Webinar on State of Play: Solar Home System (SHS) Market in Mozambique



Oct 2021

Organized by:





This event is developed in collaboration with the GIZ programmes Green People's Energy for Africa and Energising Development Mozambique.

Funded by:











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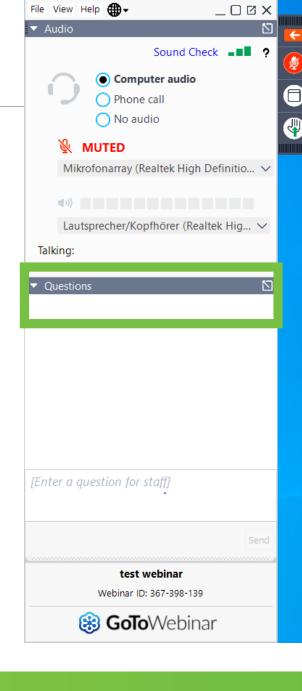




Housekeeping

Please send us your questions via the "QUESTIONS" tab!





Agenda



	Speaker (Organization)
Introduction to AMER	Ricardo Costa Pereira
Launch of Mozambique Off-grid Energy Hub and Mozambique Solar Hub on Energypedia	Ranisha Basnet (Energypedia)
Tour de Table and Panel discussion	Jose Catruza (Dynamiss Trading) Luke Hodgkinson (Engie Energy Access) Nuno Lopes (SolarWorks!) Paulo Raposeiro (Epsilon Energiea Solar)
Conclusion	Energypedia





Mozambique Off-grid Knowledge Hub Launch



Ranisha Basnet ranisha.basnet@energypedia.info

Developed by:



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Events

Webinar: Defining and Achieving Clean

5 October 2021 Future of Biofuels 2021

+ Add Event - All Events

Job offers

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Community





Create an Article

Latest activities



Agnes Ferretto edited the article Improved Cook Stove Market Size in Mozambique 09:28, 29 September 2021

Improved Cook Stove Market Landscape in

Maximizing Use of SWP Technology in India (PA

Agnes Ferretto edited the article

09:27, 29 Segtember 2021

Hector Alfero edited the article

08:01, 29 September 2021

30 September 2021 Research Assistant

29 September 2021

Seeking Experts: Project in Uruguay

Opportunities

30 September 2021

Call for Proposals for Private Sector led Mini Grids in Myanmar

30 September 2021

Call for Papers on the SDGDs: Implementing the UN Sustainable Development Goals Regional



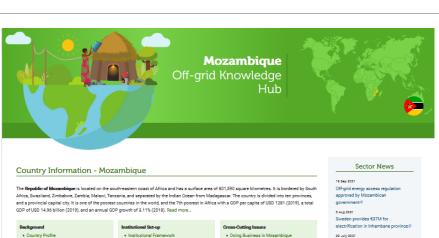




- One-stop destination for all curated RE and energy access information in Mozambique on energypedia
- Focus on technologies such as Solar home systems, clean cookstoves, nano/mini grids and productive use of energy
- Continuously updated with new information from the community
- Stakeholders can share their project information, knowledge and lessons learnt on the hub







Information on RE Technologies for Mozambique



Electricity Situation

· Energy Access Situation

Renewable Energy (RE) Potential













Policy Framework & Energy Acces

. Energy Access Programmes

Development Actors

Highlights



Contribute to the Mozambique Off-grid Hub



Mozambique Off-grid Practitioners Group





Humanitarian Energy-Nexus

Impact of COVID-19

Database

Opportunities

6 October 2021 African Youth Adaptation Solutions Challenge

Eletricidade de Moçambique tem 21 milhões de euros em dívidas a

Wind and Solar Can Improve Energy Security and Independence in Albania

Development Goals

Decentralised Renewable Energy Innovations to Boost Apri-Sector Productivity & Address Global Food System Challenges

AMER Publication

Informação do país - Moçambique

A República de Moçambique está localizada na costa sudeste da África e tem uma superfície de 801.590 quilômetros quadrados. Faz fronteira com a África do Sul, Suazilândia, Zimbábue, Zâmbia, Malaui, Tanzânia e separada de Madagascar pelo Oceano Índico. O país está dividido em dez provincias e uma capital provincial. É um dos países mais pobres do mundo e o 7º mais pobre da África, com um PIB per capita de US \$ 1281 (2019), um PIB total de US \$ 14,96 bilhões (2019) e um crescimento anual do PIB de 3,11% (2018) Consulte Mais informação.

