.5	8.9	26%
Growth	-	4%	7%	5%	4%	4%	-

The annual energy sales are expected to increase in the upcoming years due to the mining developments (expansion of existing operations and new mining activities, including graphite, precious stones and gold), some industrial developments in the south Mozambique, but also as a result of emerging large-scale developments in Rovuma gas and associated activities in Palma and other places of Cabo Delgado province.

The annual energy sales are expected to increase in the upcoming years due to the mining developments (expansion of existing operations and new mining activities, including graphite, precious stones and gold), some industrial developments in the south Mozambique, but also as a result of emerging large-scale developments in Rovuma gas and associated activities in Palma and other places of Cabo Delgado province.

### Energy Sale (Export segment)

In addition to the domestic market, EDM has the possibility to put part of its energy volume for sale in the export market, comprising the "Day Ahead Market" (DAM) through the Southern Africa Power Pool (SAPP) and bilateral contracts that EDM can sign with other countries.

The available energy volume to the export market represents the surplus of the total supply available over the domestic market demand, made up of regulated and special customers.

The projections point to a very favorable energy balance, with surpluses of significant volumes for placing on the export market, as shown in the following table:

Figure 23 Export

REVENUE   EXPORTS							
DESCRIPTION	BASE YEAR						Evol. Acum. 5 anos
	2019	2020	2021	2022	2023	2024	
Exported Revenue (mMT)	5,627	5,605	6,718	5,701	5,652	17,523	211%
Growth	-	0%	20%	(15%)	(1%)	210%	-
Exported Energy (MWh)		1,363,053	1,221,337	1,015,595	902,422	3,056,739	122%
Growth	1,373,961	(10,908)	(141,715)	(205,742)	(113,173)	2,154,318	-
Growth	-	(1%)	(10%)	(17%)	(11%)	239%	-
Average Selling Price (MT / kWh)	4.1	4.1	5.5	5.6	6.3	5.7	40%
Growth	-	0%	34%	2%	12%	(8%)	-

In terms of bilateral contracts, the projections were based on sales contracts for ESCOM Malawi, Zimbabwe, Zambia and Lesotho, expected in the next 5 years. According to the energy balance, the energy surpluses for export are projected to reach 3,056,739 MWh in 2024, well above the current 1,373,961 MWh in 2019, which represents an accumulated growth of 122%. This trend results from the growing capacity of energy supply that is available in the energy balance of EDM, as detailed in the following table (Projections of the energy cost).

Taking into account the favorable supply conditions and the growing availability of energy surplus for export, the cumulative growth of export revenue is projected to be in the order of 211% over 5 years, with the total revenue expected to exceed the current MT 5.627 million in 2019 for MT 17.523 Million in 2024. With the greatest impacts in 2024, with the availability of 400MW of the Temane Thermal Power Plant.

The average price of placing energy on the export market is expected to be revised by around 34%, from 4.11 MT / kWh in 2020 to 5.50 MT / kWh in 2021, followed by 12% from 2022 to 2023.



## Detail of energy supply, assumptions and operating charges

### Supply Costs

The sources of energy supply for EDM comprise own generation, HCB supply, acquisitions from IPP's and Import.

The summary of energy purchase costs from different sources of supply, volume of energy supply and energy average cost, over the next 5 years, is illustrated in the following table:

Figure 24 Energy costs

ENERGY COST   Values in millions of Meticais							
BASE YEAR							
SUPPLY SOURCE	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Own Generation	5,072	4,123	3,765	3,900	4,031	4,074	(20%)
Growth	-	(19%)	(9%)	4%	3%	1%	-
HCB endowment	3,566	3,740	3,904	4,071	4,285	4,499	26%
Growth	-	5%	4%	4%	5%	5%	-
Purchasing (IPP's)	16,743	17,456	21,716	24,513	27,949	47,984	187%
Growth	-	4%	24%	13%	14%	72%	-
Imports	2,291	1,066	965	948	921	806	(65%)
Growth	-	(53%)	(9%)	(2%)	(3%)	(13%)	-
Total supply and energy cost (mMT)	27,672	26,384	30,350	33,433	37,186	57,364	107%
Growth	-	(5%)	15%	10%	11%	54%	-
Total Energy Supply (GWh)	7,103	7,004	7,445	7,557	7,832	10,644	50%
Growth	-	(1%)	6%	1%	4%	36%	-
Global Average Cost MT / kWh	3,9	3,8	4,1	4,4	4,7	5,4	38%

The cumulative cost of energy supply is projected to grow by 107% in 5 years, from the current MT 27.672 million in 2019 to MT 57.364 million in 2024. This growth is the result of the significant increase in the energy supply acquired from IPP's, whose cost is projected to increase from MT 16.743 million, in 2019 to MT 47.984 million, in 2024, a growth of about 187%, as well as the additional allocation of energy by HCB, whose cost is projected to increase by 26% in the next 5 years, from the current MT3.566 million in 2019 to MT4.499 million in 2024.

Regarding the average cost of energy, forecasts point to relative stability, with adjustments related to movements in inflation. The energy supply projections point to an accumulated growth of availability of around 50%, with the volume of energy going from the current 7.103 GWh in 2019 to 10.644 GWh in 2024. This energy supply forecast has the following initiatives, among others:

- ➔ Regarding the average cost of energy, forecasts point to relative stability, with adjustments related to movements in inflation. The energy supply projections point to an accumulated growth of availability of around 50%, with the volume of energy going from the current 7.103 GWh in 2019 to 10.644 GWh in 2024. This energy supply forecast has the following initiatives, among others:
- ➔ Although there have been political discussions about the potential increase in Mozambique's energy allocation from Cahora Bassa (which will imply a reduction in supply to Eskom in South Africa), no decision has been made in this regard, together with restructuring from mid-2021 to late 2025, no forecast for HCB's additional energy supply was included in the financial forecasts. However, in the sensitivity analysis, it was considered the additional allocation of 180MW of non-firm energy to EDM by HCB, with a load factor of around 60%, resulting from the 5th generator of Cahora Bassa from 2021.
- ➔ Temporary reduction in the supply of EDM's 106 MW CTM combined cycle gas plant in 2020, due to problems with a step-up transformer, which is expected to reduce by approximately 110 GWh in 2020, compared to 2019, with the normal supply to be restored from 2021. The temporary reduction of EDM power generation in Mavuzi and Chicamba hydro power plants, in Beira Corridor area, was due to the damage caused by cyclone IDA1. A reduced production is expected to prevail from 2019 to 2020, with a full operation only in 2022.
- ➔ Kuvanginga generation has been restricted to 9 operational units, with the total operation of 10 units assumed from 2020.
- ➔ Continuous and incremental of power supply of the 30MW Photovoltaic Plant of Mocuba, in operation from August 2019.
- ➔ Commercial operation of the 30MW Photovoltaic Power Plant in Metoro from April 2021, taking into account the delay in the implementation of the project caused by COVID-19;
- ➔ Additional supply of new photovoltaic power plant development projects, which will materialize from the second half of 2021, with a total capacity of around 200MW assumed from mid-2024;

- Nacala Barge will be converted to operate with natural gas (from LNG regasification), from January 2021 (operation in 2020 is HFO), with initial annual generation of 490 GWh in 2021 and 2022, increasing to 650 GWh from 2023, with 10-year contract of operation on natural gas, assuming the transition in 2025 to imported LNG for the use of LNG from Mozambique.
- Beginning of the commercial operation of the 400MW CTT gas power plant (Temane Thermal Power Plant) in Temane, as of September 2023 (the year of full operation is expected for 2024).

The following tables summarize the energy supply by sources:

The following tables summarize the energy supply by sources:

Figure 25 Energy supplied by source

SUPPLIED ENERGY -GWh							
BASE YEAR							
SUPPLY SOURCE	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Own Generation	887	805	937	937	937	894	1%
Growth	-	(9%)	17%	0%	0%	(5%)	-
HCB endowment	3,651	3600	3,464	3,416	3,416	3,416	(6%)
Growth	-	(1%)	(4%)	(1%)	0%	0%	-
IPP's	2,491	2,529	2,973	3,138	3,418	6,283	152%
Growth	-	2%	18%	6%	9%	84%	-
Imports	74	70	70	65	60	50	(32%)
Growth	-	(5%)	0%	(7%)	(8%)	(17%)	-
Total	7,103	7,004	7,445	7,557	7,832	10,644	50%
Growth	-	(1%)	6%	1%	4%	36%	-

Figure 26 Contribution by energy source

CONTRIBUTION BY ENERGY SOURCE							
BASE YEAR							
SUPPLY SOURCE	2019	2020	2021	2022	2023	2024	
Own Generation	12%	11%	13%	12%	12%	8%	
HCB endowment	51%	51%	47%	45%	44%	32%	
IPP's	35%	36%	40%	42%	44%	59%	
Imports	1%	1%	1%	1%	1%	0%	
Total	100%	100%	100%	100%	100%	100%	

Energy costs - Own generation:

Figure 27 Own generation

COST OF SUPPLIED ENERGY   OWN GENERATION							
BASE YEAR							
DESCRIPTION	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Own energy cost (mMT)	5,072	4,123	3,765	3,900	4,031	4,074	(20%)
Growth	-	(19%)	(9%)	4%	3%	1%	-
Energy supply (GWh)	887	805	937	937	937	894	1%
Growth	-	(9%)	17%	0%	0%	(5%)	-
Average cost (MT / kWh)	5.7	5.1	4.0	4.2	4.3	4.6	(20%)
Growth	-	(10%)	(22%)	4%	3%	6%	-

Supply details - Own generation:

Figure 28 Own Generation by Power Plan

OWN GENERATION-GWh							
BASE YEAR							
SUPPLY SOURCE	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Corumana	4.1	18.4	18.4	18.4	18.4	18.4	347%
Growth	-	14	-	-	-	-	-
Rehabilitation of Mavuzi	128.8	157.7	175.2	175.2	175.2	175.2	36%
Growth	-	29	18	-	-	-	-
Rehabilitation of Chicamba	33.7	49	34	42	50	50	50%
Growth	-	16	(16)	8	8	-	-
Maputo CTM Ph 2 CCGT (JICA)	-	543.1	650.0	650.0	650.0	650.0	(4%)
Growth	676.4	(133)	107	-	-	-	-
Temaninho	44.0	43.4	43.4	43.4	43.4	-	(100%)
Growth	-	(1)	-	-	-	43	-
Total own generation	887	812	921	929	937	894	1%
Growth	-	(75)	109	8	8	43	-

### Energy Costs Projection - HCB allocation:

Figure 29 Cost of Supply

COST OF SUPPLIED ENERGY   HCB							
BASE YEAR							
DESCRIPTION	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Energy cost (mMT)	3,566	3,740	3,904	4,071	4,285	4,499	26%
Growth		5%	4%	4%	5%	5%	
Energy Supply (Gwh)	3,651	3,600	3,464	3,416	3,416	3,416	(6%)
Growth		(1%)	(4%)	(1%)	0%	0%	
Average cost (MT / kWh)	0.98	1.04	1.13	1.19	1.25	1.32	35%
Growth		6%	8%	6%	5%	5%	

### Supply details - HCB allocation:

Figure 30 Supplied Energy

SUPPLY DETAILS  HCB   GWh							
BASE YEAR							
SUPPLY SOURCE	2019	2020	2021	2022	2023	2024	5 Yrs Growth
HCB Firm Power	2,628	2,628	2,628	2,628	2,628	2,628	0%
Growth		-	-	-	-	-	
HCB - Non-Firm Power	1,023	972	836	788	788	788	(23%)
Growth		(51)	(136)	(48)	-	-	
Total HCB	3,651	3,600	3,464	3,416	3,416	3,416	(6%)
Growth		(51)	(136)	(48)	-	-	

### Supply details - IPP purchases:

Figure 31 Supply Cost

COST OF SUPPLIED ENERGY   IPP PURCHASES   GWh							
BASE YEAR							
DESCRIPTION	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Cost of energy purchased from IPPs (mMT)	27,672	26,384	30,350	33,433	37,186	57,364	107%
Growth		(5%)	15%	10%	11%	54%	
Energy supplied (GWh)	2,491	2,529	2,973	3,138	3,418	6,283	152%
Growth		2%	18%	6%	9%	84%	
Average cost (MT / kWh)	11.11	10.43	10.21	10.65	10.88	9.13	(18%)
Growth		(6%)	(2%)	4%	(2%)	(16%)	

### Energy Projection - Purchases from IPPs:

Figure 32 Acquisition (IPP's)

SUPPLIED ENERGY   IPP PURCHASES   GWh							
BASE YEAR							
SOURCE OF SUPPLY	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Existing IPPs							
Pequenos Libombos Hydro Power Plant	-	1.3	2.6	2.6	2.6	2.6	100%
Maragra	0.8	1.6	1.6	1.6	1.6	1.6	88%
Ressano Garcia Thermal Power Plant	1,196.3	1,182	1,182	1,182	1,182	1,182	(1%)
GIGAWATT Recip Gas	874.0	858	858	858	858	858	(2%)
Nacala Powership	137.0	136.9	-	-	-	-	(100%)
Kuvinga Recip Gas	252.0	270	297	297	297	297	18%
Temane CCGT	-	-	-	-	-	2,865	100%
Nacala Powership (Imported LNG)	-	-	488.8	488.8	488.8	651.7	100%
Mocuba Solar PV	78.8	78.8	78.8	78.8	78.8	78.8	0%
Metoro Solar PV	-	46.2	69.2	69.2	69.2	69.2	100%
Cuamba Solar PV	-	-	18	63	84	84	100%
PROLER / IFC Solar PV	-	-	-	96	193	193	100%
Total Energy from IPPs	2,539	2,575	2,996	3,138	3,418	6,283	147%
Growth		36	421	142	280	2,865	

### Energy Costs Projection - Imports

Figure 33 Acquisition (Import)

COST OF SUPPLIED ENERGY   IMPORTS							
BASE YEAR							
DESCRIPTION	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Cost of energy purchased from IPPs (mMT)	2,291	1,066	965	948	921	806	(65%)
Growth		(53%)	(9%)	(2%)	(3%)	(13%)	
Energy supply (Gwh)	74	70	70	65	60	50	(32%)
Growth		(5%)	0%	(7%)	(8%)	(17%)	
Average cost (MT / kWh)	30.93	15.22	13.79	14.58	15.35	16.12	(48%)
Growth		(51%)	(9%)	6%	5%	5%	

## Fixed Operating Costs

In 2019, operating expenses in respect to infrastructure maintenance capacity and productivity totaled MT10.497 million. However, with the business growth forecast for the next 5 years, it is projected an accumulated growth of operating costs in the order of 41%, changing to MT 14.756 million.

