

Project Identification Note – Energy Sector
Investment in Renewable Energy for Economic and Social Development in
Rural Mozambique
(RERD Phase II)

1. Renewable Energy for Economic and Social Development in Rural Mozambique

Although Mozambique is one of the biggest producers of (renewable) energy in Southern Africa, only 25% of its population has currently access to electricity, well below the regional (SADC) average of 37% (2013/14). Especially in the rural areas, most energy is still obtained from wood and charcoal, which are not only costly and inefficient but also environmentally damaging. Extensions of the national grid into rural areas, where the population is scattered are expensive and only in very few cases economically viable.

This program will therefore, in line with the RERD (Renewable Energy for Rural Development) programme currently implemented by the Belgian Technical Cooperation (BTC) and financed by both Belgium and the Netherlands, continue to focus on provision of energy services from renewable sources (mainly hydro and solar) in rural areas.

In addition to investing in new generating capacity and connections, particular attention will be given to operation and maintenance of the installations and to the financial sustainability of existing and new systems. For this, appropriate payment mechanisms for energy consumed will be introduced. In this respect, the Institutional partner will be invited to undertake all required institutional and practical measures to ensure long term sustainability.

The Government of Mozambique, in its strategic plan, put emphasis on the role of the private sector in the realization of universal access to sustainable energy. Private sector involvement in the investment and operational phases of rural electrification have shown significant impact on effectivity, efficiency and sustainability in other Sub-Saharan countries. However, the existing capacity of the private sector in Mozambique is still low, and there are limited opportunities for small and medium sized companies to obtain a return on investment in the energy sector. FUNAE in its new Strategic Plan has defined Private Sector Engagement as one of its objectives. Therefore, this project seeks to support FUNAE in identifying and implementing appropriate measures to ensure a more conducive environment for private sector operators to play their part in the provision of electricity through renewable sources, duly taking into account the actions already being undertaken by the GoM and other development partners (Norway; EU; World Bank, GIZ).

2. Ministry in charge of preparing and implementing the intervention

The institutional partner for this project will be the Fundo de Energia (FUNAE).

FUNAE was established by decree 24/97 as a public institution agency under the umbrella of the Ministry of Energy, in order to promote rural electrification and rural access to modern energy services, in a sustainable manner and as a contributor to economic and social development in the country.

Since its creation, FUNAE has implemented numerous projects using solar, wind and biomass resources and technologies to electrify or bring access to modern energy services (such as water pumping, crop grinding, communication etc..) to schools, clinics and rural communities. FUNAE has also built more than 50 rural petrol stations using State Funds, runs a solar panel assembly plant and has been involved in determining the potential for renewable energy through the Renewable Energy Atlas. Besides its Head Office in Maputo, FUNAE also has Delegations in 7 provinces.

The draft Strategic Plan of FUNAE for the period 2015 – 2019 focusses on expansion and consolidation of energy services in rural areas. It puts emphasis on sustainability and maintenance of the investments to have sustainable impact as well as envisages engagement with Private Sector.

3. General and specific objectives of the intervention

The general objective of the intervention is:

Rural Economic and Social Development is promoted by increased sustainable access to energy.

Specific objective is:

Access to energy in rural areas is increased by investments in renewable energy systems and support to mechanisms ensuring sustainability (such as payment for energy services and systematic maintenance).

4. Target group, beneficiaries and justification of choosing them, geographical location or coverage, theme of the intervention

The target group of the project will be the population of the rural areas where the electrification projects will be undertaken.

Geographic Focus: The current RERD project is geographically focussed on the rural areas of Manica, Sofala and Zambézia provinces with additional hydro power plants in the

pipeline in Niassa and Nampula. Taking into account the progress made, but also the existing needs and potential, as evidenced by the recently finalised "Atlas of Renewable Energies" the geographic focus of the actions will at least initially remain on those provinces.

Private Sector Involvement: The new project will have a component aiming at furthering private sector participation in the sustainable development of renewable energy in the rural areas of Mozambique. Taking into account existing studies and literature, such as the FUNAE "Estratégia para o Envolvimento do Sector Privado na Electrificação Rural e Acesso à Energia Renovável em Mozambique" (November 2014), as well lessons learnt from the ongoing RERD project, the formulation will define the most appropriate way of furthering private sector involvement and will propose concrete actions to be undertaken. Private sector involvement must be considered as a matter of considerable importance for the future of the sector and the composition of the formulation team will take this into account.

Sustainability; Operation and Maintenance: The formulation will also define an appropriate mix of (i) investments required to ensure the sustainability of previous and future investments in renewable energy and (ii) new installations to be financed. During the formulation existing operation and maintenance procedures at FUNAE will be reviewed, and if and where required adjustments will be proposed.

