



RESULTS REPORT

2018

RENEWABLE ENERGY FOR RURAL
DEVELOPMENT PHASE 2 (RERD2)
MOZAMBIQUE



Investigating hydroelectricity potential using a drone in Zambezia province

Table of contents

| | |
|---|-----------|
| TABLE OF CONTENTS | 2 |
| ACRONYMS | 4 |
| 1 INTERVENTION AT A GLANCE (MAX. 2 PAGES) | 6 |
| 1.1 INTERVENTION FORM | 6 |
| 1.2 BUDGET EXECUTION | 6 |
| 1.3 SELF-ASSESSMENT PERFORMANCE | 7 |
| 1.3.1 <i>Relevance</i> | 7 |
| 1.3.2 <i>Effectiveness</i> | 7 |
| 1.3.3 <i>Efficiency</i> | 8 |
| 1.3.4 <i>Potential sustainability</i> | 8 |
| 1.4 CONCLUSIONS | 8 |
| 2 RESULTS MONITORING..... | 10 |
| 2.1 EVOLUTION OF THE CONTEXT | 10 |
| 2.1.1 <i>General context</i> | 10 |
| 2.1.2 <i>Institutional context</i> | 10 |
| 2.1.3 <i>Management context: execution modalities</i> | 11 |
| 2.1.4 <i>Harmo context</i> | 12 |
| 2.2 PERFORMANCE OUTCOME..... | 13 |
| 2.2.1 <i>Progress of indicators</i> | 13 |
| 2.2.2 <i>Analysis of progress made</i> | 13 |
| 2.2.3 <i>Potential Impact</i> | 13 |
| 2.3 PERFORMANCE OUTPUT 1 MINI-GRIDS PROVIDE RELIABLE AND ADEQUATE ENERGY SERVICE..... | 14 |
| 2.3.1 <i>Progress of indicators</i> | 14 |
| 2.3.2 <i>Progress of main activities</i> | 14 |
| 2.3.3 <i>Analysis of progress made</i> | 14 |
| 2.4 PERFORMANCE OUTPUT 2: TECHNICAL AND FINANCIAL SUSTAINABILITY OF EXISTING SYSTEMS IS IMPROVED..... | 17 |
| 2.4.1 <i>Progress of indicators</i> | 17 |
| 2.4.2 <i>Progress of main activities</i> | 17 |
| 2.4.3 <i>Analysis of progress made</i> | 18 |
| 2.5 PERFORMANCE OUTPUT 3: THE CAPACITY OF FUNAE IN PLANNING AND PROJECT MANAGEMENT IS IMPROVED' | 19 |
| 2.5.1 <i>Progress of indicators</i> | 19 |
| 2.5.2 <i>Progress of main activities</i> | 19 |
| 2.5.3 <i>Analysis of progress made</i> | 19 |
| 2.6 TRANSVERSAL THEMES | 20 |
| 2.6.1 <i>Gender</i> | 20 |
| 2.6.2 <i>Environment</i> | 20 |
| 2.6.3 <i>Other</i> | 20 |

| | | |
|----------|---|-----------|
| 2.7 | RISK MANAGEMENT..... | 21 |
| 3 | STEERING AND LEARNING | 26 |
| 3.1 | STRATEGIC RE-ORIENTATIONS..... | 26 |
| 3.2 | RECOMMENDATIONS..... | 26 |
| 3.3 | LESSONS LEARNED..... | 26 |
| | ANNEXES | 27 |
| 3.4 | QUALITY CRITERIA | 27 |
| 3.5 | DECISIONS TAKEN BY THE STEERING COMMITTEE AND FOLLOW-UP | 30 |
| 3.6 | UPDATED LOGICAL FRAMEWORK..... | 31 |
| 3.7 | MoRE RESULTS AT A GLANCE | 36 |
| 3.8 | “BUDGET VERSUS CURRENT (Y – M)” REPORT | 36 |
| 3.9 | COMMUNICATION RESOURCES | 37 |

Acronyms

| | |
|----------|--|
| ARENE | <i>Autoridade Reguladora Nacional da Energia</i> (National Energy Regulatory Authority) |
| CB | Capacity Building |
| CBMIREME | Capacity Building Ministry of Mineral Resources and Energy |
| CEO | Chief Executive Officer |
| CNELEC | National Electricity Council |
| DPREME | Provincial Directorate of the Ministry of Mineral Resources and Energy |
| EDM | <i>Electricidade de Moçambique</i> (Mozambican Power Company) |
| Enabel | The Belgian development agency |
| ENE | The National Electrification Strategy |
| ESWG | Energy Sector Working Group |
| EUR | Euro |
| FUNAE | <i>Fundo de Energia</i> (National Energy Fund) |
| GIS | Geographical Information System |
| HQ | Headquarters |
| HR | Human Resources |
| IMU | Intervention Management Unit |
| IPP | Independent Power Producer |
| IT | Information Technology |
| ITA | International Technical Assistant |
| MDG | Millennium Development Goals |
| MIREME | <i>Ministério dos Recursos Minerais e Energia</i> (Ministry of Mineral Resources and Energy) |
| MONOP | Operational Monitoring report of the Country |
| MTR | Midterm Review |
| MW | MegaWatt |
| M&E | Monitoring and Evaluation |

| | |
|--------|--|
| na | not available |
| NGO | Non-governmental organization |
| PV | (Solar) Photovoltaic |
| RE | Renewable Energy |
| RERD1 | Renewable Energy for Rural Development Phase 1 |
| RERD2 | Renewable Energy for Rural Development Phase 2 |
| SE4All | Sustainable Energy for All |
| RR | Resident Representative |
| TA | Technical Assistant |
| TFF | Technical and Financial File (=Project Document) |