The growth of the transmission network by around 730 km, the distribution network by 7,685 km and the regulated customer base by 1,440,000 new customers in the next 5 years, justify the evolution of the operating costs, as shown in the table below. On the other hand, the forecast of annual increases in operating costs attributable to the Generation activity correspond to price adjustments due to inflation, taking into account the forecasts indicate the current installed generation capacity will maintain over the next 5 years.

Therefore, in addition to electricity supply expenses, EDM incurs fixed operating costs in its various business areas (15% in generation, 5% in transmission, 40% in distribution, 30% in customer care services), as well as, in administrative and service expenses (10%).

Figure 34 Operating Costs

OPERATING COSTS (Millions of MT)							
OPERATIONAL (mMT)	BASE YEAR						
	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Compensation and benefits	4,663	4,972	5,458	5,949	6,439	6,954	49%
Growth		7%	10%	9%	8%	8%	
Third party services	4,970	4,154	4,574	4,999	5,426		18%
Growth		(16%)	10%	9%	9%	8%	
Other costs	314	863	938	1,013	1,088	1,161	469%
Growth		100%	9%	8%	7%	7%	-
Provisions and bad debts	1,179	979	931	760	703	765	(35%)
Growth		100%	(5%)	(18%)	(8%)	9%	-
Costs	10,497	10,968	11,901	12,721	13,656	14,756	41%
Growth		4%	9%	7%	7%	8%	

EDM's profitability and financial sustainability depend on the operational and productive capacity of its means. The following table presents a summary of the main ratios related to the productive and operational capacity of the means of production and its evolution over the next 5 years.

Figure 35 Operational and Productive Capacity (pp-percentage points)

OPERATIONAL AND PRODUCTIVE CAPACITY							
OPERACIONAL ( mMT)	BASE YEAR						
	2019	2020	2021	2022	2023	2024	5 Yrs Growth
Performance of operational means (operating costs per kWh sold or of revenue) (pp)	22%	21%	20%	20%	21%	17%	(4.5%)
Number of operational collectors	2,731	2,862	2,989	3,137	3,264	3,378	23.7%
Performance of the supporting structures cost structure per revenues) (pp)	24%	24%	20%	21%	21%	17%	6.9%
Number of collectors in support functions	596	613	630	649	664	675	13.3%
Prepayment coverage ratio (%)	97%	98%	99%	99%	99%	99%	2.0%
Customer debt balance (M MZN)	14,690	2,476	5,119	4,481	4,266	4,652	68.3%
Growth	0%	(83%)	107%	(12%)	(5%)	9%	9.0%
Customer debt recovery rate (PP)	10%	10%	10%	10%	10%	10%	0.0%
Average receiving period (days)	56%	50%	40%	30	24%	20%	64.3%
Effective collection rate (pp)	80%	96%	97%	98%	98%	98%	18.0%

→ **Productivity of Operational Means** - a gradual reduction is projected in productivity, decreasing from 21% to 17%, in 2019 and 2024 respectively, due to the increase in operating costs throughout the value chain. At the same time, for the volume of operating employees, the projections are for an average annual growth of 4% and, non-globally, of 24%, due to the expansion of the operation. This result contributed to the growth in energy costs.

→ **Support Structures Efficiency** - a considerable and positive reduction in the ratio of structural costs to revenue is projected, from 23% to 17% in 2019 and 2024 respectively, due to the lower growth in structural costs, compared to revenue growth. At the same time, for the volume of employees in support functions, EDM projects a conservative growth of 596 workers, in 2019, to 675, in 2024, which represents a growth of 13%. The increase in support center workers will result from a division of certain departments into more than one, in the new EDM organic structure, namely, DPSE will be divided into two, DER will be divided into two and DAL will be divided into two directorates. The programmed increase in the representation of women in the workforce will also introduce positive elements for the promotion of collaborative and more transparent work, thus contributing to the increase in productivity.

→ **Customer Debt Balance** - with the progressive implementation of the prepaid system and a more aggressive collection policy, a gradual reduction in customer debt is projected, from MT 14,690 million to MT 4,652 million in 2019 and 2024 respectively, which represents an accumulated reduction of 68% at the end of 5 years. In parallel, the debt recovery rate will be around 10% over 5 years

→ **Average Receiving Period** - EDM foresees improvements in its collection policy, therefore, a reduction is projected in the number of days for invoice receipts, from 56 to 20 days in 2019 and 2024 respectively, an accumulated reduction of 64%. On the other hand, the effective collection rate, which in 2019 stood at 80%, it is projected to reach around 98% in 2024, which is an indication of the effectiveness of customer debt collection activity.

### Detail of projections and financing assumptions

Investments in the order of U \$ 1.162 million are expected over the next 5 years. The following table shows the expected allocation of investments in each activity of the operation.

The main initiatives and the respective source of financing comprise the following investment projects:

Figura 36 Capex Distribution (Investment Expenses)

CAPEX by ACTIVITY I in MT Million						
OPERATING ACTIVITY	2020	2021	2022	2023	2024	Total
Generation	-	-	-	-	-	-
Transmission	70.6	77.1	76.1	58.0	123.1	405
Distribution	76.1	96.0	78.7	62.8	62.3	376
Commercialization	7.0	11.8	10.8	6.4	5.2	41
Administration	-	-	-	-	-	-
Electrification financed by the GoM	41.6	67.2	77.0	77.0	77.0	340
Total Capex	195.2	252.1	242.6	204.2	267.6	1,162

→ **STIP Phase 1:** Five (5) urgent network projects in EDM's southern grid being co-funded by EIB (concessional loan), KfW (grant), Government of Norway (grant) and EDM. The EIB loan is assumed to have a 20-year tenor, including 5-year grace period, at a cost of 2.5%.

→ **World Bank PERIP:** Component 1 covers a number of priority network strengthening projects (can basically be seen as an extension of STIP) and was approved in 2018. The disbursement assumptions in the World Bank Appraisal Report has been used. The PERIP funding comes in the form of a grant from IDA.

→ **Chimuará to Nacala 400kV transmission Line:** Phase 1 (Chimuará - Alto-Molócué) of this project already has guaranteed financing from the Islamic Development Bank (IsDB), and its implementation is in progress, with offers for the selection of the contractor submitted in the 2nd quarter of 2019. In this Negotiations are currently underway with the African Development Bank (AfDB) and JICA (Japan Agency) for the financing of the remaining two phases, with financing negotiations expected to close in the first quarter of 2020. The cost is expected to close financing is at the level of LIBOR + 1.15%, with a 15-year term and a 4-year debt service deferral period;

→ **Emergency projects (Rehabilitation and Strengthening of the Maputo City electricity grid and Installation of a compensation station in Pemba)** - The project aims, on the one hand, to improve the distribution network of the City of Maputo, through the rehabilitation of some Sectioning stations and installation of new ones, including the installation of interconnection cables. On the other hand, the project aims to increase the stability of the northern system, through the installation of a compensation station in Pemba. In this context, an agreement was signed with the Development Bank of South Africa (DBSA) to finance a Phase 1 of this initiative, through the provision of a portion of USD 81 million. This part of the investment was modeled as a 20-year loan, with a 5-year debt service deferral period, at a cost corresponding to LIBOR + 5.5%;



- **New power connections under the National Electrification Program (OSAs Areas)** - within the scope of the national electrification program, EDM is expected to finance commercial connections for approximately 130,000 customers per year at an estimated average cost of \$ 500 per new connection. With the exception of customer contributions with connection fees that cover around 7% of the annual investment obligation, these new commercial connections will be self-financed by EDM, using its own cash flows. All other investment program initiatives will be financed by external funds;
- **Social electrification projects agreed with the government:** due to the rural nature of the electrification program, the average cost per new connection is estimated to be roughly \$ 750. However, a gradual reduction to \$ 650 is expected by 2024, due to economies of scale and the use of more innovative design solutions. In June 2019, the total contribution of DFI's in the amount of \$ 228 million was guaranteed in support of this program, sufficient to cover the expected investment needs up to 2021. Additional funding will be required to meet planned investments beyond 2021.
- **Rehabilitation and Strengthening Power Projects of distribution networks of Quelimane and Mocuba:** For the materialization of this project, negotiations are taking place with Exim Bank of India, to finance more than 96 MUSD required. The Government of Mozambique has received the term sheet for the approval of the financing.
- **Mozambique and Malawi interconnection project (MOMA):** This regional interconnection project is funded by the World Bank, KfW and Government of Norway, in amount of 127 MUSD. All project agreements have already been signed and the financial closure of the project has been reached in November 2019. Construction works are expected to start in the first half of 2021 and to be commissioned for the first half of 2023.
- **110kV Nampula - Angoche transmission line:** The project whose financing is under negotiation with several entities is of an urgent nature and foresees the construction of more than 200 km of transmission line at 110 kV, in addition, to supply domestic load in constant growth in Angoche, also mining and agricultural projects planned for Moma.
- **275kV Bebeluane-Salamanga transmission line:** The project whose financing is under negotiation with several entities is of an urgent nature and foresees the construction of more than 120 km of transmission line to feed the Katembe, Bela-Vista and Ponta de Ouro areas, in the province of Maputo.
- **Namialo-Metoro transmission line at 400kV:** The project whose financing is under negotiation is a priority for EDM, as it will allow the evacuation of power from the plant planned in Nacala to the northern region and vice versa, increasing the stability of the system, on the one hand, and Mozambique -Tanzânia (MOTA) interconnection project, on the other.
- **Chimuará-Nacala 400kV Transmission Line - Phases - 2 (Alto-Molócuê - Namialo) and 3 (Namialo - Nampula and Namialo - Nacala):** The mobilization of the 400MUSD required in both phases of this project is underway. The two phases of this project complement the first and all are decisive for increasing the stability of the system, as well as for making the projects feasible that generate results for the country.
- **National Control Centre:** is in the conceptual phase and seems important for the security of energy source for the country and the region. In addition, bringing transparency in the monitoring of energy transit to/and from the countries of the region, therefore, this is a priority project as the size and complexity of the EDM power system increases, not least with introduction of CTT from 2024. A detailed project description has been prepared and EDM is currently seeking financing for this important project, with discussions initiated with KfW initiated. Project costs is estimated at USD60m, for implementation over the period 2022 to 2024. Financing terms of 50% grant and 50% concessional loan at fixed interest of 2.5% p.a. with 2-year grace and a total 20-year term is assumed in the forecast.
- **Improvement of Power Supply Quality of Maputo and Matola Cities:** The Project comprises the Expansion and Modernization of transmission and distribution power networks of Maputo and Matola Cities. The project is financed by Exim Bank of India in the amount of 250 MUSD, at an interest rate of 1.75%, and is repayable in 20 years, with a grace period of 5 years.
- **TREP Mitigation Projects:** As part of the overall Temane Regional Electricity Project ("TREP"), to complementary transmission projects have been defined to mitigate against potential delays in implementation of the Temane Transmission Project ("TTP"). This includes 28km of 110kV integration between a new 110/33kV substation at the Temaninho power plant site and the new 400/110kV TTP substation at Vilanculos. The other project includes 60km of 275kV line between the TTP substation at Chibuto and EDM's existing 275/110kV substation at Dzimbene close to Macia. The total estimated cost of these two projects to be implemented during the period 2021 to 2022 is estimated at USD24m. Financing is under discussions with IsDB and OFID, modelled with 20-year tenor door-to-door at an average cost of 2.45%.
- **Loss Reduction Investment Programme:** The loss reduction assumptions indicated in the discussion of the energy balance forecast are based on the implementation of an investment program focused on loss reduction. The currently estimated cost of this program is \$ 15 million, discussions are on-going between EDM and AFD for obtaining a grant of \$ 9 million, equivalent to cover the initial part of this program, with the balance to be financed through EDM's own resources. Program implementation will begin in 2021 and is expected to be completed in 2025.

