egenco

Electricity Generation Company (Malawi) Ltd

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Generating Power for Generations

PROJECTS

BACKGROUND

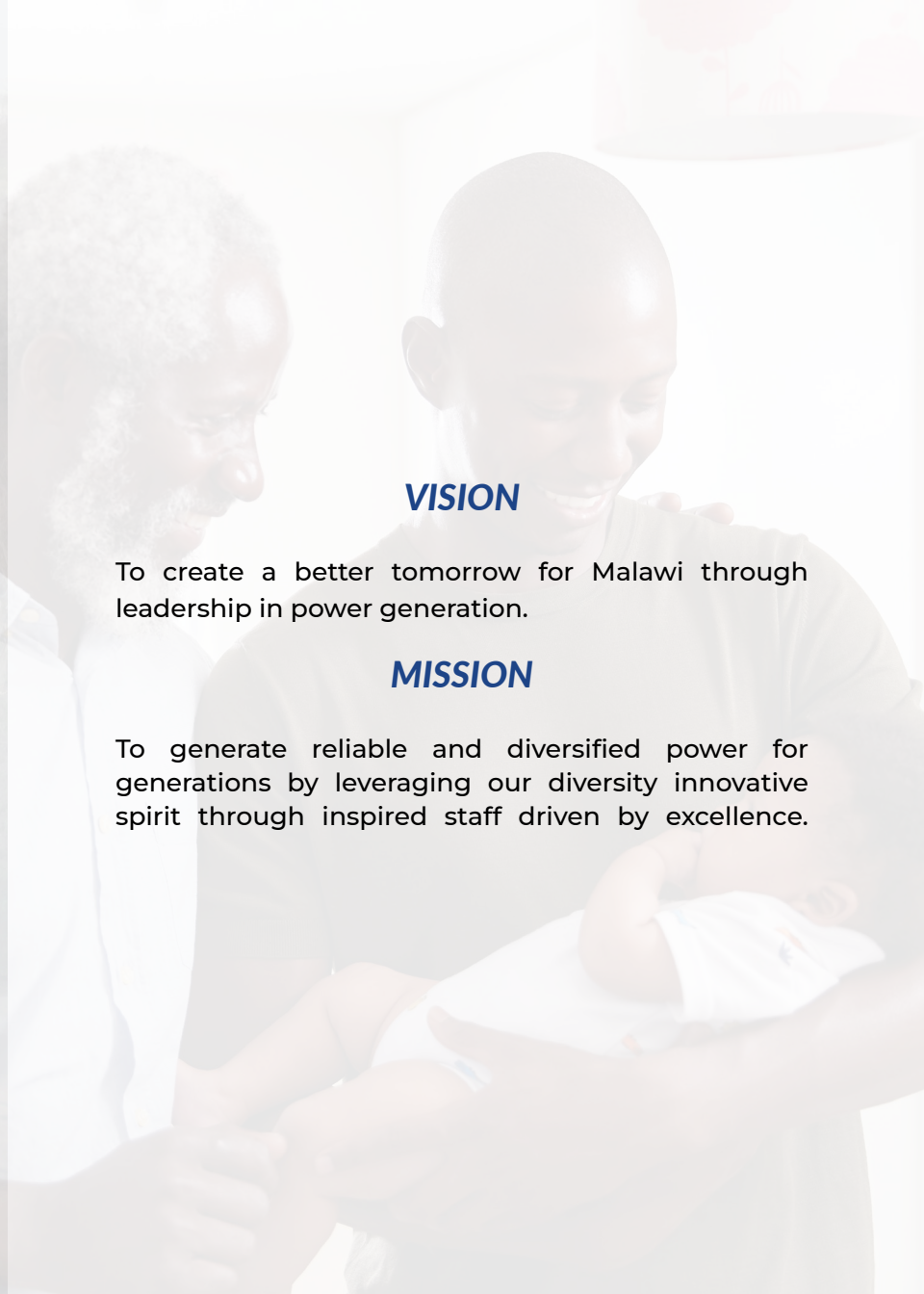
The Government of Malawi (GoM) through the Power Sector Reform Programme established an electricity power generating company; the Electricity Generation Company (Malawi) Ltd (EGENCO).

