

## European Solar and Energy Storage Solutions

# Mozambique grid electricity



## Overview

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The table below shows the most recent energy indicators reported by the IEA. In 2018, the total primary energy supply was 10.43 Mtoe, from a total of 20.23 Mtoe produced that year. Final electricity consumption was only 13.63 TWh, however, this number has increased drastically by more than 2000% since 1990. Source: IEA, 2018.

EDM offers different tariff options. The following table shows the current prices (in MZN/kWh) for low voltage use for households and smallholder farmers. These tariffs are uniform.

The electricity service suffers from a circular problem. While electricity demand in Mozambique appears low, it is at an increase especially.

Mozambique's Fundo de Energia (FUNAE), is the public institution responsible for off-grid rural electrification with a special focus on renewable energy. Since its foundation in.

Access to electricity provided by EDM has increased from 8% in 2006 to 31% in 2018, which translates into more than 1.89 million customers. At the end of 2020, on-grid electrification rate.

Mozambique has abundant energy sources available for exploitation. As of 2021, the country was ranked first in energy potential of all the countries in the (SAPP), with an estimated energy capacity of 187,000 MW. Available energy sources include , , , and . As of September 2021, the largest proportion of the power currently generated is from hydroelectric sources. However the energy.

How will Mozambique develop its electricity sector?

Mozambique has set significant targets for the development of its electricity sector: at least 2,300 MW of new installed capacity by 2030 and about 5 million new connections, both on grid and off grid, to achieve universal access to electricity by 2030.

What energy sources are available in Mozambique?

Mozambique has abundant energy sources available for exploitation. As of 2021, the country was ranked first in energy potential of all the countries in the Southern African Power Pool (SAPP), with an estimated energy capacity of 187,000 MW. Available energy sources include coal, hydroelectricity, natural gas, solar energy and wind power.

How much electricity does Mozambique have in 2021?

Despite this huge generation potential only 38.6%<sup>1)</sup> of its population had access to electricity in 2021. The total installed power capacity in Mozambique stood at around 2,800 MW in the year 2021 whereas the peak demand reported by the state-owned energy utility Electricidade de Moçambique (EDM) was at 1,035 MW.

What is the national grid of Mozambique?

Mozambique national grid is made of three main separate systems, that are reported in the image below, together with existing or planned large power plants. In terms of electricity transmission, EDM operates most of the country's transmission infrastructure.

Why is rural electrification a priority in Mozambique?

To mitigate the cost of expanding the grid to rural areas, the Government of Mozambique has made rural electrification development a priority led by the Mozambique Energy Fund Institute (FUNAE), which focuses on small, off-grid projects of less than 10MW. Electricidade de Moçambique (EDM) is the sole electrical utility in the country.

What is Mozambique's electricity transmission system?

In terms of electricity transmission, EDM operates most of the country's transmission infrastructure. According to the Final Energy report for Mozambique, Mozambique's national electricity transmission network is subdivided into three parts.

## Mozambique grid electricity

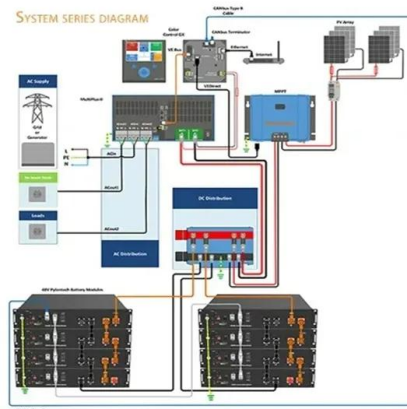


### Full article: Toward energy for all? Heterogeneous electricity

4. Conventional grid electricity: connectivity-centred campaigns and the 'access dilemma' The Mozambican Government, assisted by international development partners like the World Bank, is pursuing the ambitious target of achieving 'access to electricity for all' by 2030 (Citation 2020).

### Mozambique Energy Situation

Electricidade de Moçambique (EdM), is a vertically-integrated, government-owned electric utility responsible for generation, transmission and distribution of electricity in the national grid. EdM buys most of its power supply (apr. 400 ...



### On track to grow Mozambique's electricity output

Kuwaninga Energia is a 40-MW single-cycle, gas-fired power plant located in Chokwe, Mozambique. How much electricity is Kuwaninga Energia currently supplying to the grid? Christo OPPERMAN: The power plant has been operating on a stable basis, with limited downtime and supplying electricity as contracted with EDM, the National electricity

## PLANNING MOZAMBIQUE'S OPTIMAL POWER SYSTEM ...

To identify the optimal power system for Mozambique, a few key questions must be considered.

- o Should Mozambique cap new renewable energy capacity to 100 MW/year?
- o Or should the country add as much renewables as needed to further lower system



## Energy in Mozambique

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## Mozambique's electricity infrastructure , African Energy

Revised April 2013, this map provides an overview of the power generation and transmission infrastructure in Mozambique. Actual and planned transmission lines are marked ranging from 110kV lines to 400kV lines.

Generation projects (existing and planned) include thermal, hydroelectric, biomass and solar sites. Mozambique's major offshore gas fields are ...