## Summary of financial statement for 2020-24

The financial projections for this period were prepared with reference to preliminary financial information for 2019. Management believes that these projections and their assumptions represent a realistic projection, supported by a set of initiatives that are being carried out by that Body and others that are being planned to be carried out over the next 5 years. However, note that any prediction is subjected to uncertainties, as which may result from the economic development of Mozambique and the regional and world economy.

The basis for the financial forecast is part of an in-depth assessment of EDM's future energy balance over the next 5 years. then, with the supply capacity coming from the planned sources, namely the Own Generation, Cahora Bassa Hydroelectric ("HCB"), Independent Energy Producers ("IPP's") and Imported Energy (Border Villages and Eskom) are compared with the total power demand of customers, made up by regulated, special customers and available energy for exports, after taking into account the

losses and internal consumption.

The exported energy is predominantly sold on SAPP, through the Day-Ahead Market ("DAM"), at a market price predicted by the DAM, but not exclusively, part of the energy is sold in bilateral contracts with Utilities in the region. The known bilateral contracts are reflected in the financial forecasts, with current volumes and prices of contracted energy.

The forecasts for Total Electricity Supply Revenue and Expenses take into account the assumptions about electricity tariffs, in the various EDM market segments and supply costs.

With regard to power supply costs, the financial forecasts take into account the costs of operating and maintaining the transmission and distribution networks, as well as, facilities for customer care service, administrative costs and other fixed costs.

The Income Statement, Balance Sheet and Cash Flow Maps are presented below:

Income Statement 2020 - 2024

(IN MT MILLIONS)						
BASE YEAR						
DESCRIPTION	2019	2020	2021	2022	2023	2024
LV & MV (Tariff Based Customers)	26,981.4	29,411.7	34,226.2	39,013.7	44,244.5	50,128.2
Special Customers	4,339.0	4,144.7	5,596.1	5,967.5	6,352.6	8,805.8
Exports	5,626.5	5,604.7	6,718.1	5,701.0	5,652.0	17,523.2
<b>Electricity sales</b>	<b>37,007</b>	<b>39,161.1</b>	<b>46,540.4</b>	<b>50,682.1</b>	<b>56,249.1</b>	<b>76,457.2</b>
Administrative Charges	1,137.4	-	-	-	-	-
Wheeling Charge Revenue	794.3	468.3	521.5	521.4	540.6	559.3
Non Core (Other Services)	8.6	10.0	10.6	11.2	11.7	12.3
New connections	601.9	370.2	302.9	269.2	269.2	269.2
<b>Other revenue</b>	<b>2,542.3</b>	<b>848.4</b>	<b>813.9</b>	<b>801.8</b>	<b>821.6</b>	<b>840.8</b>
<b>Total Revenue</b>	<b>39,549.3</b>	<b>40,009.5</b>	<b>47,354.3</b>	<b>51,483.9</b>	<b>57,070.7</b>	<b>77,298.0</b>
Power Generation	5,071.9	4,122.6	3,764.6	3,900.1	4,030.8	4,074.3
Energy purchase	22,245.7	22,261.7	26,585.8	29,532.5	33,155.4	53,289.2
Wheeling Charge	253.6	269.8	292.6	309.4	325.7	342.0
<b>Energy Cost</b>	<b>27,571.2</b>	<b>26,654.1</b>	<b>30,643.0</b>	<b>33,742.1</b>	<b>37,511.9</b>	<b>57,705.5</b>
<b>Gross Profit</b>	<b>11,978.1</b>	<b>13,355.5</b>	<b>16,711.3</b>	<b>17,741.8</b>	<b>19,558.8</b>	<b>19,592.4</b>
Salaries, wages & benefits	4,662.6	4,971.5	5,458.3	5,948.6	6,438.7	6,954.1
Contractors	4,970.3	4,154.1	4,574.2	4,999.1	5,426.5	5,876.5
Other opex (net, incl. pensions, donations, customer fees)	(314.4)	863.0	937.9	1,012.9	1,087.8	1,160.8
Bad debts and Other Provision	1,178.7	979.0	930.8	760.2	703.1	764.6
<b>Total Fixed Costs</b>	<b>10,497.2</b>	<b>10,967.7</b>	<b>11,901.2</b>	<b>12,720.8</b>	<b>13,656.2</b>	<b>14,756.0</b>

Operating Results (EBITDA)	1,480.9	2,387.8	4,810.1	5,021.0	5,902.6	4,836.4
Depreciation and amortization	4,727.4	5,172.7	5,978.7	6,921.7	7,804.1	8,758.5
FX (gains)/losses - realised	-	20.7	(233.0)	(162.6)	(124.2)	(259.6)
FX (gains)/losses - unrealized	-	162.1	485.3	692.0	788.7	1,125.0
<b>Provisions</b>	4,727.4	5,355.6	6,231.0	7,451.1	8,468.6	9,623.9
<b>EBIT</b>	<b>(3,246.5)</b>	<b>(2,967.8)</b>	<b>(1,420.8)</b>	<b>(2,430.1)</b>	<b>(2,566.0)</b>	<b>(4,787.5)</b>
Dividend Received	621.8	650.4	695.1	724.1	788.4	970.9
Interest earned on bank balances	6,131.2	-	-	-	-	-
Interest expense (LT debt, ST loan & Overdraft)	(6,447.5)	(593.1)	(577.1)	(709.5)	(691.2)	(858.9)
<b>Total Interest &amp; Dividends</b>	<b>305.5</b>	<b>57.3</b>	<b>118.0</b>	<b>14.6</b>	<b>97.2</b>	<b>112.0</b>
EBT	(2,941.1)	(2,910.5)	(1,302.9)	(2,415.4)	(2,468.8)	(4,675.5)
Tax expense	808.6	779.5	780.5	1,058.2	1,051.6	702.0
Net profit after tax	(2,132.4)	(2,130.9)	(522.4)	(1,357.2)	(1,417.2)	(3,973.6)

## Income Statement 2020 - 2024

(IN MT MILLIONS)						
BASE YEAR						
DESCRIPTION	2019	2020	2021	2022	2023	2024
Accounts payable	14,509.5	14,626.8	13,561.4	12,579.0	11,673.4	13,096.6
Inventory	2,247.5	2,809.3	3,094.4	3,371.1	3,640.5	3,903.5
VAT	-	216.9	466.2	721.4	9767	1,479.3
Income tax receivable	1,277.1	1,277.1	1,277.1	1,277.1	1,277.1	1,277.1
Other financial current assets	4,019.8	4,019.8	4,019.8	4,019.8	4,019.8	4,019.8
Other current assets	8,244.5	8,244.5	8,244.5	8,244.5	8,244.5	8,244.5
DSRA (restricted cash)	-	-	-	-	160.9	166.4
Cash (unrestricted)	5,719.3	10,629.0	11,075.0	12,064.7	10,057.8	14,016.3
<b>Total Current Assets</b>	<b>36,017.6</b>	<b>41,823.4</b>	<b>41,738.4</b>	<b>42,277.5</b>	<b>40,050.6</b>	<b>46,203.5</b>
PPE	139,331.5	197,931.7	209,476.0	220,121.8	227,648.8	239,677.7
Construction in progress	50,980.9	-	-	-	-	-
Others	2,350.5	2,364.0	2,364.0	2,364.0	2,364.0	2,364.0
<b>Total Fixed Assets</b>	<b>192,662.9</b>	<b>200,295.7</b>	<b>211,840.0</b>	<b>222,485.8</b>	<b>230,012.8</b>	<b>242,041.7</b>
<b>Total Assets</b>	<b>228,662.5</b>	<b>242,119.1</b>	<b>253,578.4</b>	<b>264,763.3</b>	<b>270,063.5</b>	<b>288,245.3</b>
Accounts payable	25,896.1	24,143.5	21,012.9	17,221.6	13,168.4	16,659.1
Accrued liabilities, interco and other	28.0	28.0	29.9	32.8	35.8	38.7
Donations & Grants	2,289.6	2,289.6	2,289.6	2,289.6	2,289.6	2,289.6
Other Financial Liabilities	19,692.5	20,902.0	20,960.0	22,235.3	21,232.4	22,059.7
Loan - current portion	551.5	1,663.1	2,192.1	2,921.4	1,922.6	3,382.5
<b>Total Current Liabilities</b>	<b>48,457.7</b>	<b>49,026.2</b>	<b>46,484.4</b>	<b>44,700.6</b>	<b>38,648.8</b>	<b>44,429.6</b>
Donations & Grants	11,069.7	18,211.7	26,169.6	34,873.8	42,660.2	49,223.8
Other Financial Liabilities	34,103.2	(7,339.7)	(7,787.9)	(9,163.8)	(9,804.3)	(11,257.5)
Loan - LT portion	1,015.6	6,328.6	12,760.8	19,381.8	24,548.9	34,934.3
Deferred tax	38,951.0	38,171.5	37,391.0	36,332.8	35,281.2	34,579.2
Provisions	11,958.3	13,247.2	14,609.1	16,044.0	17,551.9	19,132.7
<b>Total Long -Term Liabilities</b>	<b>97,097.8</b>	<b>68,619.3</b>	<b>83,142.7</b>	<b>97,468.7</b>	<b>110,237.9</b>	<b>126,612.5</b>
Capital	17,845.7	17,845.7	17,845.7	17,845.7	17,845.7	17,845.7
Reserves	77,459.4	120,925.4	120,925.4	120,925.4	120,925.4	120,925.4
Retained earnings	(12,166.5)	(14,297.4)	(14,819.8)	(16,177.0)	(17,594.2)	(21,567.8)
<b>Total Capital and Reserves</b>	<b>83,138.6</b>	<b>124,473.7</b>	<b>123,951.2</b>	<b>122,594.0</b>	<b>121,176.8</b>	<b>117,203.3</b>
<b>Total Liabilities and Equity</b>	<b>228,694.1</b>	<b>242,119.1</b>	<b>253,578.4</b>	<b>264,763.3</b>	<b>270,063.5</b>	<b>288,245.3</b>

## Cash Flow Map - 2020-2024

IN MT MILLIONS						
BASE YEAR						
DESCRIPTION	2019	2020	2021	2022	2023	2024
(+) Earnings Before Tax (EBT)	(2,941)	(2,910)	(1,303)	(2,415)	(2,469)	(4,676)
(+) Depreciation & Amortisation	4,727	5,173	5,979	6,922	7,804	8,759
(-) Amortisations Donated Asset	-	-	-	-	-	-
(+) Provisions	-	-	-	-	-	-
(+) Others (unrealised Fx, pension & bad debt)	2,186	2,430	2,778	2,887	3,000	3,470
<b>Earnings Before Tax &amp; Depr. (EBDTA)</b>	<b>3,972</b>	<b>4,692</b>	<b>7,454</b>	<b>7,393</b>	<b>8,335</b>	<b>7,553</b>
(-) Accounts receivable (increase)	3,878	(117)	1,065	982	906	(1,423)
(-) Inventory (increase)	875	(562)	(285)	(277)	(269)	(263)
(-) Other Financial Current Assets	868	-	-	-	(161)	(6)
(-) Other Current Assets	(1,168)	(217)	(249)	(255)	(255)	(503)
(+) Accounts payable	2,319	(1,753)	(3,131)	(3,791)	(4,053)	3,491
(+) Other Financial Liabilities	(108)	-	2	3	3	3
(-) Adjustment Other Liabilities	-	2,092	(1,806)	(1,553)	(3,135)	(1,439)
<b>(=) Working capital adjustments</b>	<b>6,664</b>	<b>(557)</b>	<b>(4,404)</b>	<b>(4,891)</b>	<b>(6,965)</b>	<b>(140)</b>
(-) Taxes paid	0	-	-	-	-	-
<b>(=) Net cash provided by operating activities</b>	<b>10,636</b>	<b>4,135</b>	<b>3,050</b>	<b>2,503</b>	<b>1,369</b>	<b>7,413</b>
(-) Purchase of fixed assets	(8,977)	(7,619)	(17,523)	(17,568)	(15,331)	(20,787)
(+) Purchase of financial Assets	(14)	-	-	-	-	-
<b>(=) Net Cash from Investing Activities</b>	<b>(8,990)</b>	<b>(7,619)</b>	<b>(17,523)</b>	<b>(17,568)</b>	<b>(15,331)</b>	<b>(20,787)</b>
<b>Free Cash Flow</b>	<b>1,646</b>	<b>(3,484)</b>	<b>(14,473)</b>	<b>(15,065)</b>	<b>(13,962)</b>	<b>(13,374)</b>
(+) Loan disbursement	-	6,425	6,961	7,350	4,168	11,845
(-) Loan repayment	(842)	-	-	-	-	-
(+/-) Donation entries / payments	1,252	7,142	7,958	8,704	7,786	6,564
<b>(=) Net cash provided by financing activities</b>	<b>(4)</b>	<b>13,567</b>	<b>14,919</b>	<b>16,054</b>	<b>11,955</b>	<b>17,333</b>
<b>(=) Net Increase in Cash and Cash Equivalent</b>	<b>1,642</b>	<b>10,082</b>	<b>446</b>	<b>990</b>	<b>(2,007)</b>	<b>3,959</b>
<b>(+) Cash and cash equivalents at beginning of year</b>	<b>4,077</b>	<b>5,719</b>	<b>15,928</b>	<b>16,374</b>	<b>17,363</b>	<b>15,356</b>
<b>(+) Cash and cash equivalents at the end of year</b>	<b>5,719</b>	<b>15,802</b>	<b>16,374</b>	<b>17,363</b>	<b>15,356</b>	<b>19,316</b>

