



POWER COMPONENT BRIEF | JUNE 2019

# Expanding Access to On-Grid and Off-Grid Electricity

## LIFE OF ACTIVITY

August 2016 through August 2020

## TOTAL USAID FUNDING

USD 8.6 million

## PARTNERS

Ministry of Mineral Resources and Energy (MIREME)

Energy Regulatory Authority (ARENE)

Mozambique Electric Utility (EDM)

Energy Fund (FUNAE)

World Bank (WB)

Norwegian Water Resources and Energy Directorate (NVE)

Confederation of Business Associations (CTA)

Eduardo Mondlane University (UEM)

Mozambican Association of Renewable Energy (AMER)

Energy Sector Working Group (ESWG)

## IMPLEMENTED BY

DAI Global and Nathan Associates

## OVERVIEW

Power is a basic service that drives economic activity, growth and productivity, and lack of access to reliable power is a binding constraint to broad-based economic growth in Mozambique. Approximately 70% of Mozambique's population, and 94% of the rural population, has no access to electrical power. Private sector investment is increasingly recognized as a critical factor to address this long-standing challenge particularly in the face of the financial insolvency of the state-owned power utility Electricity of Mozambique (EDM). Although current law permits private sector investors to participate with public sector partners in generation of electricity, the options for independent power producers (IPPs) to generate and sell power remain unclear. Through support for an improved legal and regulatory environment for on-grid and off-grid, public and private sector solutions, the Government of Mozambique and the US government's Power Africa program aim to reach 100% access to power by 2030.

SPEED+ supports the Ministry of Mineral Resources and Energy (MIREME) and the Energy Regulatory Authority (ARENE) to establish policies and regulatory frameworks that reduce risk, limit transaction costs, and expand markets. Through these and other technical assistance efforts to EDM and the Energy Fund (FUNAE), SPEED+ helps to attract private sector investment to expand electricity supply nationwide. Increased electricity generation and distribution through both on-grid and off-grid solutions is vital to unlock the energy sector's potential to enable economic and social growth and development in Mozambique.

## GUIDING FRAMEWORKS FOR POWER ACTIVITIES

SPEED+ power policy activities are driven by Power Africa 2.0, the US whole-of-government strategy for improving energy access across Africa by increasing generation and connections and improving the policy environment. SPEED+ work is also informed by Mozambique's commitment to the Sustainable Development Goal of universal access to energy by 2030, the National Electrification Strategy (NES) which addresses both on- and off-grid solutions, and the UK's Department for International Development (DFID) Energy Africa Compact for Mozambique.

## LEGAL AND REGULATORY REFORM

Mozambique's Electricity Law is now 20 years old and requires significant revision to align with major changes in the sector, such as on/off grid renewables, competitive regional markets and advances in technology and finance. The framework for independent power producers (IPP) providing on-grid or off-grid generation and distribution also needs to be clarified and standardized.

SPEED+ and MIREME, led by its Legal Department, have worked intensively over two years to draft a proposal for the revision of the *Electricity Law* and companion regulations, supported by extensive expert consultations and public dissemination and dialogue throughout the process. The proposed revisions include a simplified, more transparent process to establish new electricity supply projects. The law addresses specific types of projects (generation, transmission and distribution), energy sources (hydro, natural gas and renewable), size (above or below 4 MV) and ownership structure (public or private). The law also addresses solar home systems, distributed generation, electricity storage and other innovative solutions.

The proposal clarifies that energy potential, constitutionally held in the public domain, can be privatized when transformed into electric energy. This clarification is fundamental to private sector participation in the energy sector in Mozambique. Final revisions and consultations on the Electricity Law continue, with submission to Parliament expected in 2020.

## CAPACITY BUILDING

SPEED+ provides capacity building through classroom and on-the-job training, coaching and mentoring to staff from MIREME, ARENE, FUNAE and EDM. SPEED+ designed a training series on IPP Regulation and Contract Management which was delivered with 100 participants representing 9 government bodies including ministries, regulators, investment promotion agencies, and tax and fiscal agencies, as well as the private sector. SPEED+ also supported four senior staff from MIREME and ARENE to attend the Managing Power Sector Reform and Regulation Africa course in 2017 at the University of Cape Town Graduate School of Business, Executive Education Program.

