

Autoridade Reguladora de Energia

DE MOÇAMBIQUE, E.P.

FUNAE

Energia para Moçambique

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1. Introduction - General Information of Mozambique (1)



Mozambique is a country located on the east coast of Southern Africa.

Borders: Tanzania to the north; Malawi and Zambia to the northwest; Zimbabwe, South Africa and Swaziland to the west; South Africa to the south; and the Indian Ocean to the east.

The country population is almost 30 Million mostly with low income.

- 68% live in rural areas.
- 33% of population have access to electricity from national grid.

The country has enormous energy resources that have not yet been fully explored: coal, natural gas, hydro, renewable resources such as solar, wind, hydro, geothermal and agricultural biomass sources.

1. Introduction - General Information of Mozambique (2)

Mozambique is one of the largest electricity producers in the southern African region, ranking in second, with an average power generation of 2 279 mega watts (MW). It is the second only to South Africa, which is by far the largest regional producer in Africa and one of the largest in the world, with 41 074 MW.

Despite generating enough energy to feed the current needs of the domestic consumption and export, Mozambique is the fourth country in the region with the least access to electricity by citizens. Just over 33% of the Mozambican population normally uses electricity.

So, considerable part of the national territory, including rural and peri-urban areas, are isolated from the National Electricity Grid. Although efforts are being made to expand the energy, but the access to electricity is still far from desirable, and isolated areas need the provision of high quality energy services.

2. Current Energy Policy And Measures (1)

- **Resolution 5/1998, 3rd March** Approves the Energy Policy (electricity, mineral coal, hydrocarbons, petroleum and derivatives, new and renewable energies, biomass).
- **Resolution 62/2009, 14th October**, approves the policy development of the new and renewable energies
- Decree 89/2019, 18th November Defines the regime that regulates the activities of production, importation, reception, storage, handling, distribution, commercialization, transport, export, transit and price setting of petroleum products
- Ministerial Diploma 95/2018, 7th November Approves the specifications for petroleum products marketed in the country.

2. Current Energy Policy And Measures (2)

1. FUEL MIGRATION

From RON93 to RON95 and RON98 - Gasoline From 500 to 50 and 10 ppm - Diesel

2. IMPLEMENTATED PROJECTS

Construction of solar power plants Construction of wind power plants Expansion of LPG storage and filling infrastructures Massification of LPG use in families living in rural areas Massification of CNG use and affordable conversion kits

2.1 Organizations Related To The Energy Policy













3. Past (and future) Energy Demand And Supply Statistics

	Year	National media Supply (GWh)	Peak Demand Forecast (MW)
	2015	3.763	632
	2016	4.024	675
	2017	4.296	711
	2018	4.578	757
	2019	4.871	794
	2020	5.173	844
	2021	5.483	894
	2022	5.799	946
	2023	6.119	998
	2024	6.443	1.051
	2025	6.767	1.104
	2026	7.089	1.156
	2027	7.405	1.208
	2028	7.713	1.258
	2029	8.009	1.306
	2030	8.290	1.352



Source: DNE

5. Outlook of Energy Demand and Supply (1)

- In Mozambique, the national demand was 530 MW (excluding the aluminum smelting industry, MOZAL) with an electricity consumption of about 3 TWh/year, according to the USAID study, 2015.
- The Country Peak load in 2019 was 922MW.
- On the other hand, the current national electricity supply stands at about 136 MW. Meanwhile, the electricity demand projection, assumes that, with an estimated average annual growth rate of 6%, the country will very quickly (by 2030) reach the maximum demand of 8,300 TWh, about three times the current level.

Source: Report, June 2017 – Analysis of barriers to the transfer and diffusion of climate change mitigation technologies and their enabling framework.