1 Intervention at a glance (max. 2 pages)

1.1 Intervention form

| | |
|--|---|
| Intervention title | Renewable Energy for Rural Development Phase 2 (RERD2) |
| Intervention code | MOZ 15 034 11 / DGD Code 3016524 |
| Location | Mozambique |
| Total budget | 12,000,000 EUR |
| Partner Institution | Fundo de Energia (FUNAE) |
| Start date Specific Agreement | 16 March 2018 (6 years) |
| Date intervention start /Opening steering committee | 1 July 2018 |
| Planned end date of execution period | 01 July 2023 (60 months) |
| End date Specific Agreement | 16 March 2024 (72 months) |
| Target groups | FUNAE, rural population in intervention provinces who do not have access to reliable and adequate energy services (households, institutions and small businesses) |
| Impact¹ | Contribute to rural economic and social development by increased sustainable access to energy |
| Outcome | Increase access to energy in rural areas by investments in renewable energy systems and support mechanisms ensuring sustainability |
| Outputs | 1. Mini-grids provide reliable and adequate energy services 2. Technical and financial sustainability of existing systems is improved 3. The capacity of FUNAE in planning and project management is improved |
| Year covered by the report | 2018 |

1.2 Budget execution

| | Budget | Expenditure | | Balance | Disbursement rate at the end of year n |
|----------------------|-------------------|----------------|----------------------------|-------------------|--|
| | | Previous years | Year covered by report (n) | | |
| Total | 12.000.000 | 0 | 242,975 | 11,757,025 | 2.02% |
| Output 1 | 6.400.000 | 0 | 8,934 | 6,391,066 | 0,14% |
| Output 2 | 1.260.000 | 0 | - 8,000 | 1,268,000 | -0.63% |
| Output 3 | 2.750.000 | 0 | 126,148 | 2,623,852 | 4.59% |
| IVA | 0 | 0 | 170 | - 170 | |
| Contingencies | 326.000 | 0 | 0 | 326,000 | 0% |
| General means | 1.264.000 | 0 | 115,724 | 1,148,276 | 9,16% |

¹ Impact refers to global objective, Outcome refers to specific objective, output refers to expected result

1.3 Self-assessment performance

1.3.1 Relevance

| | Performance |
|-----------|-------------|
| Relevance | A |

Between the formulation and the start of the programme, there has been no major change on either side. RERD2 remains very relevant because it is in line with government policies and answers to the needs of beneficiaries. The government five-year plan (2014-2019) foresees development of economic and social infrastructure, essential for the promotion of productive activity in the private and associative sectors. Expanding energy availability is key for the development of productive and income-generating activities. Activities, set as priority, are among others; a) ensure the security of electricity supply on a national scale by diversifying the location of generation sources, b) continue the electrification of sanitary units through solar systems, ensuring the improvement of the quality of health services for the citizen, c) promote the electrification of communities and d) continue the construction of mini-hydroelectric plants. The government five-year plan (2014-2019) identifies 12 specific sites for mini-hydro projects. Furthermore, renewable energy infrastructure in rural areas addresses priority needs identified in all other national and provincial strategic policy documents (see also chapter 2.1 of this report) related to rural development and energy.

The intervention is fully in line with the FUNAE strategic plan (2015-2019) that contains the following strategic areas; a) increase access to energy in rural areas, b) ensure the sustainability and maintenance of projects, c) produce and sell a total of 16 MW solar panels and d) guarantee the institutional sustainability of FUNAE.

RERD2 investments were originally foreseen to be concentrated in a maximum of two provinces, to be chosen among the following: Zambezia, Niassa, Manica and Nampula. Without affecting the relevance of the project, the May 11th 2018 steering committee decided to concentrate all RERD2 activities in Zambezia province.

1.3.2 Effectiveness

| | Performance |
|---------------|---------------------------------|
| Effectiveness | Not applicable / Start up phase |

The mobilization of human resources as well as the administrative, financial and logistical support deemed necessary to obtain results in terms of project management has been undertaken from May onwards. This intensified with the arrival of the intervention manager and energy engineer mid-October. Apart from this and given the recent start of the project, it is too early to assign a score to the effectiveness criterion.

1.3.3 Efficiency

| | Performance |
|------------|---------------------------------|
| Efficiency | Not applicable / Start up phase |

Given the recent start of the project, it is too early to assign a score to the efficiency criterium 2.3. It can be said however that the project's current housing set-up has some adverse effect on efficiency as explained below.

FUNAE made only little space available for the intervention. A 3,60m x 3,53m office houses the intervention manager, the energy engineer and two counterpart staff. The administrative, financial and logistical staff assigned to - and shared by - the two energy projects RERD2 and CB MIREME are housed in the Enabel representation office², 6 km away from FUNAE. The Technical and Financial file (TFF) of both projects anticipated this problem and included a budget for office rent. Discussions with the representation have not yet concluded however on whether and where the (two) project(s) should rent an office, complications being; a) the consequent reduction of contribution to the rental fee of the representation, b) deciding on the time to be spent by the shared international finance manager, the admin/fin. assistant and the procurement officer in the two separated offices and c) the choice of location. Although difficult to quantify the consequent dispersal of team members and continuous, relocations unavoidably lead to some efficiency loss.

1.3.4 Potential sustainability

| | Performance |
|--------------------------|---------------------------------|
| Potential sustainability | Not applicable / Start up phase |

Given the recent start of the project this criterion has not been assessed. At this stage, we refer to chapter 2.7 of this report, notably the high probability and high impact of low private sector interest for operating mini-grids, the problematic financial sustainability of renewable energy systems in Mozambique and the high numbers of non-functioning RERD phase 1 installations.