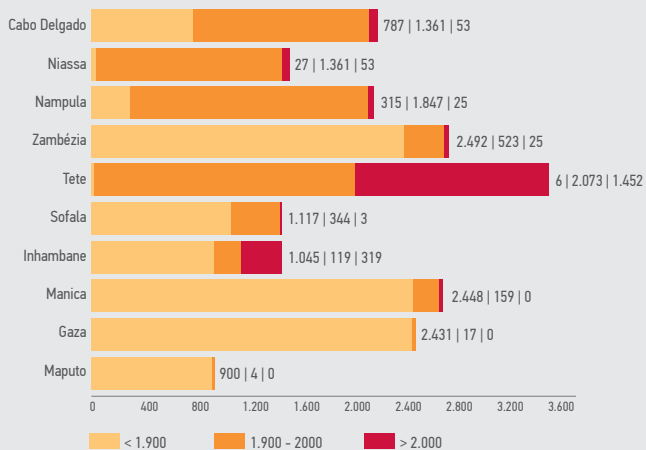
SPEED+ provides on-call technical advisors for MIREME for managing IPP projects, and for tariff setting and monitoring. SPEED+ technical advisors also assist ARENE to build administrative, managerial and organizational systems and structures, and to draft regulatory guidelines and procedures. To improve organizational capacity at EDM, SPEED+ is supporting a participatory gender audit that can help EDM reach its goal to have 40% of leadership positions filled by women. SPEED+ also supported regional trainings for EDM and the National Directorate of Energy on Decree 10/2016, which streamlines the process for businesses to connect to the national grid, and assisted with the relevant legal, financial and regulatory instruments.

## SUPPORTING RENEWABLE ENERGY AND ENERGY EFFICIENCY

Off-grid and renewable solutions provide a rapid and affordable opportunity to expand access to electricity. SPEED+ is supporting the Energy Fund (FUNAE) to finalize and disseminate the Renewable Energy Projects Portfolio for Hydro and Solar, 2nd Edition, which identifies hundreds of high-potential projects. SPEED+ assistance will help to attract investment and build awareness of the options for electrification among potential consumers.

Increasing access to electricity requires more power supply, which can be achieved not only through new generation capacity but through energy efficiency that extends the reach of existing supply. SPEED+ support for the Energy Efficiency Working Group (EEWG) includes the development of a roadmap for increasing energy efficiency through policy, education, and incentives. SPEED+ is also collaborating with DFID and the EEWG on strategies to exempt imports of renewable energy and energy efficient equipment from customs duty and VAT, to make them more affordable and attractive for use in industry, business and residential applications.

### SOLAR POTENTIAL IN VARIOUS PROVINCES (Global irradiation on horizontal plane, kWh/m<sup>2</sup>/year)



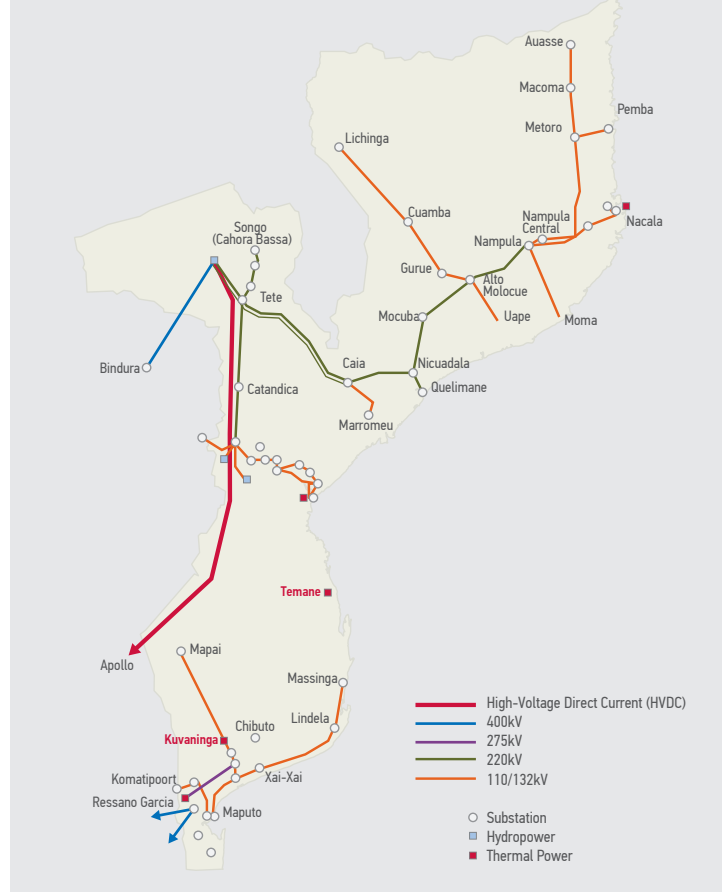
Source: Renewable energy atlas of Mozambique - resources and projects for power generation

### MOZAMBIQUE'S ENERGY POTENTIAL

Natural gas: over 200 TCF (incl. Coal Bed Methane)  
 Coal: 23 billion tonnes  
 Hydro: 18.000MW  
 Other renewables: 7.100MW  
 Micro, mini and small hydro - 4.700MW  
 Wind - 1,00MW  
 Solar - 1.200MW  
 Biomass - 130MW

Source: Renewable energy atlas of Mozambique - resources and projects for power generation

### OVERVIEW OF NATIONAL POWER GRID



Source: Adapted from Renewable energy atlas of Mozambique and MDPI - Switzerland