- Perfil do país
- Situação da eletricidade
- · Potencial de energia renovável (RE) Situação de acesso à energia

Configuração Institucional Estrutura institucional

- . Quadro de políticas e estratégias de
- acesso à energia
- » Programas de acesso à energia Atores de Desenvolvimento

Notícias do setor

Regulamento de acesso à energia fora da rede aprovado pelo governo de Mocambiquet9

Suécia fornece € 37 milhões para eletrificação na província de Inhambane@

Eletricidade de Mocambique tem 21

Publicações

Aproveitando a Ação de Energia para o

Inovações descentralizadas de energia renovável para impulsionar a produtividade do agrossetor e

enfrentar os desafios do sistema

Eólica e solar podem melhorar a segurança energética e a ndependência na Albânia

Informação sobre tecnologias RE para Moçambique













Destagues







Situação: Mercado de Sistema Solar Doméstico (SHS) em



Banco de dados de partes interessadas (adicione sua empresa / organização)



Fazendo Negócios em Moçambique

Energia Humanitária-Nexus

Impacto do COVID-19

contribuir com o hub

alimentar global

Avanço dos Objetivos de

Desenvolvimento Sustentáve

Banco de dados de publicação AMER

Banco de dados de publicação AMER®

Grupo de praticantes fora da rede de Moçambique





Mocambique Centro de

conhecimento fora da

Oportunidades

6 de outubro de 2021 African Youth Adaptation Solutions





Country Information - Mozambique

use is located on the south-eastern coast of Africa and has a surface area of 901.590 square kilometres. It is bordered by Sout Africa, Swaziland, Zimbabwe, Zambia, Malawi, Tanzania, and separated by the Indian Ocean from Madagascar. The country is divided into ten provinces, and a provincial capital city. It is one of the poorest countries in the world, and the 7th poorest in Africa with a GDP per capita of USD 1281 (2019), a total GDP of USD 14.96 billion (2019), and an annual GDP growth of 3.11% (2018). Read more...

- Country Profile
- Electricity Situation
- · Renewable Energy (RE) Potential . Energy Access Situation

Information on RE Technologies for Mozambique

- Energy Access Programmes

Institutional Set-up Institutional Framework

- . Policy Framework & Energy Acces: Strategies

. Doing Business in Mozambique

- Humanitarian Energy-Nexus
- Impact of COVID-19

Publications

Sector News

Off-grid energy access regulation

Sweden provides €37M for

electrification in Inhambane province!

Eletricidade de Moçambique tem 2

milhões de euros em dívidas a

Advancing the Sustainable Development Goals

Innovations to Boost Agri-Sector Productivity & Address Global Foo System Challenges

Highlights



:4:

Mini/Nano orid Productive Uses

System (SHS) Market in

? =

Mozambique Off-grid Practitioners Group



AMER Publication Database

Opportunities

6 October 2021 African Youth Adaptation Solution

Country Information - Mozambique

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Background

- Country Profile
- Electricity Situation
- Renewable Energy (RE) Potential
- Energy Access Situation

Institutional Set-up

- Institutional Framework
- Policy Framework & Energy Access Strategies
- Energy Access Programmes
- Development Actors

Cross-Cutting Issues

- Doing Business in Mozambique
- Humanitarian Energy-Nexus
- Impact of COVID-19

Information on RE Technologies for Mozambique









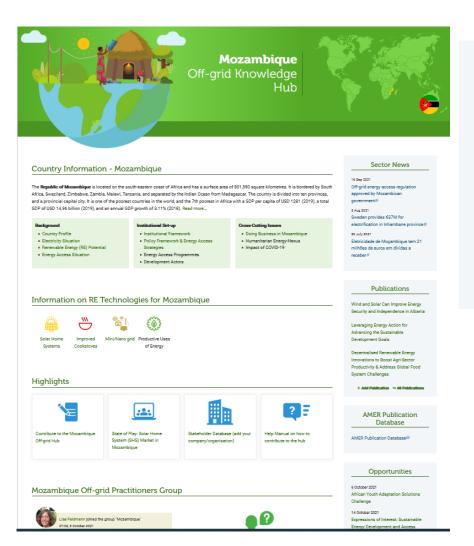






Mini/Nano grid Productive Uses of Energy





Sector News

16 Sep 2021

Off-grid energy access regulation approved by Mozambican government ☑

5 Aug 2021

Sweden provides €37M for electrification in Inhambane province [™]