1.4 Conclusions

The year 2018 was devoted to the preparation of the operational phase. Below are the main decisions and activities:

- steering committee decision on project implementation exclusively in the Zambezia province ³,
- important changes in sector policies and in partner institutions,

² Under one roof with the Belgian diplomatic - and the Flanders Cooperation Office.

³ The project document indicates a choice of two provinces to be made out of a list of 4.

- recruitment c.q. mobilization of three international technical assistants, two local administrative / financial staff and an international finance manager. A junior expert was recruited and is planned to arrive early March 2019.
- acquisition of project vehicles, office – and field survey equipment.
- comprehensive reviews of studies related to 4 hydro projects
- three technical field missions

| National execution official ⁴ | Enabel execution official ⁵ |
|--|--|
| | |

⁴ Name and Signature

⁵ Name and Signature

2 Results Monitoring⁶

2.1 Evolution of the context

2.1.1 General context

In very general terms, Mozambique of 2018 is characterised by austerity, a 26% drop in foreign direct investments and the so-called 'hidden debts' crisis that have edged the country into disrepute on the international scene. Apart from these, no specific events of a social, economic, political or environmental merit has to be reported because of their significant influence on the intervention. On the other hand, important changes have taken place in sector policies and partner institutions (see 2.1.2. below). At this stage it is difficult to stipulate in how far these will have a positive or negative influence on the intervention. It is worth however underlining what follows.

Whereas the project document states that the geographical focus of the intervention will be on a maximum of two provinces, to be chosen between Zambezia, Nampula, Niassa and Manica, the May 2018 steering committee decided that, regarding the components a) mini-hydro and solar mini-grids with productive uses of energy and b) FUNAE planning and management capacity building, the project will be implemented in the province of Zambezia. The choice of that province is based on a set of favorable factors, among which the steering committee indicated; - the existence of natural resources, - high population density and - economic potential for the productive use of energy.

2.1.2 Institutional context

The Ministry of Mineral Resources and Energy (MIREME)

In 2018 the MIREME Minister L.Klemens was replaced by M.Tovela. Directorates and teams need(ed) time to find their new role and coordination mechanisms. At the same time new policies and legislations were developed and (are about to be) approved.

Establishment of the National Energy Regulatory Authority (ARENE)

The Law on ARENE (the successor the National Electricity Council – CNELEC) is in force since December 2017. ARENE is responsible for the supervision, regulation, representation, taxation and sanctioning of the production, transport, distribution, commercialization and storage of electricity. All CNELEC resources will be transferred to ARENE.

The National Electrification Strategy 2018 (ENE)

The in 2018 approved National Electrification Strategy (ENE) is an important step in Mozambique's strategy to achieve universal access to electricity by 2030. The strategy identifies institutional, financial and technical challenges and focuses on promoting electrification regardless of customer location (rural, urban, peri-urban) and the type of customers (commercial or social). It distinguishes between Expansion Areas

⁶ Impact refers to global objective, Outcome refers to specific objective, output refers to expected result

(AEPs) and Subsidized Expansion Areas (AES). Building off-grid systems is and remains the responsibility of FUNAE. Once a system is installed, FUNAE will transfer it to EDM for operations. EDM may in turn outsource to private operators or communities. FUNAE projects will, besides other sources, be financed by an Electrification Account without the obligation to reimburse. FUNAE and EDM should coordinate efforts on specific projects where their areas may overlap.

Master Plan for Electricity 2018

In October government approved the Integrated Master Plan for electricity infrastructure (2018-2043). This plan aims at increasing the country's capacity to generate, consume and export electricity over the next 25 years. The plan (US\$34 million) seeks to ensure diversification of energy sources including hydropower, natural gas and coal. \$18 billion will be invested in energy generation.

Review of Electricity Law

The present proposal for a new Electricity Law (to replace the 1997 law) aims to promote the efficiency of the electricity sector in accordance with internal, regional and international markets and includes, among others, encouraging participation of the private sector and redefinition of the role of FUNAE.

The National Energy Fund (FUNAE)

Following identification of mismatches in salaries and conditions between public institutions⁷ the government adopted decree 41/1 in June 2018. It lays down the rules for public funds and institutes on how to operate. FUNAE will thus be subject to new regulations. Changes are not expected to come soon but at the level of RERD2 implementation of the decree may have consequence on whether, or not, an operation and maintenance division will be created, as foreseen in the project document.

2.1.3 Management context: execution modalities

FUNAE is the government entity responsible for the intervention. The FUNAE Chief Executive Officer is designated as sponsor, responsible for achieving the results and the specific objective of the intervention. The CEO equally acts as Authorizing officer, who is responsible for authorizing and liquidating expenditure following the modalities laid down in the project document. Co-managed procurement will be used for all works involving the appropriation of results by FUNAE after the end of the project. For co-managed acquisitions, the Mozambican legislation will be used, as it applies to acquisitions financed by the government. These specifically concern acquisitions under the following co-managed activities; 'Development of mini-grids' (6 Mio Eur), 'Implementation of Remote Monitoring Systems (360k Eur) and 'Implementation of Payment Systems' (500k Eur). In view of the recent start of the project, little can be said at this stage, about the positive or negative effects of the current execution modality, which indeed differs from the first phase project (RERD1). It can be said however that in the present phase of drawing up terms of

⁷ Indeed, after the observation of high FUNAE per diems (superior to those in MIREME and Enabel) the project had to immediately position itself and formalize in official minutes of meeting that the project will, according to Enabel general policies, follow the prevailing government regulations.

reference for (pre)feasibility studies and procurement, the intervention feels it works with a skilled FUNAE technical team and a tried and tested acquisition system.