EGENCO was incorporated on **9th September 2016** as a public company under the Companies Act (Cap 46:03). It is wholly owned by the Government of Malawi and started its full operations on **1st January 2017.**

EGENCO is mandated to generate and sell electricity. Presently, EGENCO operates four hydro Power Stations namely: Nkula **(135.1MW)**, Tedzani **(121.1MW),** Kapichira **(129.6MW**), and Wovwe **(4.35MW)** all adding up to **390.15MW.**

The Company also operates thermal diesel power plants across the country in Mzuzu **(Luwinga 6MW),** Lilongwe **(Kanengo 20MW**, Lilongwe **(5.4MW)** and Blantyre **(Mapanga 20MW)** with an overall of **51.4MW.** EGENCO also operates a hybrid off-grid power system comprising **1.824MW** thermal diesel power plants and **1.3MW** solar photovoltaic power plants at Likoma and Chizumulu Islands.

Overall, at present, EGENCO has a total installed generation capacity of **444.68MW** connected to the national grid and **3.124MW** distributed generation.



VISION

To create a better tomorrow for Malawi through leadership in power generation.

MISSION

To generate reliable and diversified power for generations by leveraging our diversity innovative spirit through inspired staff driven by excellence.

EGENCO PROJECTS SUMMARY

In 2018, EGENCO launched a **15-year strategy** through which it aims to increase its power generation capacity from **367.37MW** as of November 2017, to **1, 631.5MW** by 2033. In order to achieve this, the company has aligned a number of projects. These projects fall into the following categories:
Increasing generation capacity, diversifying energy sources, rehabilitation of existing power plants and environmental impact mitigation.

INCREASING GENERATION CAPACITY

As of July 2022, EGENCO has a total installed generation capacity of **444.68MW**. This is less than the country's current projected demand of **800MW.** Power demand is further expected to reach **1,873MW** by 2030 and **4,620MW** by 2040. The opening up of the power market for Independent Power Producers (IPPs) participation has not been able to address the power generation capacity gap.

The company is, therefore, implementing projects aimed at improving the country's generation capacity in order to meet the power demand, put an end to impacts of power shortages and create an enabling environment for investments into key development projects requiring large amounts of power.

Some of the projects that EGENCO has already implemented include the Tedzani IV Power Plant

(19MW), diesel power plants **(36MW)** and Likoma-Chizumulu hybrid solar-diesel power plants **(3.1MW).** EGENCO has also implemented major rehabilitation projects of its power plants at Nkula and Tedzani Power Stations that has resulted in an increase in power generation by **21MW.**
As of July 2022, the company has added up to **78MW.**

DIVERSIFICATION OF ENERGY SOURCES

Hydropower dominates EGENCO's power generation sources. Of the current **444.68MW** of installed generation capacity, **390.15MW** is hydropower. In recent years, a combination of climate change and environmental degradation have affected hydropower generation, reducing EGENCO's power generation capacity for longer periods.

Therefore, the company intends to diversify its sources of energy. EGENCO intends to improve its power generation mix from being **95%** hydro based to **76%** hydro by 2024. The company is pursuing alternative sources of energy such as solar, coal and geothermal. Alternative sources of power will supplement the already existing sources of electric energy in EGENCO's power generation system in order to continue improving power generation in the country.

Table of power generation projects being pursued by *EGENCO*

No.	Project	Output (MW)	Project Years
1	Mpatamanga Hydroelectric Power	350	2026
2	Kholombidzo Hydroelectric Power	219	2027
3	Hamilton Falls Hydropower Plant	96	2028
4	Kapichira III Hydropower Plant	112	2028
5	Lower Fufu Hydroelectric Power	261	-
6	Songwe Hydroelectric Power	180	-
7	Wovwe Expansion	4.5	-

PROJECT SUMMARIES

Expansion of Wovwe Mini Hydropower Scheme

Wovwe mini-hydro power plant was commissioned in 1995 with a total capacity of **4.5MW.** EGENCO has embarked on a project to expand the power plant. A feasibility study for Wovwe Phase II has revealed that EGENCO can double the capacity of the station by constructing another power plant the same site with a capacity of **4.5MW.**

Wovwe Phase II will double the power generation capacity of the Wovwe Hydro Power Plant from the current **4.5MW to 9MW**. Once completed, the power plant will supply half of the power needed by the whole of the Northern Region, which, currently stands at **20MW.**

Mpatamanga Hydropower Scheme

This is a **350MW** hydro power project that will be constructed at Mpatamanga Gorge, along the Shire River, in southern Malawi.