As far as new installations are concerned, the partner FUNAE will commence with a needs assessment in selected areas, out of the prioritized sites of the Renewable Energy Atlas and from available data in the GIS database of FUNAE, focusing on areas not targeted in the Rural Electrification Master Plan of Mozambique. At the end of the formulation a clear prioritised proposal for a number of sites to be electrified through the RERD II project, within the limits of the available financing, and taking into account the plans of other development actors, will be available.

In the course of the first year of the RERD II programme, it will further be investigated what type of electricity services provision is most applicable for the selected sites: a) hydro mini-grid; b) solar (hybrid) mini-grid; c) individual solar systems or d) grid extension. From lessons learned priority can be given to mini-grid and extensions of mini grids, centralised solar, hydro or hybrid systems, and seeking to have more than one energy source in order to assure energy and or electricity service delivery. After that, a design based on needs will be made for each area to electrify schools, hospitals, households and shops. Potential productive uses of electricity will be specifically looked into and promoted

Based on the local situation, investment for these systems will be provided on a grant, concessional loan or output based subsidy, whichever is more appropriate. All electricity will be paid for by the user, at least to a level that is comparable with the national electricity tariff.

In general, through this project, the rural population will directly benefit from enhanced supply of water (reduced efforts to collect water), improved health care (vaccination, births in health facilities), enhanced education facilities (lighting in schools, possibility of

evening classes for adults, computers, internet), better access to media (TV/Radio) and community infrastructures in general etc...

The renewable energy sector also has the potential to create a considerable number of long-term jobs, in the field of installation, maintenance and repair of the different installations, be it community infrastructures or private household/business installations.

5. Relation of the intervention with PRSP and MDGs

The Government of Mozambique has defined economic development and poverty reduction as the overarching objectives guiding government policy development and decision making which is also in line with the Millennium Development Goals and "Planos de Acção para Redução da Pobreza" (PARP). It has been acknowledged that development of the energy sector, and specifically electricity generation and access are crucial elements for economic development, because power is required to run industries, businesses, agricultural processing and hotels as well as health facilities, computers and communication tools.

Availability of Energy is a key requirement for economic development as well as for the provision of services in education, health or administration. While energy is not directly mentioned within the MDGs, it is nevertheless a crucial input into all of them. FUNAE plays an essential role in the provision of sustainable energy to the rural areas of Mozambique, and it will not be possible to make best use of financial and other resources if the necessary institutional and individual capacity of the institution is not sufficiently developed.

6. Synergy with other bilateral and multilateral development partners, with the indicative programme of the European commission as well as with Belgium's national agenda for harmonisation and alignment.

The World Bank and the European Commission are the main donors in the renewable energies segment of the Mozambican energy sector. Other development partners active/interested in the field of renewable energies are GIZ; USAID and Portugal among others. Moreover, the national electricity utility EDM (Electricidade de Moçambique) enjoys substantial support from partners such as Norway, Sweden, Japan and Agence Française de Développement (AFD). As the current chair of the Energy Sector Working Group, Belgium is very well positioned to take advantage of possible synergies with other development partners.

Under the 11th European Development Fund (EDF), nearly half of the envelope foreseen for Mozambique is earmarked for rural development, mainly rural roads and rural energy (electrification). In the framework of the identification of the projects in the energy sector an expert mission visited Mozambique in July 2014. Moreover, the Joint Programming exercise in Mozambique will start from the 11th EDF MIP (Medium-term

Indicative Program) as a common base. This offers an exceptional opportunity to develop synergies with other Development Partners.

7. Maximum total amount of the Belgian contribution and indicative duration of the intervention

The maximum amount for the Belgian contribution to this programme is **12 million Euros**.

A detailed allocation of funds will be worked out during the formulation phase of the project. The duration of the intervention will be 5 years.

8. Institutional measures taken to ensure durability of the intervention

In order to ensure sustainability of the intervention, FUNAE, the Ministry of Energy and the renewable energy sector donors will be involved in the follow-up and monitoring of the program for better alignment of the programs and avoiding duplication.

Particular attention will be given to operation and maintenance of the installations and to the financial sustainability of the systems financed. In this respect, the institutional partner will be invited undertake all required institutional and practical measures to ensure long term sustainability.

Last but not least, due attention will be also be paid to, and synergies will be sought with the different Belgium funded capacity building programmes in the energy sector (MoE, FUNAE) in order to:

- Increase sustainability and impact of rural electrification efforts (keeping systems operational, ensuring service delivery for target beneficiaries);
- Devise and Implement ways to collaborate with private sector in order to achieve more effective implementation and service delivery -
- Increase coherence and coordination with various energy sector interventions