## Financial performance ratios - 2020-2024

FORECAST FINANCIAL RATIOS						
BASE YEAR						
DESCRIPTION	2019	2020	2021	2022	2023	2024
<b>PROFITABILITY &amp; CASH GENERATION RATIOS</b>						
Gross Profit Margin (% of Total Revenue)	30%	33%	35%	34%	34%	25%
EBITDA Margin (in % of Total Revenue)	4%	6%	10%	10%	10%	6%
Opex / Gross Profit	88%	82%	71%	72%	70%	75%
EBITDA / Depreciation & Amortization	31%	46%	80%	73%	76%	55%
EBITDA / Capex	17%	19%	27%	29%	39%	23%
OCF / Capex	118%	32%	17%	14%	9%	36%
<b>Liquidity &amp; Financial Leverage Ratios</b>						
Current Ratio	0.74	0.85	0.90	0.95	1.04	1.04
Acid Test	0.70	0.80	0.83	0.87	0.94	0.95
Debt to Equity	1.59	0.78	0.82	0.86	0.86	1.02
Debt to Asset	0.58	0.40	0.40	0.40	0.38	0.41
EBITDA/Debt Service (Principal+Interest)	-1.60	2.80	2.15	1.73	1.60	1.28
EBITDA/Interest Expenses	-1.60	4.03	8.33	7.08	8.54	5.63

**EBITDA** - Earnings before Taxes, Interest, Depreciation and Amortization;  
**OPEX** - Operational Costs; **CAPEX** - Capital Expenses; **OCF** - Operating Cash Flow

With the assumption of debt recovery resulting from retrocession agreements, the debt ratio tends to improve over the 5 years, improving the ability to mobilize new financing to cover expenses with capital investment projects that EDM foresees to be accomplished. The remaining ratios, both in productivity, liquidity and risk, project a positive evolution of the company's performance.

The company's ability to generate surplus liquidity from its operating, investing and financing activities is also positive and progressively increasing. Operating activity is projected to release positive cash flows over the 5 years.

The company's ability to generate surplus liquidity from its operating, investing and financing activities is also positive and progressively increasing. Operating activity is projected to release positive cash flows over the 5 years.

The company's ability to generate surplus liquidity from its operating, investing and financing activities is also positive and progressively increasing. Operating activity is projected to release positive cash flows over the 5 years.

## Gross margin

A growing and stable gross margin is projected with an annual average of around 16% of the volume of revenue and an accumulated growth over the next 5 years of around 107%, going from the current MT 37,007 million in 2019 to MT 76,457 Million in 2024.

Although the gross margin tends to increase, growth appears to be marginally decreasing over the years. This situation is justified by the projection of a power balance progressively supplied by energy from IPP's at relatively more expensive prices, which results in positive marginal increases in the cost of energy purchase not accompanied by adjustments in energy tariffs, particularly for sales in the domestic market.

The energy from PPIs progressively becomes a determining component of the amount of energy in the energy balance. Since in 2024 the total energy to be purchased from IPPs will represent about 59% of the total energy supply, compared to 35% in 2019. While HCB is, relatively cheaper energy represents only 32%, in 2024, corresponding to a 19% reduction, equivalent to a balance of 52%, in 2019.

However, the growth in gross margin is higher than the growth in fixed costs, which allows an improvement in operating results.

## EBITDA margin (earnings before interest, taxes, depreciation and amortization)

Like the gross margin, EBITDA margin projections show an incremental trend over the next 5 years, with an accumu-

lated growth of 222%, going from the current MT 1.481 million in 2019 to MT 4.836 million in 2024.

Although growth is marginally decreasing, due to the evolutionary projection of operating costs that are projected to grow by an average of 17% per year, and 106% of accumulated growth over the 5 years of the projection. The evolution of operating costs is influenced by the respective drivers, in particular the projected rapid evolution in the base of regulated customers assumed as the driver of operating costs, attributable to the commercial and administrative functions.

Additionally, in 2020, approximately MT 720 million of emergency operational costs are foreseen to face the rehabilitation of the infrastructure destroyed by Cyclone IDAI, which hit the North of the country in 2019. This cost represents a point estimate of the necessary financial resources, so the operation's normal EBITDA would have to be considered an adjustment of this expense.

## EBIT (Earnings before interest and taxes)

The EBITDA margin projected to be released by the operation is not sufficient to absorb the non-disbursable costs with a depreciation of capital investment, reflecting negative Results before Financing and Tax Costs (EBIT) and negative accumulated growth in the next 5 years about 48%. A negative evolution from the negative MT 3,247 million in 2019 to a negative MT 4,788 million in 2024.

However, year-over-year EBIT projections show decreasing marginal increases, resulting from the average annual growth in depreciation of capital investments in the order of 20% per year. Since, after 5 years, depreciations show an accumulated increase of around 65%, of which MT 4.727 million in 2019, and MT 8.759 million in 2024. This increase in costs related to the depreciation of investment assets results from capital investment projections in the order of US \$ 1.162 million over the next 5 years.

However, year-over-year EBIT projections show decreasing marginal increases, resulting from the average annual growth in depreciation of capital investments in the order of 20% per year. Since, after 5 years, depreciations show an accumulated increase of around 65%, of which MT 4.727 million in 2019, and MT 8.759 million in 2024. This increase in costs related to the depreciation of investment assets results from capital investment projections in the order of US \$ 1.162 million over the next 5 years.

Regarding dividends from companies reimbursed by EDM, they were included in the forecast of net financial costs as follows:

- CEZA annual dividend (HCB) of US \$21.7 million from 2020, until the end of the forecast period, equivalent to the dividends received in 2019;



- Motraco annual dividends of US \$ 3.0 million from 2020, until the end of the forecast period, equivalent to the dividends received in 2019;
- CESOM annual dividends (Mocuba) of US \$ 0.5 million from 2023, until the end of the forecast period, according to CESOM's model and financial perspectives;
- CTRG annual dividends of US \$ 2.0 million, starting in 2024, assuming that the outstanding balances from EDM to CTRG will have been fully settled by 2023.

### EBT (Profit before tax) and Net Results (NPAT)

EBT (Profit before tax) and Net Results (NPAT)

The EBT margin and net profit after tax (NPAT) project negative accumulated growth over the 5 years in the order of 89% and 127%, respectively.

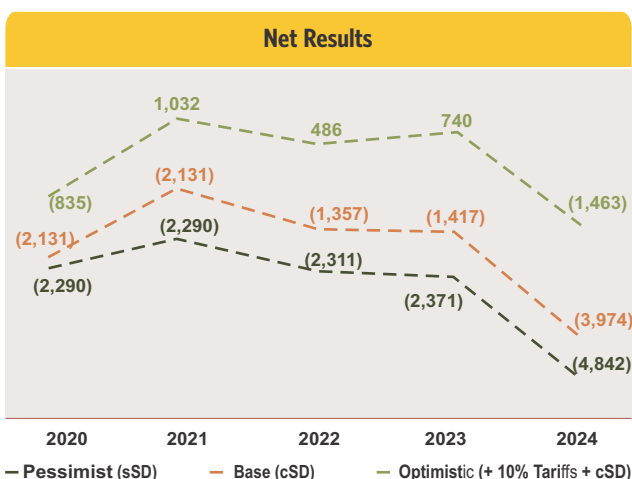
### Sensitivity Analysis

For the sensitivity analysis, three (3) business scenarios are presented, namely, pessimistic (no favorable variable is considered), baseline (considering the debt settlement of the 100% retrocession agreements) and optimistic (considering the debt settlement and tariff adjustment of captive customers by 10%).

In the pessimistic scenario (without debt reorganization), the net results are negative in the five-year period under analysis, with a tendency to worsen, however with the debt reorganization (base scenario), although negative, the net results improve slightly.

However, the Optimistic scenario (total debt recovery and 10% tariff adjustment) shows a significant improvement in the net results from 2020 to 2023 and deteriorates in 2024, with the entry into operation of the Temane Natural Gas Thermal Power Plant (400MW).

Graph 32 Net Results



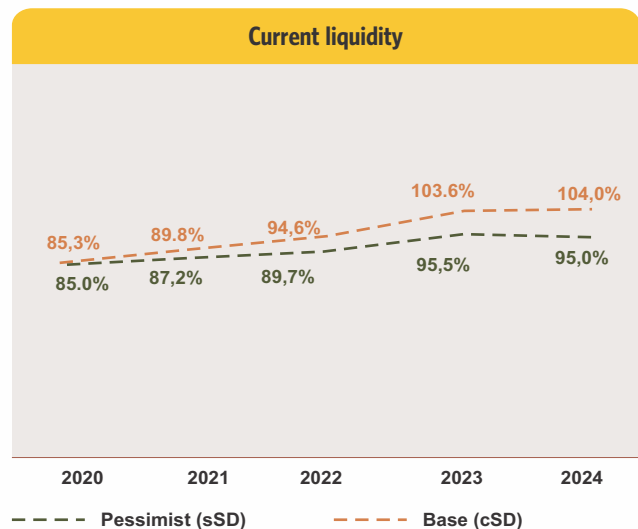
### Conclusion

- Although from the pessimistic scenario to the base scenario, there is a cumulative increase in net income of around 25pp, the same for Base to Optimist by 11pp, both scenarios do not resolve the issue of EDM's profitability in the medium and long term.
- The additional allocation of HCB's Firm Energy of around 200MW, identified as one of the critical success factors, if effective, may play a leading role in the pursuit of the objectives of the five-year period, especially supporting the ProEnergia project, which aims to accelerate universal access by 2030.
- In addition, the increased availability of supply motivated by the commissioning of CTT (400 MW Temane Gas Thermal PowerStation) may attract new energy sales agreements, preferably through bilateral contracts (exports), thus improving gross margin.

### Impact of debt recovery on financial ratios

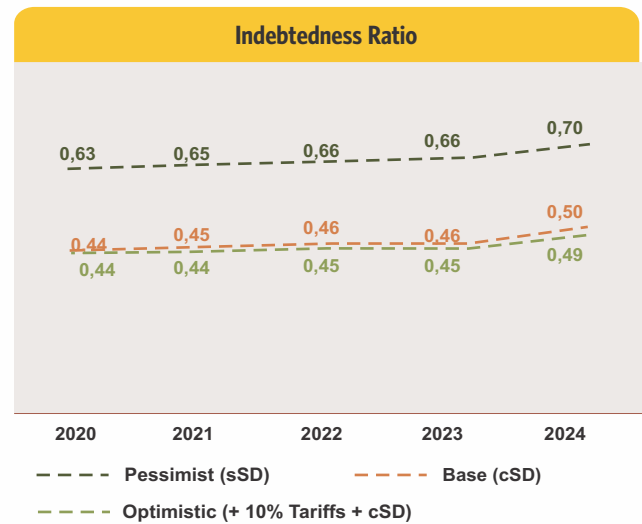
The graph below shows that the current liquidity ratio improves significantly as a result of the complete debt reorganization through retrocession agreements, numerically representing a cumulative improvement from around 10pp (pessimistic scenario) to 18pp (base scenario).

Graph 33 Current Liquidity



The graph below shows that with debt settlement, the debt ratio improves significantly as a result of total debt settlement through retrocession agreements, representing numerically a cumulative improvement of about 10% (pessimistic scenario) to 15% (scenario base).

Graph 34 Debt Ratio



## IV-5. OPERATIONAL PLAN

### Generation Function

The Generation Function's mission is to coordinate and implement the management, exploitation and maintenance of the means of electricity production, sustainable management of power production capacity and advise the Delegations depending on demand, in the operation of emergency power stations in coordination with other Directorates, develop studies aiming at the implementation of new EDM generation plants.

The table shows the composition of the workforce in the Generation Department. The Generation is not outside the gender policy in force in the company. As can be seen in the table, the gender equity index is around 18%, resulting from the recent contracts for the management and operation of the CTM (Maputo Thermal Power Station), inaugurated in October 2018. For the purposes of workforce adjustment, the Personnel and Organization Directorate observes aspects related to the expansion of services, reforms and succession plan.

Generation Workforce Composition				
Function	Homens	Mulheres	Total	Eq. de Género
Director	1	0	1	0%
Head of Department	2	0	2	0%
Supervisors	8	0	8	0%
Professional I	21	12	33	36%
Professional II	51	17	68	25%
Supportive Staff	54	1	55	2%
<b>Total</b>	<b>137</b>	<b>30</b>	<b>167</b>	<b>18%</b>

The table below shows the installed generation capacity and availability per plant.