The project is being developed through a Public Private Partnership Model of which EGENCO will hold a **30%** shareholding capacity on behalf of the Government of Malawi. The other

shareholders will be the World Bank's International Finance Corporation **(30%)** and a strategic partner **(40%).**

A comprehensive World Bank-financed feasibility study for the project was completed in 2018. Once commissioned, Mpatamanga will double Malawi's power generation capacity.

Kholombidzo Hydroelectric Power scheme

Kholombidzo hydroelectric Power scheme will be constructed on the Shire River upstream of Zalewa Bridge. Once built, it will be the uppermost in the cascade of hydro plants on the Shire River. Its expected power generation capacity is **219MW.**

Fufu Hydroelectric Power Scheme

The Fufu hydropower project will be developed on the South Rukuru River in Rumphi district. The objective of the project is to increase power generation capacity into the grid and improve power system reliability in Malawi. Once constructed, the power scheme is expected to generate **261 MW.**

Fufu Hydroelectric Power Scheme will also include construction of a new NationalRoad about 15km long and a new bridge since the project will likely inundate the existing low lying M1 road. Evacuation of energy generated into the national grid will be via a **400kV** Overhead Transmission Line, to be constructed by ESCOM to the nearest **400kV** connecting point.

Construction will take an estimated **5.25 years.**

Songwe Hydroelectric Power Scheme

The Songwe hydropower scheme will be developed through cooperation between the Governments of Malawi and Tanzania. The projects will be developed as a multi-purpose project incorporating power generation, irrigation, water supply, flood control and boundary stablization.

The project includes developing cascade power plants on the Songwe River. The Upper Songwe will have a capacity of **5.5MW,** with three units, each rated **1.8MW.** The Middle Songwe will have a capacity of **158MW** from three units each rated **52.8MW,** while the lower Songwe Power Plant will have a capacity of **175MW** with three units each rated **58.5MW.**

All the three sites on the Songwe are expected to also provide water for irrigation and flood protection. The Lower Songwe is also being targeted for potable water supply to both Malawi and Tanzania.
Construction of the upper Songwe will take 3 years, the Middle Songwe **4.5 years** and the Lower Songwe **5 years.**

Priority for construction will be given to Lower Songwe due to its higher benefits and positive impacts.Evacuation of energy generated into the Malawi National Grid will be via a **400kV** Overhead Transmission Line, to be constructed by ESCOM to the nearest **400kV** connecting point and Tanzania will construct a similar transmission line.
The power generated is expected to be shared by **50%** for each of the two countries.

Salima Solar Power Plant

This project will install and commission a **10MW** Solar Power Plant with battery energy storage system at Nanjoka in Salima, a district in the central region of Malawi, situated **71km** away from the Capital City, Lilongwe.

EGENCO has already acquired 110 hectares of land at Nanjoka, which can accommodate a **50MW** solar power plant. However, development will take place in phases, starting first with a **10MW** solar power plant.

The contract for designing, supplying, installation and commissioning of the **10MW** scalable solar photovoltaic power plant has being awarded to Chint Electric Co. Ltd. It is expected that the Power Plant will be commissioned by December 2023.

The total **50MW** is expected to be commissioned by December 2025.

Other Power Generation Projects

EGENCO will also be implementing the following projects:

1. **300MW coal-fired** Power Plant.
2. **60MW HFO** Power Plant .
3. **50MW** combined Cycle Gas Turbine.
4. **30MW** Diesel Generators Power Plant.
5. **50MW** Geothermal Power Plant

CONTACTS

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