2.1.4 Harmo context

At the request of MIREME and the Energy Sector Working Group (ESWG) Enabel collected data on donor activities in the electric energy sector through a structured questionnaire (June/July 2018) in view of improving planning, alignment, and coordination between government, donors, and other key partners. For the period 2017 to 2025, 12 donors reported 45 projects earmarked for Mozambique's energy sector with a total reported financial supply of almost US\$ 1.5 billion, the majority of funding not yet formally committed. These donor interventions are situated in a variety of areas, with investment in grid infrastructure (US\$1.2 billion) and the promotion of independent power producers (IPP) (US\$ 126 million) as frontrunners followed by the promotion of off-grid technologies as promoted by the present project.

Even though this snap survey⁸ lacks detail to identify the exact volume of funds channeled to individual recipients or to highlight overlaps and conflicts between project activities and funds, it does provide a first range of pointers on how to improve coordination among and between donors and recipients (e.g. regarding geographical coverage, recipient partners and intervention partners). Such analysis can further inform discussions on improved coordination and alignment. It is therefore Enabel's recommendation to continue in 2019 with more formal and systematic half-yearly information gathering and data management under supervision of, for instance, a team comprising members of the Energy Sector Working Group, MIREME and EDM. Such a survey complemented with more qualitative in-depth information can support discussions within government and within the ESWG on improved alignment and coordination between and among aid supply and demand.

⁸ More detailed results of the survey can be found in https://open.enabel.be/en/MOZ/2127/779/u/strengthening-coordination-in-the-supply-and-demand-of-aid-to-mozambique-s-energy-sector.html?utm_source=Enabel+personeel&utm_campaign=73ea049bb0-EMAIL_CAMPAIGN_2019_01_22_12_17&utm_medium=email&utm_term=0_a220116298-73ea049bb0-211302929

2.2 Performance outcome



2.2.1 Progress of indicators

Monitoring matrix extracted from the Technical and Financial File.

| Outcome: Access to energy in rural areas is increased by investments in renewable energy and in support mechanisms to ensure sustainability. | | | | | |
|---|---|--------------------------------|-----------------|------------------|--|
| Indicators | Baseline value | Value ⁹ year N-1 | Value year N | Target year N | End Target |
| Access to electricity in rural areas | 5,97% of rural population (Global Tracking framework) | na | na | na | 7,97% of rural population of Zambezia province |

2.2.2 Analysis of progress made

The project is in the start-up phase but can report what follows.

The first international technical assistant (ITA) of the project taking up his position was the expert responsible for capacity development at the provincial level. He signed his contract early June 2018 and moved to Quelimane (Zambezia province) in August. The intervention manager and the energy engineer respectively took up their post in Maputo on 15 and 16 October. First conditions for operations were created. In December two junior experts were interviewed via skype, one of which was selected to complete the team by early March 2019. As the project has only recently started, no significant progress towards the achievement of the outcome can be reported at this stage. Progress is described in the sections below.

2.2.3 Potential Impact

The project is in the start-up phase.

⁹

These 3 value columns are maintained throughout this report even though values have not yet been assessed or projected. The quoted baseline and end target values are from the TFF.

2.3 Performance output 1 Mini-grids provide reliable and adequate energy service



2.3.1 Progress of indicators

Monitoring matrix extracted from the TFF.

| Output 1: Mini-grids provide reliable and adequate energy service | | | | | |
|---|--|----------------|--------------|---------------|---|
| Indicators | Baseline value | Value year N-1 | Value year N | Target year N | End Target |
| Multi-tier framework (World Bank) | 5,97% of rural population (Global Tracking framework) | | | | 7,97% of rural population of Zambezia province |
| Reviewed, revised and updated studies | 13 existing studies on PV and hydro | | | | 1 to 3 studies revised and updated |
| Awareness and stakeholder consultations | 0 campaigns | | | | 1 to 3 awareness campaigns on sites |
| Mini-grid developed with productive uses of energy | 3 large existing hydro mini grids (Sembezia, Murora, Majua) and 3 large solar mini grids | | | | 1 to 3 <u>additional</u> large hydro mini-grids |
| Publication | 0 publications | | | | Minimum one publication |

2.3.2 Progress of main activities

| Progress of <u>main</u> activities ¹⁰ | Progress: | | | |
|---|-----------|---|---|---|
| | A | B | C | D |
| 1 Review and update of existing feasibility and baseline studies and site selection in view of productive uses of energy (socio economic surveys) | | X | | |
| 2 Awareness and stakeholder consultations for each site including the private sector | | X | | |
| 3 Mini-grid development with productive uses of energy | | X | | |
| 4 Result dissemination | | X | | |

2.3.3 Analysis of progress made

Comprehensive reviews were undertaken of studies related to 4 hydro projects; a) the pre- and feasibility study of Nintulo, Zambezia province, b) the feasibility of Berua, Zambezia province, c) the feasibility - and socio-economic study - of Meponda, Niassa province and d) the pre- and feasibility study of Mabonde in Manica province. Parallel to these reviews three Enabel/FUNAE technical missions were carried out, in November and December, to the following 4 hydro sites in Zambezia: a) Majaua (already constructed, but currently under rehabilitation), b) Nintulo (high priority site for the government, see further below), c) Tacuana and d) Nemone. The last mission equally visited four Photovoltaic (PV) installations constructed under RERD1.