## Policy and Regulatory Framework for Mini/Nano Grids in Mozambique

Introduction. Along with grid-densification and access to solar home systems (SHS), one of the most important measures to achieve country-wide electrification in Mozambique by 2030 is through the development of mini-grids. The mini-grid market for private sector is still small in Mozambique. Regulatory restrictions limit the participation of the private sector to develop mini ...



51.2V 150AH, 7.68KWH

## Mozambique Off-grid Knowledge Hub

Welcome to the Mozambique Off-grid Knowledge Hub. This hub is a one-stop gateway for all curated information on renewable energy and energy access in Mozambique. Here you can find information about the markets for solar systems, improved cookstoves, nano/mini grids and productive uses of energy.



## Mozambique

To mitigate the cost of expanding the grid to rural areas, the Government of Mozambique has made rural electrification development a priority

led by the Mozambique Energy Fund Institute (FUNAE), which focuses on small, off-grid projects of less than 10MW. Electricidade de Moçambique (EDM) is the sole electrical utility in the country.



## Energy in Mozambique

Overview Background Hydroelectricity Solar energy Wind power Oil and natural gas See also External links

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## Mozambique off-grid assessment Public

Figure 20 Current potential market (% of off-grid HH able to pay) per region 68 Figure 21 Mozambique electricity sector institutional structure 69 Figure 22 Impact of taxes on the retail price of solar products 74 Figure 23 Mobile phone ownership in Mozambique 76 Figure 24 Use of mobile money, among phone users 78



## Electricity access in



## Mozambique: A critical policy analysis of

At the national scale, Mozambique is a critical case study of SSA state energy development - it is rich in renewable (hydro, solar, geothermal and tidal) and non-renewable (gas and coal) energy resources with potential to generate 187 GW of electricity. Mozambique has higher electricity generation potential relative to other southern African

## World Bank Supports Greater Access to Energy and Broadband ...

WASHINGTON, December 14, 2021 -- The World Bank approved today a \$300 million grant from the International Development Association (IDA) that will support the Government of Mozambique's efforts to increase access to energy and broadband services, as well as strengthen the operational performance of the country's electricity utility



## Strengthening Mozambique's Power Grid

While Mozambique has made significant strides in expanding electricity access in recent years -- from 6% in 2006 to 26% in 2017 -- energy infrastructure and generation capacity are still weak. Access to grid-based electrification in rural areas is extremely low -- approximately 6%.

## Mozambique

In Mozambique, around 40% of people have access to electricity, through the grid or mini/off-grid systems. The government has promoted solar PV solutions in rural areas, reporting that

700 schools and 800 other public buildings now have electricity from s



### **Out of Darkness: New Electricity Law Will Bring Electric ...**

Change is coming, however: a new law will allow private investment in decentralized mini-grids, opening up access to low-cost renewable power sources and ending decades of mandatory state participation in energy ...



### **COUNTRY PRIORITY PLAN AND DIAGNOSTIC OF THE ...**

Mozambique (36% on grid and 4% off grid) has access to electricity. Mozambique has set significant targets for the development of its electricity sector: at least 2,300 MW of new installed capacity by 2030 and about 5 million new connections, both on grid and off grid, to achieve universal access to electricity by 2030.



### **ENERGY PROFILE Mozambique**

Onshore wind: Potential wind power density (W/m<sup>2</sup>) is shown in the seven classes used by NREL, measured at a height of 100m. The bar chart shows the distribution of the country's land area in each of these classes compared to the global distribution of wind resources. Areas in the third class or above are considered to be a good

wind resource.



## Out of Darkness: New Electricity Law Will Bring Electric Power to

Change is coming, however: a new law will allow private investment in decentralized mini-grids, opening up access to low-cost renewable power sources and ending decades of mandatory state participation in energy generation and distribution. Lack of access to electricity impacts the daily lives and livelihoods of millions of Mozambicans.



## Mozambique , Africa Energy Portal

There is an integrated plan that sets out a least-cost electrification pathway, and which, includes grid, mini-grid, and off-grid systems. This plan demarcates areas for each system but lacks clarity on arrangements for the transfer of asset ownership and/or ongoing operations and maintenance when the national grid encompasses a privately owned

## Mozambique , Africa Energy Portal

The Mozambique Energy Regulatory Authority

(ARENE) was established by Law 11/2017 of 8 September 2017, passed by the Parliament of Mozambique. a deliverable model that ensure fair compensation or management contract in case of grid arrival to a renewable mini-grid. Electricity generated from renewable energy sources and based on least cost



## Mozambique Energy Situation

In April 2019, World Bank approved a USD 82 million energy grant to Mozambique to increase access to electricity in the peri-urban and rural areas, expand the existing grid network and promote the use of off-grid energy solutions in areas where grid expansion is not feasible. This project is also supported by a USD 55 million Multi-Donor Trust

## Mozambique Energy Situation

Electricidade de Moçambique (EdM), is a vertically-integrated, government-owned electric utility responsible for generation, transmission and distribution of electricity in the national grid. EdM buys most of its power supply (apr. 400 MW) from Hidroelectrica de Cahora Bassa (HCB), owner and operator of the Cahora Bassa hydro power plant on



## Mozambique Electricity Situation

Based on 2019 billing data from EDM, the on-grid electricity demand in Mozambique is the highest for domestic use (45%) followed by industries (37.3%) and commercial use (16%) . In 2021 The total electricity consumption was 3,584 GWh.



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