30 July 2021

Eletricidade de Moçambique tem 21 milhões de euros em dívidas a receber^{ta}

Publications

Decentralised Renewable Energy Innovations to Boost Agri-Sector Productivity & Address Global Food System Challenges

Theme Report on Energy Transition

Crowd Power Syndicated Financing Colending Partnerships with Crowd Lending Platforms

+ Add Publication = All Publications

AMER Publication Database

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Opportunities

6 October 2021 African Youth Adaptation Solutions Challenge

14 October 2021 Expressions of Interest: Sustainable Energy Development and Access Project

+ Add Opportunity = All Opportunities

Off-grid Practitioners Group





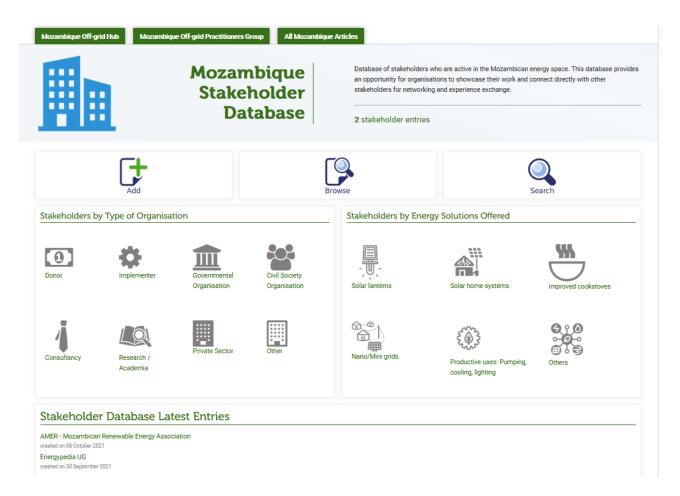
Maria Fernanda Larraza Eden Wynter joined the group "Mozambique"



Mozambique-Energypedia Stakeholder Database



- Easily add your organisation and your work to the facility
- Browse through to search for organisations offering specific services
- Open and free for all



Individual Technology Hubs



Mozambique Off-grid Hub

Mozambique Off-grid Practitioners Group

All Mozambique Articles





One-stop destination for all information related to solar home systems (SHS) and solar energy in Mozambique



Solar Home Systems (SHS) in Mozambique

Solar home systems (SHS) are stand-alone photovoltaic systems that offer a cost-effective solution for lighting and powering appliances in remote offgrid households. Here, you can find all information related to solar home systems market in Mozambique. For information on the energy sector of Mozambique, check out the Mozambique Off-grid Knowledge Hub! Join the Mozambique Off-grid Practitioners Group and become a RE advocate!

Background

- Introduction to SHS/8
- SHS Operations models 🕏
- Energy Access Situation Solar Energy Potential
- Technical Standards

Market Assessment

- SHS Market Landscape (private sector, development partners..)
- Market Size
- Consumer Insights
- · Challenges for Private Sector

Doing Business

- . Setting up a Business
- · Financing for Private Sector
- FAZER FASER Fund®
- End-user Financing
- · Policy Framework

- · Financial Feasibility Scenario
- Case Study 1

- Case Study 2

Sector News

Off-grid energy access regulation approved by Mozambican government®

5 Aug 2021

Sweden provides €37M for electrification in Inhambane province®

Eletricidade de Moçambique tem 21 milhões de euros em dívidas a

Publications

Renewables in Cities 2021 Global Status Report

Renewable Energy for Refugees Factsheet

Climate Ambition and Sustainable Development for a New Decade: A Catalytic Framework

Solar Home Systems (SHS) in Mozambique

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- Policy Framework

Case Studies

- · Financial Feasibility Scenario
- Case Study 1
- Case Study 2

Explore other RE Technologies/Resources for Mozambique







Cookstoves of Energy



Solar Home System Market in Mozambique



Introduction – Energy Access



 Mozambique is among the top 20 electricity access-deficit countries from 2010 to 2019¹

Rate of population with access to grid electricity:

Year	Electrification rate ²
2006	8%
2018	31%
2020	34%

• In 2019, 21 million Mozambicans still lack access to electricity.