¹⁰ A: The activities are ahead of schedule
 B: The activities are on schedule
 C: The activities are delayed, corrective measures are required.
 D: The activities are seriously delayed (more than 6 months). Substantial corrective measures are required.



measuring water flow rate in Nintulo, Zambezia

As to 12 FUNAE identified potential RERD2 solar sites reconnaissance missions will commence in February 2019. The purpose of these is to prepare and submit - to the steering committee - a proposal for the selection of sites for prefeasibility and feasibility studies for investment in solar mini-grids in the case of a positive balance after cost projections of investment(s) in (a) hydroelectric plant(s).

A first step has been taken in the preparation of terms of reference for baseline studies in selected sites and monitoring of general energy access indicators, guided by the World Bank multi-tier framework methodology. Collection of general information in view of the implementation of an in-depth mapping of existing programs and potential partners (including potential anchor loads) has equally started.

Awareness and stakeholder consultations including the private sector will be preceded by a study on the post-electrification impact on rural communities in (north-central) Mozambique, paying special attention to gender aspects. This study is due to start in February / March with a literature review, possibly followed by later field research. Actual awareness raising activities and stakeholder consultations will only be undertaken after the intervention has a clearer view on where it will invest, with the exception of the prioritized area of Nintulo, already earmarked to benefit from either a hydro mini-grid or, alternatively, a solar mini-grid (see explanation below).

The project document contains a shortlist of 8 sites for potential RERD2 investments in hydro mini-grids. Four of these sites are located in Niassa province, two in Zambezia (Berua and Nintulo), one in Nampula and one in Manica province. This list has lost its relevance for the intervention because the May 11th steering committee decided to concentrate all RERD2 activities in Zambezia province. Because in the

meantime the Berua hydro project obtained 100% guaranteed government funding, the logics of the above is that RERD2, by default, is to support the investment in Nintulo, if deemed feasible.

Preliminary discussions with a large private sector operator in Zambezia, including the Gurué district, home of the Nintulo area have been initiated and only the future can tell what the outcome will be. In the meantime, FUNAE indicated to be exploring possibilities with the '*Agencia de Desenvolvimento do Vale da Zambeze*' for the design of projects making productive use of energy.

2.4 Performance output 2: Technical and financial sustainability of existing systems is improved

2.4.1 Progress of indicators

Monitoring matrix extracted from the TFF.

| Output 2: Technical and financial sustainability of existing systems is improved | | | | | |
|---|--|----------------|--------------|---------------|--|
| Indicators | Baseline value | Value year N-1 | Value year N | Target year N | End Target |
| Revenues from the systems | Fee collection at 50% | | | | Fee collection raised to 80% |
| Percentage of systems working | Working systems: 50% | | | | 80% of working systems |
| GIS implemented beyond a static database and used for planning and asset management purpose | GIS currently not used = 0% | | | | GIS interconnected with other databases and used for planning purpose 100% |
| The existing maintenance strategy for PV is implemented | PV maintenance strategy implemented at 25% | | | | PV maintenance strategy implemented at 80% |
| Level of functionality of maintenance unit | Half functional 50% | | | | Maintenance unit strengthened 90% |
| Degree of connectivity / sharing GIS database with other departments | 0% sharing with other departments | | | | GIS and data base connected and used for asset management, site identification and planning |
| Number of installed remote monitoring systems and technologies | 8 systems installed, 3 different technologies | | | | Number of systems installed One technology |
| Number of meters and pre-payment systems purchased and operational | 1000 meters and pre-payment systems purchased but not operational yet 0% of systems operational | | | | Pre-payment (for domestic users) and meters systematic on the mini-grids financed by RERD2 100% of mini-grids equipped with pre-payment systems |

2.4.2 Progress of main activities

| Progress of <u>main</u> activities ¹¹ | Progress: | | | |
|---|-----------|---|---|---|
| | A | B | C | D |
| 1 Planning, operation and maintenance processes are strengthened | | X | | |
| 2 Strengthening of Information systems | | X | | |
| 3 Remote metering and monitoring systems allow for more efficient maintenance of the systems. | | X | | |
| 4 Implementation of payment systems (metering, fee collection, pre-payment) | | X | | |

¹¹ A: The activities are ahead of schedule
 B: The activities are on schedule
 C: The activities are delayed, corrective measures are required.
 D: The activities are seriously delayed (more than 6 months). Substantial corrective measures are required.

2.4.3 Analysis of progress made

Activities under this output are, according to the project document, planned to start in the third quarter after the start of project implementation, i.e. after the date of this report¹². In the meantime, these activities have been included in the workplan as contained in the MONOP Q1 2019. An inventory of existing IT equipment and software in FUNAE has already started as a precursor to a full needs assessment and acquisition planning. An initial review of remote monitoring systems introduced under RERD1 and their suitability (- Victron Energy, - Belgian Campos, - EMS) has equally begun. These activities will intensify and accelerate with the arrival of the junior expert early March 2019.



Community leaders and members assisting with carrying the drone to the Nintulo potential hydro site

¹² if we consider that, according to Enabel practice, a project starts on the date of arrival of the intervention manager

2.5 Performance output 3: The capacity of FUNAE in planning and project management is improved¹³

2.5.1 Progress of indicators

Monitoring matrix extracted from the TFF.

| Output 3: The capacity of FUNAE in planning and project management is improved | | | | | |
|--|---|----------------|--------------|---------------|---|
| Indicators | Baseline value | Value year N-1 | Value year N | Target year N | End Target |
| Capacity building plan | No plan for capacity building | | | | Agreed plan for capacity building |
| Quality of tender documents | na | | | | Na |
| Quality of socio-economic survey methodology | No standard method for socio-economic surveys | | | | Standard template for surveys |
| Processes and working procedures | Not updated | | | | Clear processes and tools for project management |
| Planning process with DPREME | unclear | | | | Clear working processes and structure; technicians better trained |
| Quality of working procedures | Incomplete procedures | | | | Working procedures are operational |

2.5.2 Progress of main activities

| Progress of <u>main</u> activities ¹³ | Progress: | | | |
|--|-----------|---|---|---|
| | A | B | C | D |
| 1 Project management is improved at FUNAE central level | | X | | |
| 2 Capacity of selected delegations of FUNAE are strengthened in sector planning and coordination | | X | | |
| 3 Technical assistance | | X | | |
| 4 Surveys, field trips workshops and seminars, study tours | | X | | |

2.5.3 Analysis of progress made

Apart from the ‘technical assistance’ and ‘surveys, field trips, workshops, seminars ...’ activities under this output are planned to start in the fifth quarter after the start of project implementation. The three technical field missions to date are reported (and charged) under the activity ‘Review and update of existing studies’ and ‘mini-grids’ under output 1 above.