Name	Power Station	Province	Installed Capacity (MW)	Available Capacity (MW)
Corumana	Hídrica	Maputo	16.3	16.0
Chicamba	Hídrica	Manica	44.0	22.0
Mavuzi	Hídrica	Manica	52.0	25.0
Temane	Térmica- Gás	Inhambane	11.2	10.31
GTG - Beira	Térmica- Diesel	Sofala	14.0	2.0
Lichinga	Hídrica	Niassa	0.7	0.5
Cuamba	Hídrica	Niassa	1.0	0.5
CTM	Térmica- Gás	Maputo	106.0	106.0
<b>TOTAL</b>			<b>245.2</b>	<b>192.3</b>

In the present five-year period, in the production park, the recovery of about 78MW of production capacity is foreseen, which is unavailable due to various types of damage. Of this capacity, 22 MW will be recovered at the Chicamba Hydroelectric Power Plant, 15.8MW at the Mavuzi Hydro Power Plant, 40MW at the Maputo Natural Gas Thermal Power Plant (CTM). This recovery of productive capacity will greatly improve the levels of response to demand in the different power transmission subsystems throughout the country. In addition to this

recovery, an increase in production capacity of about 45MW is expected, resulting from the assembly the 40MW emergency power station in Nacala, an increase in the installed capacity in Temaninho by 3 MW and the expansion of the Cuamba Mini-Hydro by an additional 2.5MW.

It is important to mention that, due to the fact generation function has plants operating in different regimes, namely (Pick, Base load and Mid-merit), the value of the load factor (GLF) and energy use (EUF), will place 52% and 53%, respectively from 2021 onwards.

unplanned capacity loss factor (UCLF) will improve progressively, as the plant's unavailability due to long-term unplanned breakdowns, starting in 2021, will be overcome following the implementation of the root rehabilitation works, which will culminating in increased levels of reliability. EDM generation is present in the three regions of the country, namely South, Center and North. This reality requires resources to be allocated, not only human, but also material and equipment for the management of the plants. Thus, the table to the side shows a fleet of vehicles and heavy equipment in use at generation level. As can be seen, 33% of the fleet is in poor condition, a situation that will obviously consume financial resources during this five-year period for maintenance or expansion.

Fleet of Vehicles and Heavy Equipment by Business Unit in Bad Condition							
FUNCTION	Generation	Special Machines	Motor-cycle	Squares	Light Vehicle	Heavy Vehicle	Total
Sub-Total BT	Heavy Vehicle	2			15	5	22
Total Geral (A+B)		2	-	-	15	5	22

Fleet of Vehicles and Heavy Equipment by Business Unit in Bad Condition							
Generation	Directorate				7	4	11
Sub- Total BT	Generation	-	-	-	7	4	11
Total Geral A		2	-	-	22	9	33

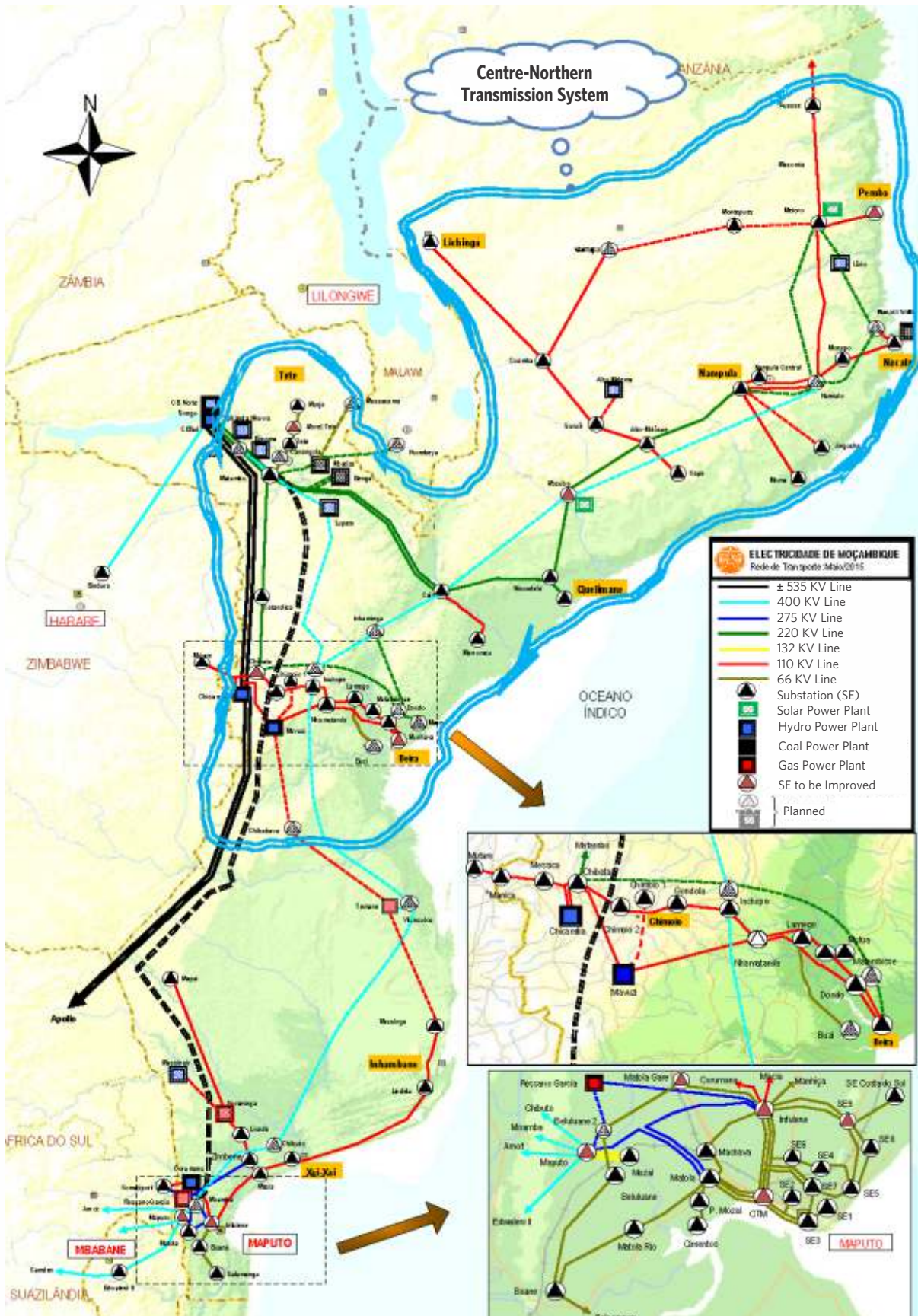
### Transmission Function

The mission is to manage in an efficient and effective manner the exploration and maintenance activities of the National Transmission Network, which comprise: (a) Interconnection facilities for power production and import, (b) Power transmission Infrastructure for supplying to exports, large customers and distribution networks connected to the Transmission Network; (c) National Dispatch Center; and (d) Telecommunications, telemetry and remote control infrastructures for the effective and efficient management of the National Transmission Network in accordance with the provisions of the SAPP (Southern African Power Pool) Network code, agreements and regulations;

The National Energy Transport Network consists of two isolated subsystems, namely, Center-North and South. The interconnection of these subsystems is made via neighbor-



ing countries, namely, Zimbabwe, through the ZESA Transport network, South Africa, through Eskom's Transport network, the latter connects to the National Transport network (REN), through the Motraco network, see the following map.



## Transmission Infrastructure

EDM's Power Transmission system consists of 4 voltage levels, namely 66kV, 110kV, 220kV and 275kV. The table below describes the main elements that make up the EDM Transmission Network. In the South Region, of the 37 substations in operation, 12 are operating at the limit of their capacity, 6 power transmission lines at 66kV operate at their transfer limit and an urgent intervention is needed to avoid equipment overload, which can be translated in its premature aging and/or collapse.

With the implementation of the network reinforcement projects, namely: Perip, Jica, Hyou Sung, STIP and Emergency, the number of overloaded substations in the South Transmission Network will reduce to 4, namely: Marracuene, Salamanga, SE10 and Kongolote.

**In the Central Region**, the Transmission Department operates with 32 Substations, 27 of which belong to EDM, of which 3 are mobile, located in Tete, Quelimane and Casa Nova. The remaining 24 are fixed, of which 5 substations are private (Jindal, CIM Dondo, CIM Beira, Vale and ICVL). Currently, there are no substations in the region operating at the limit of its capacity. Despite this fact, 2 lines of power transfer, namely: DL3 (Matambo - Tete) and CL71 (Dondo - Munhava)) are operating at their thermal limit.

In the 2019-2021 three-year period, approximately 362,000 new customers are planned to be connected within the scope of universal access, which will result in the overload of 8 Substations in the Centre Transmission network.

If the implementation of the network reinforcement projects (Perip, Hyou Sung, STIP) is successful, the picture improves, but the Munhava, Chimoio 1 and Chimoio2 substations remain critical.

DESCRIPTION OF THE NETWORK	UNITY	QUANTITY
Length of Transmission Lines in Service	km	5660
275kV Transmission Lines	km	317
222kV Transmission Lines	km	1486
110 kV Transmission Lines	km	3191
66 kV Transmission Lines	km	666
Other Structural Elements of the Network		
Towers	un	15251
Isolators	un	52568
Substations	un	74
Mobile Substations	un	9
Power Transformers	un	150
Reactors	un	12
Bank Capacitors	un	27
SVC'S	un	4
Exterior Panels	un	486
Interior Panels (GIS)	un	66
Interior Panels (AIS)	un	517
Battery Banks	un	200
Rectifiers	un	20

**In the North Region**, with the plan to universalize domestic access to electricity, the next two years are expected to connect approximately 250,000 new customers, which will result in an increase in demand and the consequent overload of 7 substations.

Even with the implementation of the ongoing network strengthening projects in this region (Perip, Hyou Sung, Marrupa, STATCOM Cuamba, Caia-Nacala line), the need to increase the transfer capacity of the CL31 and CL32 lines will prevail, to avoid restrictions and guarantee the supply of quality electricity to the cities of Nampula and

Nacala and the districts of Monapo, Ilha de Moçambique and Mussoril, in case the floating power plant (Karpower) and one of the lines (CL31 or CL35) are unavailable.

Apart from the constraints of the transmission network mentioned above, universal access imposes more challenges on the transmission system with regard to the availability of power, to supply the demand, whose expected growth is in the order of 20%, taking as reference the history of the last 5 years (200MW).

For the five-year period 2020 - 2024, several projects are planned, aiming, on the one hand, to guarantee the availability of power to supply the demand and, on the other hand, to guarantee safety in the operation of the system. Projects are also planned to improve the management processes of the transmission network assets, modernize the means of diagnosing incidents and consolidate O&M procedures.

## Workforce Composition

The table below shows the composition of the transmission workforce. Given the extension of the network and the complexity of its equipment, the transmission network is divided into three transmission regional directions to which is added a Central Directorate, namely: South Transmission Directorate, Centre transmission Directorate and North Transmission Directorate. In addition to the managerial functions, the different professional levels are included for the entire Transmission function, that is, the total number of workers in the Transmission network.

Transmission Workforce Composition				
Function	Men	Women	Total	Equity
Director	4	0	4	0%
Head of Departments	10	0	10	0%
Supervisors	39	2	41	5%
Professionais I	19	1	20	5%
Professionais II	252	11	263	4%
Support Staff	69	1	70	1%
<b>Total</b>	<b>393</b>	<b>15</b>	<b>408</b>	<b>4%</b>



Fleet of Vehicles and Heavy Equipment by Business Unit in Good Condition					
FUNCTION	DIRECTORATES	Special Machines and Trailers	Light vehicle	Heavy Vehiclea	Total
TRANSMISSION	CentreTransmission	3	28	4	35
	North Transmission	3	21	1	25
	South Transmission		24	3	27
	Headquarters		6		6
Total (A+B)		6	79	8	93

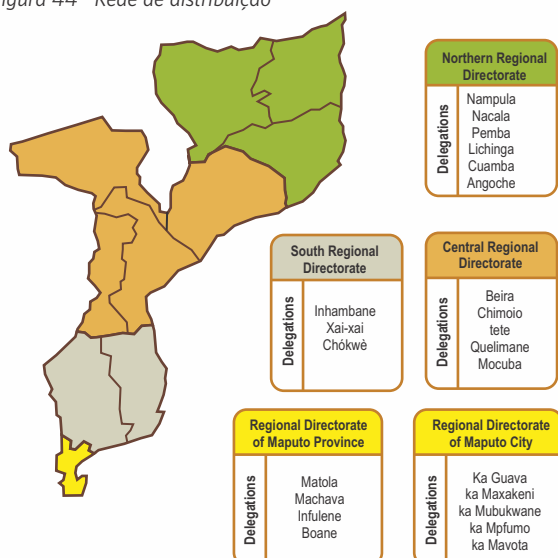
Fleet of Vehicles and Heavy Equipment by Business Unit in Bad Condition					
FUNCTION	DIRECTORATES	Special Machines and Trailers	Light vehicle	Heavy Vehiclea	Total
TRANSMISSION	CentreTransmission	1	8	1	10
	North Transmission	1	3		3
	South Transmission		5	1	7
	Headquarters		1		1
Sub- Total B		2	17	2	21
Total (A+B)		8	96	10	114

### Distribution Function

The electricity distribution function is centrally coordinated by the Distribution Directorate, whose responsibility is to define policies and harmonize the installation, operation, maintenance, automation and management procedures in an uniform manner for EDM's Distribution segment assets, which comprises the following voltage levels: 0.23 / 0.4kV, 6.6kV, 11kV, 19.1kV (SWER), 22kV and 33kV. The distribution infrastructure is made up of mini-substations, overhead lines, underground lines, transformer stations, switching station, power panel and distribution boards.