5. Outlook of Energy Demand and Supply (2)

		Mozam	bique	Compared to Europe	
total		per capita		per capita	
11.57 bn kWh		381.02 kWh		5,511.05 kWh	
18.39 bn kWh		605.6	1 kWh	5,925.27 kWh	
9.93 bn kWh		326.9	326.94 kWh		
12.88 bn kWh		424.16 kWh		707.85 kWh	
Cubic meters		Mozaml per c	bique capita	Compared to Europe per capita	
1.84 bn m³		60.0	53 m³	903.40 m³	
6.00 bn m³		197.0	59 m³	456.61 m ³	
4.16 bn m³		137.0	06 m³	398.75 m ³	
total in Mozambique	percentage in Mozambique	percentage in Europe	per capita in Mozambique	per capita in Europe	
3.68 bn kWh	16,0 %	49,2 %	121.21 kWh	8,115.37 kWh	
0.00 kWh	0,0 %	7,0 %	0.00 kWh	1,154.29 kWh	
19.09 bn kWh	83,0 %	24,1 %	628.77 kWh	3,977.20 kWh	
230.04 m kWh	1,0 %	19,7 %	7.58 kWh	3,274.42 kWh	
23.00 bn kWh	100,0 %	100,0 %	757.55 kWh	16,489.87 kWh	
	11 18 9 12 Cut Cut 18 18 9 12 Cut 18 18 9 12 12 12 12 12 12 12 12 12 12 12 12 12	total 11.57 bn kWh 18.39 bn kWh 9.93 bn kWh 12.88 bn kWh 12.88 bn kWh Cubic meters 1.84 bn m³ 6.00 bn m³ 4.16 bn m³ 1.84 bn m³ 6.00 bn m³ 1.60 mozambique 1.60 mozambique 1.60 mozambique 1.00 mozambique 1.00 mozambique 1.00 mozambique	total per c 11.57 bn kWh 381.0 18.39 bn kWh 605.6 9.93 bn kWh 326.9 12.88 bn kWh 424.1 Mozami Mozami 2.88 bn kWh Mozami 3.60.0 Cubic meters Mozami Per c Mozami 3.60.0 bn m³ 197.0 1.84 bn m³ 60.0 6.00 bn m³ 197.0 1.84 bn m³ 100.0 60.0 6.00 bn m³ 197.0 1.84 bn m³ 137.0 1137.0 1137.0 total percentage in Mozambique percentage in Europe 3.68 bn kWh 16,0 % 49,2 % 0.00 kWh 0,0 % 7,0 % 24,1 % 230.04 m kWh 1,0 % 19,7 % 23.00 bn kWh 100,0 %	Mozambique total per capita 11.57 bn kWh 381.02 kWh 18.39 bn kWh 605.61 kWh 9.93 bn kWh 326.94 kWh 12.88 bn kWh 424.16 kWh Mozambique Cubic meters per capita 1.84 bn m³ 60.63 m³ 6.00 bn m³ 197.69 m³ 4.16 bn m³ 137.06 m³ 1.84 bn m³ 60.63 m³ 6.00 bn m³ 197.69 m³ 3.68 bn kWh 160.0% 49.2 % 3.68 bn kWh 0.00 kWh 0.00 kWh 0.00 kWh 0,0 % 7,0 % 0.00 kWh 19.09 bn kWh 83,0 % 24,1 % 628.77 kWh 230.04 m kWh 100,0 % 100,0 % 757.55 kWh	

6. Major Difficulties and Bottlenecks currently faced in formulating energy policies

- The government, through the Ministry of Mineral Resources and Energy, needs to define short-term action strategies for each institution in the energy sector so that the ongoing energy transition process is more competitive and transparent with a view to achieving the goals of the national agenda and international in the sector.
- The government should guarantee that each stakeholder, ARENE, EDM, FUNAE and private sector play its own role.
- There is a need for clear guidance for how feed in tariffs for renewables will be developed especially to support off-grid and mini-grid systems.

7. Conclusion (1)

The whole world is currently concerned about the effect of climate change and many countries are defining their policies in the energy sector in order to reduce the greenhouse gases emission by switching from fossil energy sources to clean and renewable energies.

So, Mozambique as a nation has joined global efforts and designed energy policies and actions that aim to reduce deforestation and implement environmentally friendly energy sources.

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7. Conclusion (2)

- The majors difficulties and bottlenecks faced in the energy policy formulation is the need of the development of Feed in Tariff mechanism for off grid and minigrid systems, and the develop an appropriate framework to have viable financing mechanisms and business model for renewable Projects.
- In order to improve the efficiency in our sectors of work we propose the following subjects statistical information management,
- Integration of climate change aspects in the definition of plans and policies and development of Feed in Tariff mechanism for off grid and mini-grid systems.

Thank you