¹³ A: The activities are ahead of schedule
 B: The activities are on schedule
 C: The activities are delayed, corrective measures are required.
 D: The activities are seriously delayed (more than 6 months). Substantial corrective measures are required.

2.6 Transversal Themes

2.6.1 Gender

Gender has been taken into account in the preparation of the work plan, notably in the activity *‘Implement a study on the post-electrification impact on rural communities in (north-central) Mozambique with special attention to gender through literature and field research if necessary / possible’*.



View from drone with curious youth assisting

2.6.2 Environment

Environmental impact studies are mandatory by law and are foreseen by the intervention following positive outcomes of feasibility studies for investments.

2.6.3 Other

Not applicable.

2.7 Risk management

| Risk Identification | | | Risk analysis | | | Risk Treatment | | | Follow-up of risks | |
|--|--------------------------|---------------|---------------|------------------|-------------|---|----------------|-------------------------------|---|-------------|
| Description of Risk | Period of identification | Risk category | Probability | Potential Impact | Total | Action(s) | Resp. | Deadline | Progress | Status |
| Instability due to presidential elections in 2019 leads to insecurity in the provinces, which would hamper the implementation of activities and project quality. | TFF | OPS | Medium | Medium | Medium Risk | The geographical concentration will be adapted to the security situation. The focus will be on two provinces. | FUNAE | Nov19 | Three provinces were initially chosen: Zambezia, Sofala and Manica. The Steering committee of May 2018 assigned Zambezia as the project only target province. | In progress |
| | | | | | | Close monitoring of events in provinces in the run-up to the elections | RR, PMT | throughout the project period | - | |
| Difficult access to sites due to natural occurrences (heavy rains) which block roads | TFF | OPS | Medium | Medium | Medium Risk | In the planning of activities, consider the period from December – February as months not suitable for works/rehabilitations but for other activities (procurement/acquisition of goods, trainings, etc.) | PMT | throughout the project period | Late arrival of annual rains have enabled 3 important field missions in Zambezia end 2018. | In progress |
| Slow pace of intervention due to procurement procedures | TFF | OPS | Medium | Medium | Medium Risk | Optimized implementation modalities based on lessons learned from RERD1 | Enabel / FUNAE | throughout project period | - | In progress |
| | | | | | | Projects will build on existing studies developed by RERD1 | Enabel /FUNAE | throughout project period | - | |
| | | | | | | All travel, study tours and surveys in Enabel management mode. | Enabel | | - | |
| | | | | | | Vehicles purchased on RERD1 must be made available to the project staff when needed | Enabel | throughout project period | Available | |
| | | | | | | Within the IMU: Procurement expert for the program | Enabel | throughout project | Available | |

| | | | | | | | | | |
|--|-----|-----|--------|--------|----------------|--|----------------|---------------------------|---|
| | | | | | | | period | | |
| | | | | | | Within the IMU: Support from international RAFi | Enabel | throughout project period | Available |
| Resistance to change in FUNAE | TFF | OPS | Medium | Medium | Medium Risk | Full-time long term technical assistance with adequate profile regarding capacity reinforcement and change management (see budget line A03 05) | Enabel | throughout project period | Project recruited 2 ITAs in October 2018 in addition to the one already based in Zambezia province since July 2018. |
| | | | | | | Budget for activities and support devoted to sustain change processes (see Z03 04 Missions cost) | Enabel | throughout project period | - |
| | | | | | | Involve FUNAE staff on change processes and build on the high degree of openness showed by the management of FUNAE. | Enabel | throughout project period | - |
| Low private sector interest for operating mini-grids | TFF | DEV | High | High | Very High Risk | The intervention works on several axes, including with other actors than the private sector. | Enabel / FUNAE | throughout project period | - |
| | | | | | | Create enabling conditions for private sector interest in mini-grids, including receptiveness of FUNAE (activity R1.A2 , R3.A4) | Enabel / FUNAE | throughout project period | - |
| | | | | | | Start with outsourcing only operation and maintenance | Enabel / FUNAE | throughout project period | - |
| | | | | | | Make a thorough economic feasibility study and attract private sector with interesting business models | Enabel / FUNAE | throughout project period | - |
| | | | | | | Involve private sector from the start and build a sustainable model for public-private partnership for the operation of grids. | Enabel / FUNAE | throughout project period | - |
| | | | | | | Envisage other management | Enabel / | throughout | - |