Introduction – Energy for Lighting



Rural Population

- Kerosene lamps
- Solar power
- Candles
- Lanterns and batteries
- Other forms (including fire)

Urban Population

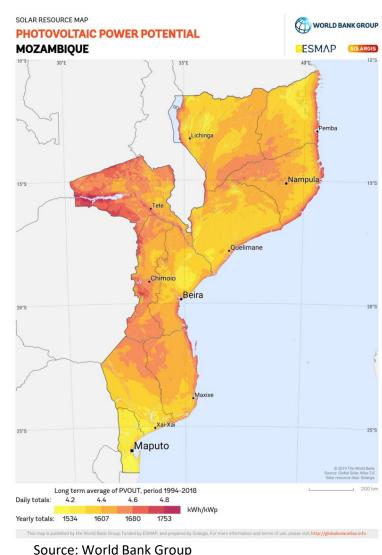
- Grid electricity
- Candles
- Kerosene lamps
- Solar power
- Lanterns
- Other forms

Solar Energy Potential



 There is an abundant and unexploited solar energy resource in Mozambique and is suitable for both on/off grid electrification.

- 23,000 GW total potential, from which about 2.7GW would be realistically suitable for solar projects compatible with the present electrification and grid expansion plans.
- Challenges: policy framework and dispersed population.



Solar Home System (SHS) - Market Landscape



- Nascent stage
- Slowly growing due to the support of:
 - Innovative financing mechanisms, such as PAYGO
 - Different donor funded programmes
- Market has been expanding since 2017 but currently facing challeges due to Covid.
- Around 20+ companies active in the market.

Donor Programmes Supporting SHS in Mozambique



EnDev Mozambique

- Result Based Financing (RBF) mechanism
- Business development services for private companies



Green People's Energy Mozambique

- Promotion of productive use of energy for income generation
- Advising political decision-makers
- GreenSkills4Dev courses and training on RE topics

BRILHO

Financial support and technical assistance to private sector

- Catalytic grants
- RBF



World Bank's ProEnergia program

- RBF financing mechanism
- Business development services for private companies



Solar Home System (SHS) - Market Size



As of 2019:

63% of total population live in rural areas

5% about of rural population have access to grid electricity

29.6% of total population has access to grid electricity

As of 2020:

Over 70,000 SHS sold by five companies in Mozambique



Potential for SHS Market



It is estimated that 1 in every 5 households could afford a SHS without an additional subsidy.

Largest potential markets:

- Nampula (300,000 HHs)
- Cabo Delgado (130,000 HHs)
- Manica (101,000 HHs)

Provinces with the wealthiest househlds:

- Maputo
- Manica

824,000 households in Mozambique could afford a SHS without any additional subsidy

Consumer Insights – Facts and figures



Ability and Willigness to Pay

Monthly expenditure for light, phone charge and radio:

Rural: USD 12

60% of households are willing to pay over USD 12.5/month for SHS with radio

Urban: USD 13

- 59% of potential customers have unstable income
- 55% of potential customers have fixed expenditures

Willigness To Pay (WTP) is highest in Nampula, Inhambane, and Sofala

Source: USAID, 2020

Conclusion



- SHS market is growing in Mozambique but still needs support
- A clear regulatory framework is needed to incentivise the private sector
- Easy access to credit and information is needed
- The existing willingness and ability to pay from the end-consumer may be affected by COVID-19 crisis.