The General Directorate of Distribution oversees 5 Regional Directorates, namely: North, Center, South, Maputo City and Maputo Province and 23 delegations. The map below shows the provinces and delegations of jurisdiction of each Regional Directorate.

Figura 44 Rede de distribuição



### Distribution Network Infrastructure

DESCRIPTION OF THE NETWORK	UNITS	MAPUTO CITY	MAPUTO PROVINCE	SOUTH	CENTRE	NORTH	TOTAL
Length of Medium Voltage Network	Km	918	1813	3971	7037	5756	19495
Length of Medium Low Voltage	Km	2225	5187	3596	6400	6903	24311
Number of Public Transformation Stations	Un	1785	1176	1271	1877	1511	7620
Number of Private Transformation Stations	Un	773	1282	599	1443	1060	5157
Distribution Network Densification Ratios							
Network Densification MV (qty PT's/km)	un/km	2.79	1.36	0.47	0.47	0.45	0.66
LV Network Densification (Nr. of Customers/LV km)	un/km	145.79	65.16	74.54	97.13	87.02	88.55

The fact that the majority of the Mozambican population lives in rural areas as per the densification ratios shown in the table below. With an exception of the Maputo City Region, the other regions have an average of 80 customers per kilometer of low voltage distribution network and less than 1 (one) power transformation station per kilometer of medium voltage network. Thus, for the universal access to electricity on behalf of the population, EDM will invest, not only in the expansion of the network to new consumption centers, but also in densification, which will maximize the exploitation of the existing infrastructures.

### Distribution workforce composition

The distribution function is the one with the most workers at company level, currently representing around 60% of the total workforce. By looking at gender equity in this role, which is currently at 10%, it is clear that EDM has a lot to do to achieve its strategic goal of 40% female workforce by 2030. The table below shows the distribution of the professional workforce by function and level.

Distribution Workforce Composition				
Function	Men	Women	Total	Equity
Director	6	0	6	0%
Head of Delegations	18	5	23	22%
Supervisors	254	14	268	5%
Professionals I	38	3	41	7%
Professionals II	484	63	547	12%
Support Staff	906	98	1004	10%
<b>TOTAL</b>	<b>1706</b>	<b>183</b>	<b>1889</b>	<b>10%</b>

### Fleet of vehicles and heavy equipment:

Fleet of Vehicles and Heavy Equipment by Business Unit in Good Condition							
FUNCTION	DIRECÇÃO	Maquinas Especiais e Atrilados	Motociclo	Quadriciclos	Viatura Ligeira	Viatura Pesada	Total
DISTRIBUTION	Central Region	2	83	1	124	17	227
	Maputo City		9		95	9	113
	Maputo Province	2	2		64	6	74
	Northern Region	7	7	8	117	11	150
	South Region	3	13	5	62	8	91
	Headquarters				3		3
Sub- Total A)		14	114	14	465	51	658

Fleet of Vehicles and Heavy Equipment by Business Unit in Bad Condition							
FUNCTION	DIRECÇÃO	Maquinas Especiais e Atrilados	Motociclo	Quadriciclos	Viatura Ligeira	Viatura Pesada	Total
DISTRIBUTION	Central Region	2	4		62	8	76
	Maputo City				13	3	16
	Maputo Province				19	3	22
	Northern Region	1	8		35	7	51
	South Region	3	2		27	2	34
	Headquarters	6	14		1		1
Sub- Total B				0	157	23	200
Total Geral (A+B)		20	128	14	622	74	858

## Commercial

Its main mission is to develop every commercial effort to attract, maintain and develop the customer base, through communication and dissemination, making the company's products and services available to the High, Medium and Low Voltage customer segments, falling into different categories. tariffs.

The commercial function is centrally coordinated by the Commercial Directorate, whose mission is to execute the company's strategic vision and promote the adoption of commercial policies, standards and also processes that guarantee the achievement of results with maximum effectiveness and efficiency.

To this end, it has two Central Divisions dedicated to the management of the high and Low Consumption customer segments and integrates a Marketing and Sales Department, through which it ensures the implementation and continuous improvement of commercial policies and processes.

Since EDM's commercial function is nationwide, it was necessary to give Delegations the operational skills to hire new customers, manage the customer base, with regard to the billing cycle, debt management and technical support services -commercial.

## Customer Structure

The table below shows the balance of customers at December 31, 2019 by delegation, region and tariff category. Customer management is an extremely complex task for the commercial function, given that around 92% are residences and are not georeferenced, which makes it difficult to win a battle against non-technical losses in the distribution network.

Customer Service Area	Social	Residential	Commercial	Agricultural LV	LVBC	Total LV	Agricultural MV	MV	HV & Special Customers	Total
Pemba	51	85 586	9 054	-	57	94 748	1	283	-	95 032
Lichinga	87	49 322	3 580	2	40	53 031	3	43	-	53 077
Cuamba	1	30 780	3 761	-	123	34 665	-	33	-	34 698
Nacala	34	108 288	7 116	4	81	115 523	9	259	-	115 791
Angoche	164	28 027	1 551	-	20	29 762	-	21	-	29 783
Nampula	161	158 774	12 975	4	157	172 071	1	238	-	172 310
North Region	498	460 777	38 037	10	478	499 800	14	877	5	500 696
Mocuba	93	76 727	6 694	-	26	83 540	-	98	-	83 638
Quelimane	94	88 433	6 120	-	133	94 780	2	109	-	94 891
Tete	502	103 541	6 964	12	117	111 136	-	310	-	111 446
Chimoio	106	112 150	12 305	-	64	124 625	23	357	-	125 005
Beira	985	189 558	15 075	4	599	206 221	4	442	-	206 667
Central Region	1780	570 409	47 150	16	939	620 302	29	1 311	6	621 653
Inhambane	25	78 214	12 319	-	108	90 666	6	294	-	90 966
Xai-Xai	28	79 252	6 648	3	20	85 951	5	120	-	86 076
Chokwé	36	84 433	6 390	5	38	90 902	19	95	-	91 016
South Region	89	241 899	25 357	8	166	267 519	30	509	-	268 058
Matola	53	89 998	6 011	12	98	96 172	3	369	1	96 545
Infulene	4	103 443	5 960	6	21	109 434	-	83	-	109 517
Machava	55	70 873	5 292	21	37	76 278	25	238	-	76 541
Boane	224	50 133	4 638	19	37	55 051	70	283	-	55 404
Province Maputo Region	336	314 447	21 901	58	193	336 935	98	973	9	338 016
Kampúmo	2	65 314	12 679	-	825	68 820	-	427	-	69 247
Ka-Maxaquene	1	46 728	4 911	-	48	51 688	-	48	-	51 736
Ka-Mabukwane	-	59 288	7 044	-	80	66 412	-	120	-	66 532
Ka-Mavota	-	44 248	4 737	-	9	48 994	1	45	-	49 040
Ka-Guava	1	81 896	5 766	-	27	87 690	-	132	-	87 822
Maputo City Region	4	287 474	35 137	-	989	323 604	1	772	3	324 380
<b>TOTAL</b>	<b>2 707</b>	<b>1 875 474</b>	<b>167 590</b>	<b>92</b>	<b>2 765</b>	<b>2 048 160</b>	<b>172</b>	<b>4 447</b>	<b>23</b>	<b>2 052 803</b>

## Workforce

The table below shows the composition of the workforce in the commercial function. This is the function with the high level of gender equity at the level of the entire company. It is more expressive at professional levels II and support personnel that correspond to the customer service personnel distributed by customer care shops and points of sale throughout the national territory.

Commercial Workforce Composition				
Function	Men	Women	Total	Equity
Director	2	1	3	33%
Heads of Department	4	1	5	20%
Supervisors	14	12	26	46%
Professionals I	9	9	18	50%
Professionals II	37	67	104	64%
Support Staff	45	105	150	70%
<b>TOTAL</b>	<b>111</b>	<b>195</b>	<b>306</b>	<b>64%</b>

## Essential services managed by the commercial function

- Power Supply in low, medium and high voltage;
- Power Supply on a temporary basis (works, shows, events, etc.);
- Connecting new customers;
- Repair of faults in the electrical network - Customer Care Service;
- Collection of bills (Postpaid) / Sale of energy (prepaid);
- Call Center (1455); Customer Portal: <https://cliente.edm.co.mz>; and
- Green Line for Complaints (800 145 145) and Customer Ombudsman.

## Ways of Customer Care Service

### 1. In person

- The customer goes to the EDM facility to raise his concern.

### 2. On the phone

- In order to report electrical faults, complaints, suggestions, or other information, EDM has a Call Center, which can be accessed through the number 1455 (without prefix and valid for all networks or operators).

- For cases of complaints, the customer must contact EDM through the Green Line for Reporting, by calling 800 145 145 (free call) or through the Ombudsman.

### 3. Customer Ombudsman

- In case of dissatisfaction, in view of the response obtained in the first instance, or simply due to the inaction or silence of the Company, the customer can go to the Customer Ombudsman through the contacts above or via the website: <https://customer.edm.co.mz>.

## Invoice Payment Methods

### 1. At EDM counters

- In all EDM facilities, between 8:00 am and 2:30 pm, Monday through Friday.

### 2. ATM payment

- Customers can pay its energy bill with convenience and comfort through the electronic cards of the VISA network, at Millennium BIM ATMs and Ponto 24 Network, inserting the data on the Entity, Reference and amount provided in the Invoice.

### 3. Direct Debit

- It is a means of automatic payment of any invoice through the customer's bank; therefore, it is flexible and reliable. To subscribe to this service, the customer contacts its bank and fill out the "Periodic debit authorization" form.
- Upon your authorization and on monthly basis, the Bank starts to pay the invoices by debiting the customer's bank account.

### 4. Credelec

- For the purchase of prepaid energy (Credelec), the customer must have the number of the prepaid meter and always make sure that the number is current and corresponds to the meter installed in his residence or establishment.

Channels available for sale of energy:

- EDM and Private sales outlets;
- ATM's (Millennium BIM and Ponto 24 Network);
- Mobile and Internet Banking (Millennium IZI, Direct BCI, Standard Bank Mobile);

Mobile wallet (M-Pesa; mKesh and e-money); and

- Authorized street vendors (Top-Up; Howard Johnson and recharge here).

## Tariff Categories

EDM has different tariffs, depending on the nature of consumption and adjusting to customer needs as shown in the table below.

TARIFFS	PURPOSE FOR WHICH IT IS INTENDED TO
Social	Residential houses, with contracted power of 1.1 kVA and monthly consumption not exceeding 125kWh
Domestic	Residential houses, storerooms or garages for private use, located in annexes or dependencies of the residential houses, even if measured by its meters.
Agricultural	Agricultural production activity, namely in the pumping and irrigation systems, as well as the houses and facilities located in the perimeter of the site.
Commercial	Commercial activity, for example, Commercial establishments, Restaurants, Hairdressing salons, Market stalls, etc...
Low Voltage Big Consumers	Low Voltage Supplies, with Contracted Power greater than 19.8 kVA and less than 39.6 kVA
Medium Voltage	Supplies with Voltage Greater than 1 kV and less than 66 kV
Medium Voltage Agricultural	Voltage supplies of more than 1 kV and less than 66 kV for agricultural production activities
High Voltage	Supplies at Voltages greater than 66 kV
Special Customers	Medium and high voltage supplies, the applied tariffs being the result of an agreement between the customer and EDM, subject to the approval of the supervising Minister, after hearing ARENE
Exports	Electricity Supply for concessionaires or consumers operating in the countries of the SADC region covered by the SAPP agreements