| | | | | | | | | | | |
|--|-----|-----|------|------|----------------|---|----------------|---------------------------|---|-------------|
| | | | | | | modes than the private sector | FUNAE | project period | | |
| | | | | | | Small mini-grids can be clustered for operation & maintenance to form an attractive package | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Make a careful selection of sites and target large sites with economic potential | Enabel / FUNAE | throughout project period | - | |
| Financial sustainability of the systems is problematic | TFF | DEV | High | High | Very High Risk | Better estimation and budgeting of OM costs Feasibility studies | Enabel / FUNAE | throughout project period | - | In progress |
| | | | | | | Continue implementation of preventive maintenance (reducing OM Costs) | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Make a strong users awareness campaign on correct use of systems (PV) to lower OM costs (reducing OM Costs) | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Inform the authorities on real OM costs of mini grids and advocate for government subsidies (increasing OM resources) | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Propose a well-studied adapted tariff structure (increasing OM resources) | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Increase revenue collection by generalizing use of pre-payment systems (R2 A3) (increasing OM resources) | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Involve local authorities at the planning stage and define their role in the project to increase willingness to pay (increasing OM resources) | Enabel / FUNAE | throughout project period | - | |
| | | | | | | Design the project in a rural development perspective that promotes economic uses of energy | Enabel / FUNAE | throughout project period | - | |
| | | | | | | | | | | |

| | | | | | | | | | | |
|---|-----|-----|--------|--------|----------------|---|------------------------|---------------------------|---|-------------|
| | | | | | | to increase ability to pay (thus increasing OM resources) | | | | |
| Lack of policy and regulation for mini-grids hampers private sector interest. No operational independent regulator. | TFF | DEV | Medium | Medium | Medium Risk | Planned establishment of ARENE as independent regulator | ARENE | throughout project period | - | In progress |
| | | | | | | Support from CBMIREME to ARENE on regulatory functions | Enabel | throughout project period | Conducted HR consultancy for ARENE | |
| | | | | | | Undertake seminars targeted at the private sector on regulatory issues | Enabel / FUNAE / ARENE | throughout project period | - | |
| High numbers of non-functioning RERD1 installations | TFF | REP | High | High | Very High Risk | Capacity building, monitoring systems and reinforcement of FUNAE Delegations (R2; R3) | Enabel / FUNAE | throughout project period | - | In progress |
| Technical failure or low quality of mini-grid construction | TFF | REP | Medium | High | High Risk | Strong ITA; review of feasibility studies (R1 A1) | Enabel | throughout project period | - | In progress |
| Import taxes not granted | TFF | FIN | High | Low | Medium Risk | Request (import and VAT) tax exemption for the importation of quality PV systems | Enabel | throughout project period | - | In progress |
| | | | | | | Cooperation with other donors to put reduction of fiscal barriers as a priority | Enabel | throughout project period | - | |
| | | | | | | Use locally produced TUV certified PV panels | Enabel / FUNAE | throughout project period | - | |
| Low value for money of bids for construction contracts | TFF | FIN | High | High | Very High Risk | Publish tenders in English; publish internationally | Enabel / FUNAE | throughout project period | | In progress |
| | | | | | | Tender in euros | Enabel | throughout project period | | |
| | | | | | | Split tenders for power plant and for distribution network | Enabel / FUNAE | throughout project period | Integrated as such in operational project plan. | |

| | | | | | | | | | | |
|--|-----|-----|--------|------|----------------|---|----------------|---------------------------|------------|-------------|
| Establishment of capital controls on foreign currency accounts in Mozambique | TFF | FIN | Low | High | Medium Risk | Derogation to have a DB EURO account in co-management | Enabel | Throughout project period | See status | Terminated |
| Forced conversion of foreign currency accounts into local currency | TFF | FIN | Low | High | Medium Risk | Derogation to have a DB EURO account in co-management | Enabel | Throughout project period | See status | Terminated |
| Devaluation of the local currency | TFF | FIN | Medium | High | High Risk | Derogation to have a DB EURO account in co-management | Enabel | Throughout project period | | In progress |
| Delayed refund of VAT | TFF | FIN | High | High | Very High Risk | Continue with the existing set up for VAT compensation as in RERD1 | Enabel / FUNAE | Throughout project period | | In progress |
| | | | | | | After the first two years of project execution, make an assessment of VAT refund. | Enabel | Throughout project period | | |

3 Steering and Learning

3.1 Strategic re-orientations

An evaluation of existing studies and information from the atlas on renewable energy is underway¹⁴. It will advise on whether sites should be considered for additional studies. Pre-selection, and possibly strategizing, advice will be included in a proposal to be submitted to the Steering Committee.

3.2 Recommendations

| Recommendations | Actor | Deadline |
|---|-------|----------|
| On the basis of a list of RERD2 pre-selected sites decide on those that merit further studies in view of project investments in hydro-and solar mini-grids. | JLCB | Q1 2019 |

3.3 Lessons Learned

The project cannot pretend, at this stage, to have generated any lessons learned.

¹⁴ In as far as FUNAE authorizes access.

Annexes

3.4 Quality criteria

| 1. RELEVANCE: The degree to which the intervention is in line with local and national policies and priorities as well as with the expectations of the beneficiaries | | | | |
|---|---|--|---|---|
| In order to calculate the total score for this quality criterion, proceed as follows: 'At least one 'A', no 'C' or 'D' = A; Two times 'B' = B; At least one 'C', no 'D' = C; at least one 'D' = D | | | | |
| Assessment RELEVANCE: total score | A | B | C | D |
| | X | | | |
| 1.1 What is the present level of relevance of the intervention? | | | | |
| X | A | Clearly still embedded in national policies and Belgian strategy, responds to aid effectiveness commitments, highly relevant to needs of target group. | | |
| | B | Still fits well in national policies and Belgian strategy (without always being explicit), reasonably compatible with aid effectiveness commitments, relevant to target group's needs. | | |
| | C | Some issues regarding consistency with national policies and Belgian strategy, aid effectiveness or relevance. | | |
| | D | Contradictions with national policies and Belgian strategy, aid efficiency commitments; relevance to needs is questionable. Major adaptations needed. | | |
| 1.2 As presently designed, is the intervention logic still holding true? | | | | |
| | A | Clear and well-structured intervention logic; feasible and consistent vertical logic of objectives; adequate indicators; Risks and Assumptions clearly identified and managed; exit strategy in place (if applicable). | | |
| X | B | Adequate intervention logic although it might need some improvements regarding hierarchy of objectives, indicators, Risk and Assumptions. | | |
| | C | Problems with intervention logic may affect performance of intervention and capacity to monitor and evaluate progress; improvements necessary. | | |
| | D | Intervention logic is faulty and requires major revision for the intervention to have a chance of success. | | |