Introduction to Energypedia Webinar



 Introduction to Energypedia – Help Webinar

21 Oct 10:00-11:00 Mozambique Time

 https://register.gotowebinar.com/r egister/5340631859301157904

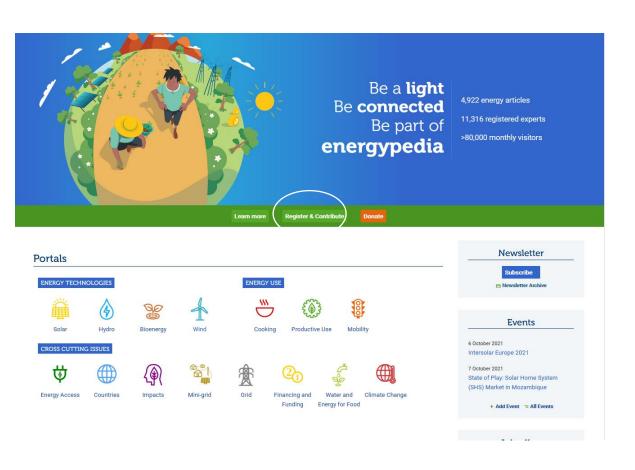


Introduction to Energypedia - Help Webinar

Thu, Oct 21, 2021 10:00 AM - 11:00 AM CEST	
Show in My Time Zone	
This is an introductory webinar to the platform, www.energypedia.info. In this webin resources and features on energypedia.	ar, we will talk about how to register on energypedia and using the different
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	Choose One v

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Register Your Energypedia Account Thank you for your interest in energypedia. Before submitting your registration, please review the following information: • Please read the Terms of Service before submitting your registration. • Once your account is created, an email with further instructions will be sent to you. -1. Create Your Account-Please fill in all the fields in this section. -Main areas of interest-Select the topic areas below in which you have formal expertise or would like to do the most work in. ☐ Hydro (?) ☐ Bioenergy (?) ☐ Biofuel (?) ☐ Biogas (?) ■ Mini-grid (?) □ Financing and Funding (?) □ Impacts (?) □ Powering Agriculture (?) □ Energy Access (?) □ Climate Change (?) ☐ Mozambique Off-grid Hub (?) 2. Add Your Details Real Name (First Name and Surname): Your details will be set as the initial content for your user profile page. Make sure that you are comfortable publishing this information. You can change this information later on in your profile page. Make sure you are comfortable publishing such information. Your name can be changed via your preferences. Please tell us about your profession or how you are involved in renewable energy sector.

Thank you!

www.energypedia.info

Ranisha Basnet

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Sitz: König-Adolf-Str 12, 65191 Wiesbaden

Geschäftsführung: Robert Heine





Panel Discussion



FACILITATOR



Ricardo Costa Pereira President AMER

SPEAKER



Luke Hodgkinson
Product Director
Engie Energy Access

SPEAKER



Nuno Lopes Country Director Solar Works Mozambique

SPEAKER



José Eduardo Catruza Financial Director Dynamiss, Lda

SPEAKER



Paulo Raposeiro CEO Epsilon Energiea Solar











PV Application Course

This is a course for those of you who want to understand when, why and how PV can provide practical and economic solutions. It introduces a range of off-grid PV applications and explains for whom and in what ways they can be useful and beneficial. This course will also enable you to perform basic energy yield calculations and economic calculations to assess the attractiveness of a PV project yourself.

The **live virtual workshop** for this course will cover topics ranging from sales and customer services management to productive uses of energy such as solar cooling. Again, **you can influence the content** by posting your questions and comments in our online forum prior to the workshop.

PV Application – Self-study Course

Duration: 4 weeks

Start: 08.11.2021

Workload: 5 hours/week

Register: www.renac.de/apfv











RE Master Courses @ UEM

The Eduardo Mondlane University (UEM) in Mozambique and RENAC energy & climate gGmbH (RENAC) in Germany developed a new blended learning approach for the Master's degree programmes on Renewable Energy (RE):

- MCTER: Master Programme in Science and Technology of Renewable Energy
- MGSER: Master Programme in Management of Renewable Energy Systems

The teaching language for the distance learning components will be English. The face to face components will be in Portuguese or English. The envisaged first intake of the new blended learning master programme is October 2021.

For more Information on the Master Programmes:

Ms Rosimin Tomo / Tel: 84 600 6179 / Email: cpe.posgraducao@uem.mz

Available GPE scholarships:

How many: 70 scholarships

Coverage: 50% of tuition fee

Thank you!



- Feedback: info@energypedia.info
- Webinar documentation: <u>https://energypedia.info/wiki/Webinar_Series:_Statuesque_and_Market_P</u> otential_of_Off-grid_Renewables_in_Mozambique

Organizers





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