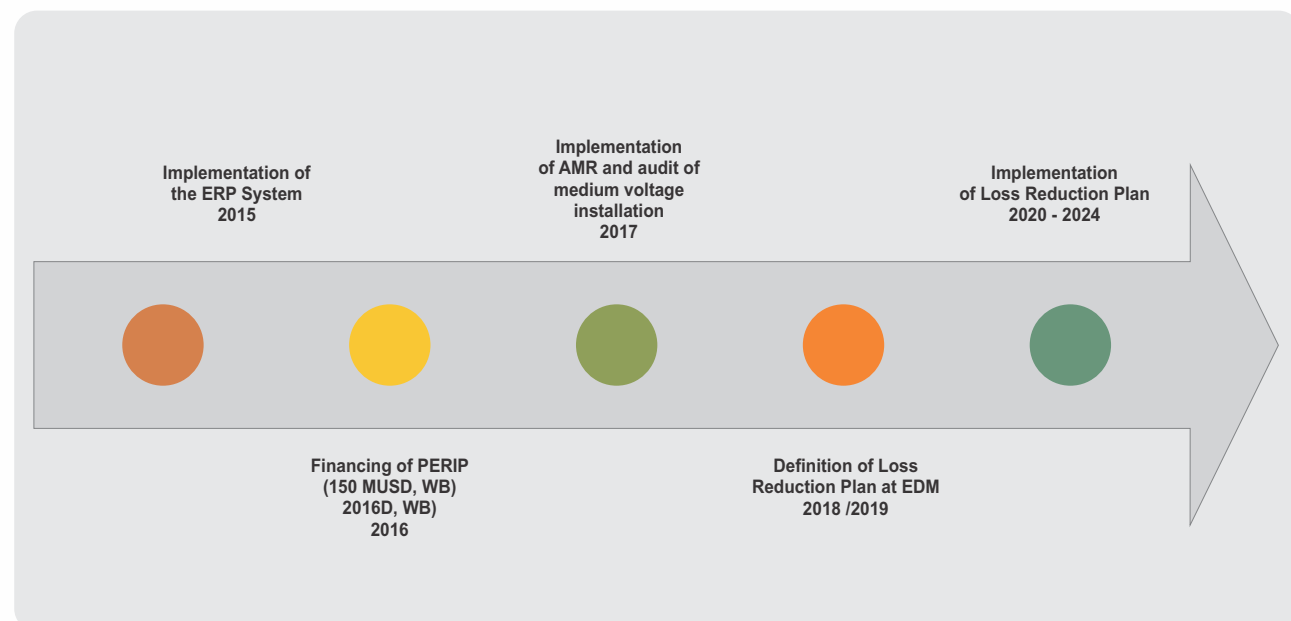
## Energy Losses Reduction

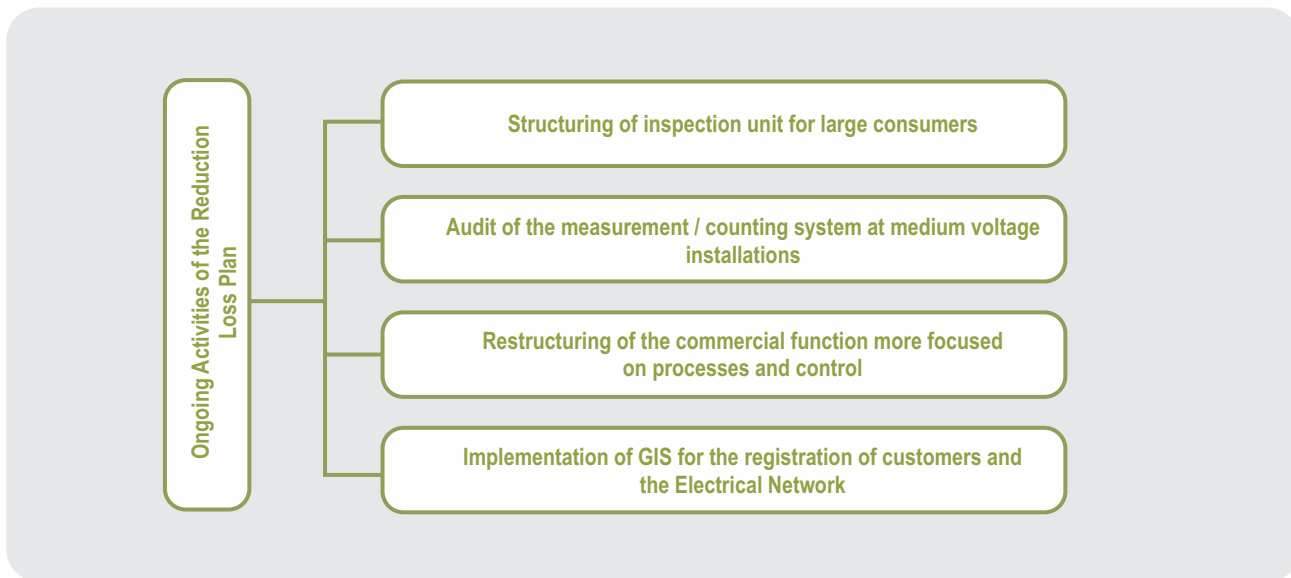
In the past five years, Electricidade de Moçambique has lost an annual average of 28% of the total energy available to be distributed to different consumer segments throughout the national territory. Energy losses are subdivided into technical and non-technical, the technical losses are deriving from the joule effect and occur

throughout the value chain, that is, from production, transmission and distribution, while non-technical losses are caused by theft and billing errors, among other administrative inefficiencies.

The figure below shows the path traced by EDM with a view to combating energy losses.

Figure 36 Distribution of Capex (Investment Expenses)





## Digital Transformation

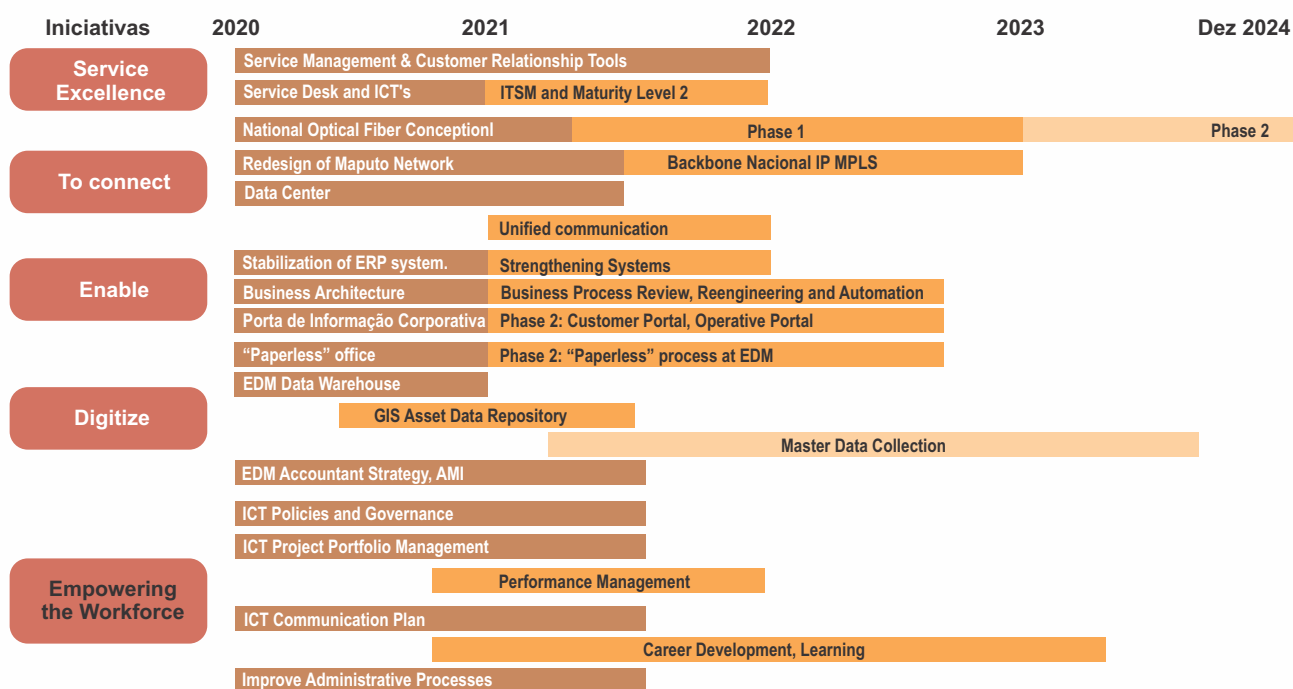
For EDM to evolve a model to be digital, it is crucial that there is an alignment at the technology level between existing and future systems, allowing their interoperability. It was in this perspective that EDM developed its digital strategy, which emerges from a set of five strategic initiatives described below, the details and the respective roadmap of which can be found in EDM's digital strategy:

1. Service Excellence - provide customers with high quality and value-added services;
2. Connect the Business - provide ICT (Information and

Communication Technology) infrastructure to connect and support the Company's business operations;

3. Enable the Business - provide Enabling Technologies for Transformation and Institutional Reforms of the Company;
4. Digitize the Business - prepare EDM for Transformation through Digital Technology;
5. Empower the Workforce - Optimize management practices to increase efficiency and effectiveness, and build the workforce of the future.

Figure 46 Digital Strategy Initiatives





## National Dispatch Center

The National Dispatch Center is a fundamental lever for the overall management of the National Electricity System and for its interconnection with the networks of neighboring countries and production centers.

Currently, EDM operates with a Dispatch Center, which only ensures centralized control of the transport network in the south, including the monitoring of interconnections with Eskom and Eswatine, which went into operation in March 2009.

With the various generation and transmission projects planned for the current five-year period, EDM is challenged to accelerate the implementation of the National Dispatch Center project, accompanied by two regional control centers, to perform, efficiently and safely, the following role:

- Monitoring and Control of the national transmission network (~ 533kV, 400kV, 275kV, 220kV, 110kV and 66kV);
- Monitoring and control of generation and the balance of demand and supply (Frequency control);
- Monitoring and control of the regional energy flow, according to SAPP procedures, ect.

## Advantages of the National Dispatch Center

- Control of the network in real time;
- Reduction of system unavailability;
- Increased reliability;
- Power balance; and
- Reduction of operators in substations at Risk of human accident.



## IV-6. CONSOLIDATED CAPITAL INVESTMENT PLAN

In addition to its normal investment program in generation, transmission and distribution infrastructures, whose financing will be made by traditional cooperation partners, EDM will engage in public-private partnerships, to develop energy production plants and create a vehicle for special purposes, to develop the transmission backbone.

In the Temane Central Thermal Project (CTT), EDM will have a 20.4% stake, which will be ensured through an interest-free loan, to be granted by the strategic partner (Globelec), which must be amortized using the EDM dividends at CTT.

In the project of 400 kV Temane-Maputo transmission line, a company wholly owned by EDM will be established, whose funds are already secured through donations from the World Bank, Norway and the African Bank and with concessional loans from the Islamic Development Bank and OPEC Fund, in the amount of 146MUSD, which should be included in EDM's balance sheet.

In renewable energies, EDM will be involved in projects that will allow an additional of 200MW in the system. EDM's participation in projects will be 25% in the Metoro

project, 15% in Mecúfi and Cuamba and 10% in each of the 4 Proler projects. In Proler's projects, EDM's participation will be in the form of a donation granted by the European Union, while in the remaining projects it will have a 5% free-carry under the law 15/2011 of public-private partnerships. In the case of Metoro, the capital has already been secured through the EDM treasury (1MUSD) and the Société General funding source (bridging financing), which will later be replaced by long-term concessional financing from AFD.

The remainder of EDM's participation in these projects to be mobilized, estimated at 9.36MUSD, should be financed with its own funds and with direct financing.

Additionally, during the five-year period 2020-24, EDM plans to participate in the Mphanda Nkuwa project, which is being restructured by the Government. The value of EDM's participation will be determined in the present five-year period, but its materialization will occur in the following five-year period.

Figure 47 EDM Equity

Item	Project Name	MV	Investments (MUSD)	Equity EDM	Free Carry	Equity - EDM (MUSD)
1	Temane Thermal Power Station (gas)	420	750	20%	0%	45.9
2	Temane - Maputo 400kV Line	720	550	100%	0%	146.0
3	Metoro Solar Power Plant	30	50	25%	5%	3.0
4	Cuamba Solar Power Plant	30	43	15%	5%	1.3
5	Mecufi Solar Power Plant	20	29	15%	5%	0.9
6	Namaacha Wind Power Plant	60	120	25%	5%	7.2
7	Dondo Solar Power Plant	30	45	10%	0%	0.0
8	Lichinga Solar Power Plant	30	45	10%	0%	0.0
9	Nacala Solar Power Plant	30	45	10%	0%	0.0
10	<b>Transmission Line Subtotal</b>	<b>720</b>	<b>550</b>			<b>146.0</b>
	<b>Power station Subtotal</b>	<b>650</b>	<b>1127</b>			<b>58.3</b>
	<b>Total</b>	<b>1370</b>	<b>1677</b>			<b>204.3</b>

## IV-7. HUMAN RESOURCES DEVELOPMENT PLAN

The EDM human resources function leads the reorganization, by the attraction and management of talents, the promotion of individual and collective development of careers, the establishment of systems and remuneration packages with the aim of attracting the best professionals in the areas of specialty, retaining them in the face of market competition, as well as implementing internal management, performance evaluation and compensation systems, including the pension fund, which create the necessary attractiveness.

EDM, through the development of modern procedures, standards and practices and the use of digital tools, will ensure that the workforce is motivated, satisfied, dedicated, interested and aligned with the company's objectives, and that justice at work, ethics and social inclusion are respected, as shown in the table below:

In order to achieve the strategic goal of gender equity by 2030, during the five-year period 2020-2024, 409 men and 659 women will be recruited, 109 men and 159 women in 2020, 75 men and 125 women in 2021, 2022, 2023 and 2024 respectively. The Gender audit report conducted throughout the company, which recently reveals the weaknesses in this area, which jeopardize not only the current woman workers, but also hinders their development and the capacity of the company. Company to recruit new and modern talents for our staff. To this end, the Gender Equity Program at EDM will become one of the pillars of corporate transformation in the next 5 years.

As per retirement process, 189 men and 70 women are expected to retire during the five-year period, however, retired employee on a yearly basis are as follows: 26 men and 11 women (yr. 2020); 40 men and 16 women (yr. 2021); 22 men and 11 women (yr. 2022); 47 men and 11 women (yr. 2023); and 54 men and 21 women (yr. 2024).

Strategic Initiative	Strategic Vector	Main Activities	Program / Source of Funding	CONCLUSION					Responsible Area
				2020	2021	2022	2023	2024	
Modernization of HR Policies and Procedures	Corporate Governance	Professionalization of edm's Supplementary Pension Fund;	EDM/PERIP						RH&PDCI
		Introduction of the talent management process;	EDM						
		Modernization of travel policy and management;							
		MOPI Review;							
		Develop the talent recruitment and retention process;							
Establish strategic partnerships for development and resource sharing in HR and Gender;									
Engendering EDM	Corporate Governance	Develop a gender strategy and the respective roadmap to establish procedures to facilitate its implementation;	EDM						RH&Gov
		Carry out a gender audit and train workers in gender issues	EDM/USAID						
		Implement awareness programs (such as, Bring your daughter to work and road-maps in schools) and mandatory an on-line ethics module on gender issues;							
		Implement a gender seal and regulate mechanisms to promote gender equity; Create a confidential hot line for denouncing justice and sexual harassment in coordination with DEPG;							
		Train workers who will dedicate themselves to achieving gender equity and justice at EDM;							
Implementation of the Performance management process at EDM	Corporate Governance and Digitalization	Develop an Organization and method unit in the company, and train the respective workers in terms of process development, DAAM and automation design;	EDM						RH, Gov & PDCI
		Develop a career system, as well as roles and responsibilities associated with each rol;	EDM						
		Develop and implement a performance model based on results and a digital management system;	EDM						
		Train workers and managers in the use of performance management tools and monitor The quality of implementation.	EDM						

RH - Human Resources  
 Gov - CEO's portfolio  
 PDCI - Distribution, Commercial and IT

PROGRAM	2020		2021		2022		2023		2024		TOTAL	
	M	W	M	W	M	W	M	W	M	W	M	W
Recruitment	109	159	75	125	75	125	75	125	75	125	409	659
Retirement	26	11	40	16	22	11	47	11	54	21	189	70
Succession plan	26	11	40	16	22	11	47	11	54	21	189	70
Gender Strategy	81%	19%	78%	22%	76%	24%	74%	26%	73%	27%	73%	27%
Talent Management system	26	11	40	16	22	11	47	11	54	21	189	70
Young Professionals	10	10			10	10			10	10	30	30

In respect to the succession plan, will be hired an equal number of pensioners on a yearly basis, as follows: 10 men and 05 women (yr. 2020); 16 men and 08 women (yr. 2021); 20 men and 10 women (yr. 2022); 27 men and 12 women (yr. 2023), and 35 men and 16 women (yr. 2024).

Totaling 108 men and 51 women during the five-year period.

Another activity that fits into our strategic plan is Young Professionals, which consists of a paid internship for young graduates, it is expected that 10 men and 10 women will be admitted, every two years, totaling 30 men and 30 women by the end of the five-year period.

The training and technical and human development of the workforce to satisfy the present and future needs of the business and use knowledge management as a way to create a business culture geared towards excellence and integrity. In this context, the EDM Academy has a crucial role in preparing the workforce for the challenges of the future and promoting and developing a culture and corporate identity that reflect the company's intrinsic values and our Code of Ethics.

The Training Policy was developed to regulate the three main areas of competence, necessary for the modernization of the company, namely:



**Management and leadership skills** will be offered to the company's management and directors, to ensure that best practices and compliance with ethical values are implemented in institutional reforms.

**Professional and Specialized Competencies** will be for personnel involved in professional and specialized functions and for intermediate managers and team supervisors, in the search for high quality standards in business planning and operations.

**Vocational skills** are directed at the majority of the workforce, to ensure their ability to perform to the best possible standards of quality and safety. Vocational Skills include those necessary to normalize EDM's corporate image and practices (ethics, SSAQ, etc.).

**Knowledge management** underlies training programs and is the stimulus, absorption and management of knowledge generated in the practice of work by the EDM team, its reproduction and dissemination, through learning materials and platforms, and in promoting research, writing and scientific techniques.

The training also includes transversal courses (English, Advanced Excel, G-suite, Microsoft Project, etc.).

At this moment, the training is done, largely, with the use of external national and international providers, with a low contribution from internal training "in house". However, it is expected that from the year 2023, with the completion of the rehabilitation and modernization of EDM's training centers, in-house training will increase substantially.

<sup>2</sup> Health, Safety, Environment and Quality

## IV-8. MARKETING AND COMMUNICATION PLAN

### Marketing plan

This Marketing Plan essentially aims to define the corporate objectives to be implemented so that the company can achieve the main business goals, which guarantee financial sustainability in the medium and long terms.

Thus, this plan presents the activities that will be developed to increase the value of the company's brand, taking into account that electricity is essential to boost the country's economy and people's lives.

The communication plan will focus on messages of rational energy consumption and the non-vandalization of infrastructures of the national electricity network.

For the preparation of this marketing plan, the following aspects were considered:

- SWOT analysis of the company;
- Critical success factors;
- The National Electrification strategy; and
- The company's commercial strategy.

From the analysis of the above aspects, the weaknesses were transformed into strengths, the opportunities into comparative advantages. Based on the critical success factors, concrete actions were defined to be implemented in order to transform into competitive forces, capitalization of the gains from the implementation of the National Electrification Strategy. Thus, the combination of these aspects with the commercial strategy resulted in the definition of the following areas of excellence:

- Excellence and differentiation of customer care service;
- Customer-centered approach;
- Universal access until 2030;
- Financial profitability; and
- Continuous innovation.

These areas of excellence are motivated to make EDM a competitive, profitable and reference company in the national and regional market, which considers customer satisfaction as its top priority.

The excellence of customer care service is essential to ensure the satisfaction of customers' needs and expectations, with a view to ensuring their loyalty. For its materialization, the company will invest in the continuous training of employees in the branches, customer care service shops and the back-office (including call center and customer care stations), as well as in the monitoring and strict control of the employees' performance. The systematic assessment of customer satisfaction, through market research, will be a routine tool. Differentiating the service

offered to medium voltage customers, through properly trained customer managers, is essential in offering personalized service and excellent quality, with a view to retaining the most valuable customers for the company.

The customer-centered approach aims to understand the customers' perspectives and concerns, to allow the company to design appropriate solutions that better satisfy the needs of its different segments and increase the levels of satisfaction. For its execution, different types of customers will be approached at national level in order to identify the segments that have similar needs that may be grouped, in order to better develop solutions that exceed their expectations.

The challenge to achieve universal access by 2030 will transform the company's modus operandi, mainly in the commercial area, where it will be crucial to invest in customer service focused on the perception of customers' needs and expectations, to allow the company to design products and adequate services. The process of attracting customers should be more proactive, where employees in the commercial area should travel to areas that will be covered by new electrical networks, in order to register and hire new customers. The pressure for energy sales channels, in-person and in-person service, back-office services will be high, forcing the company to reinvent itself in order to respond to demand.

Increasing the company's profitability will be one of the main responsibilities of the commercial function, ensuring integrity in the billing and collection processes for services provided to the customers, so that can continuously increase revenues, to ensure financial viability. The expected increase in the volume of energy billing as a result of the increase in the customer base should be guaranteed by the commercial function. Non-technical loss reduction strategies, through the creation of a central unit with enough resources (financial and material) with a role of achieving tangible results in the medium and long terms.

Continuous innovation in the offer of products and services that allow customers to control energy consumption and automatically recharge smart meters via mobile phone, should be implemented in the medium and long term. The operation of smart power grids will certainly offer innovative services that guarantee greater security and power supply quality to customers.

### Communication Plan

The preparation of this Communication Plan was based on the main guiding instruments of the electricity sector, with a focus on the 10-year EDM Strategy and the definition diagnosis on internal and external variables, associated with the company's communication.



This diagnosis focused on:

- **Structure and characterization of the company:** history, mission, values, strategic partners, business overview, internal processes and future plans;
- **Market:** current and potential dimension, basic structure and future perspectives;
- **Customers:** who are they? What is their profile? Their habits and behavioral motivations?
- **Competitors:** who are they? What are their position and communication actions?
- **Products:** characterization, what is the role in the company's results? comparative advantages in terms of value offer, innovations and tariff policies;
- **Electrical infrastructure:** general condition of the distribution and transmission networks, its importance for billing and level of efficiency;
- **Advertising and Public Relations:** history of the campaigns, the expected results, level of effectiveness and the results obtained.

The second step was the definition of targets, namely, EDM customers, potential new customers that will be connected to the network under the Energy Program for All, influencers (opinion leaders who have a direct influence on decision-making processes), cooperation partners and state institutions.

### Communication strategy

EDM must always be proactive, in other words, in terms of communication, both internally and externally, itself has always been undertaking the initiatives.

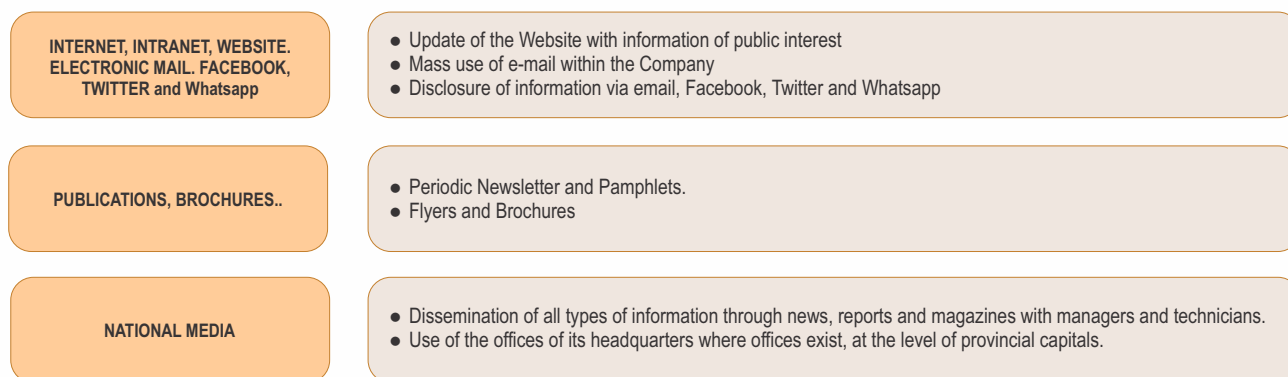
How actions must be strictly observed in the Company's Vision and Mission, as well as its main objectives. The objective is to maximize the positive points and strengths of Eletricidade de Moçambique.

The Department of Communication and Public Relations must always try to prevent the company from being attacked by public criticism, working to reduce the weaknesses and negatives of Eletricidade de Moçambique, using the means and actions shown in the figure below.

### Means of Support

The Integrated Communication Strategy makes the company's actions in the areas of Image and Communication much more effective, avoiding the scattered elements, which apparently are launched in different directions and at random. The table below shows the means and actions to be taken.

Figure 48 Communication strategy



SUPPORT MEANS	ACTIVITIES TO BE CARRIED OUT
RELATIONS WITH THE MEDIA	Periodic meetings with influential editors and journalists, production of information for distribution and Publication, participation in interviews and specialized programs in Media
INFORMATION SESSIONS	Organization of public information sessions for interested and affected parties, partners and influential personalities (opinion makers and decision makers)
EXHIBITIONS	Participation in fairs and exhibitions in Mozambique.
PUBLICITY	Insertion of announcements explaining the rights and duties of citizens and their procedures
SPECIAL OFFERS	Promotional actions that allow greater visualization of the image of EDM. ex-sponsorship of activities of Interest to the economy and society, focusing on Social Responsibility.
GIFTS	Use the branding of EDM and also the branding of services and products, such as Credelec Online.
	Production of institutional gifts for special occasions.
SOLIDARY CAUSES	Actions to support causes, such as calamities and combating HIV / AIDS, Malaria and others.
SPORTS EVENTS	Organization of sporting events to strengthen relations between Managers and Managers and for The involvement of society, in order to ensure a greater visualization of the institution's image.
CULTURAL AND RECREATIONAL EVENTS	Organization of cultural and sporting events to strengthen relations between Managers, Cadres and Workers And for the involvement of society, in order to ensure a greater visualization of the institution's image.
COCKTAILS AND RECEPTIONS	Participation in Cocktails and Receptions to which EDM is invited.
	Organization of Cocktails and Receptions by EDM whenever justified.
BREAKFAST, LUNCHEAS AND DINNERS	Participation of breakfasts, lunches and dinners to which the company is invited.
	Organization of breakfasts, lunches and dinners with partners, new partners and influential personalities.
PERSONAL RELATIONSHIPS	Deepen personal relationships with all personalities, even if those relationships are long standing.

## Crisis Management

No matter how local events are look like, they have an impact at the national level and therefore, the must be assumed immediately by the Communication Department in coordination with the Board of Directors and the company's departments with a view to mitigating the impact of disinformation and/or speculation.

In the event of such events, a Crisis Management Committee should be created to coordinate the following steps:

- Step 1:** Definition of the problem;
- Step 2:** Survey of relevant information;
- Step 3:** Centralization of communication;
- Step 4:** Timely and frequent communication;
- Step 5:** define media goals;
- Step 6:** Think like journalists;
- Step 7:** Speak directly with those affected; and
- Step 8:** Maintain the work routine.