| 2. EFFICIENCY OF IMPLEMENTATION TO DATE: Degree to which the resources of the intervention (funds, expertise, time, etc.) have been converted into results in an economical way | | | | |
|---|---|--|---|---|
| <i>In order to calculate the total score for this quality criterion, proceed as follows: 'At least two 'A', no 'C' or 'D' = A; Two times 'B', no 'C' or 'D' = B; at least one 'C', no 'D' = C; at least one 'D' = D</i> | | | | |
| Assessment EFFICIENCY : total score | A | B | C | D |
| | | | | |
| 2.1 How well are inputs (financial, HR, goods & equipment) managed? | | | | |
| X | A | All inputs are available on time and within budget. | | |
| | B | Most inputs are available in reasonable time and do not require substantial budget adjustments. However there is room for improvement. | | |
| | C | Availability and usage of inputs face problems, which need to be addressed; otherwise results may be at risk. | | |

| | | |
|--|----------|---|
| | D | Availability and management of inputs have serious deficiencies, which threaten the achievement of results. Substantial change is needed. |
| 2.2 How well is the implementation of activities managed? | | |
| X | A | Activities implemented on schedule |
| | B | Most activities are on schedule. Delays exist, but do not harm the delivery of outputs |
| | C | Activities are delayed. Corrections are necessary to deliver without too much delay. |
| | D | Serious delay. Outputs will not be delivered unless major changes in planning. |
| 2.3 How well are outputs achieved? | | |
| | A | All outputs have been and most likely will be delivered as scheduled with good quality contributing to outcomes as planned. |
| | B | Output delivery is and will most likely be according to plan, but there is room for improvement in terms of quality, coverage and timing. |
| | C | Some output are/will be not delivered on time or with good quality. Adjustments are necessary. |
| | D | Quality and delivery of outputs has and most likely will have serious deficiencies. Major adjustments are needed to ensure that at least the key outputs are delivered on time. |

| 3. EFFECTIVENESS TO DATE: Degree to which the outcome (Specific Objective) is achieved as planned at the end of year N | | | | |
|--|---|--|---|---|
| <i>In order to calculate the total score for this quality criterion, proceed as follows: 'At least one 'A', no 'C' or 'D' = A; Two times 'B' = B; At least one 'C', no 'D' = C; at least one 'D' = D</i> | | | | |
| Assessment EFFECTIVENESS : total score | A | B | C | D |
| | | | | |
| 3.1 As presently implemented what is the likelihood of the outcome to be achieved? | | | | |
| | A | Full achievement of the outcome is likely in terms of quality and coverage. Negative effects (if any) have been mitigated. | | |
| | B | Outcome will be achieved with minor limitations; negative effects (if any) have not caused much harm. | | |
| | C | Outcome will be achieved only partially among others because of negative effects to which management was not able to fully adapt. Corrective measures have to be taken to improve ability to achieve outcome. | | |
| | D | The intervention will not achieve its outcome unless major, fundamental measures are taken. | | |
| 3.2 Are activities and outputs adapted (when needed), in order to achieve the outcome? | | | | |
| | A | The intervention is successful in adapting its strategies / activities and outputs to changing external conditions in order to achieve the outcome. Risks and assumptions are managed in a proactive manner. | | |
| | B | The intervention is relatively successful in adapting its strategies to changing external conditions in order to achieve its outcome. Risks management is rather passive. | | |
| | C | The intervention has not entirely succeeded in adapting its strategies to changing external conditions in a timely or adequate manner. Risk management has been rather static. An important change in strategies is necessary in order to ensure the intervention can achieve its outcome. | | |
| | D | The intervention has failed to respond to changing external conditions, risks were insufficiently managed. Major changes are needed to attain the outcome. | | |

| 4. POTENTIAL SUSTAINABILITY: The degree of likelihood to maintain and reproduce the benefits of an intervention in the long run (beyond the implementation period of the intervention). | | | | |
|---|---|---|---|---|
| In order to calculate the total score for this quality criterion, proceed as follows: At least 3 'A's, no 'C' or 'D' = A ; Maximum two 'C's, no 'D' = B; At least three 'C's, no 'D' = C ; At least one 'D' = D | | | | |
| Assessment POTENTIAL SUSTAINABILITY : total score | A | B | C | D |
| 4.1 Financial/economic viability? | | | | |
| | A | Financial/economic sustainability is potentially very good: costs for services and maintenance are covered or affordable; external factors will not change that. | | |
| | B | Financial/economic sustainability is likely to be good, but problems might arise namely from changing external economic factors. | | |
| X | C | Problems need to be addressed regarding financial sustainability either in terms of institutional or target groups costs or changing economic context. | | |
| | D | Financial/economic sustainability is very questionable unless major changes are made. | | |
| 4.2 What is the level of ownership of the intervention by target groups and will it continue after the end of external support? | | | | |
| X | A | The steering committee and other relevant local structures are strongly involved in all stages of implementation and are committed to continue producing and using results. | | |
| | B | Implementation is based in a good part on the steering committee and other relevant local structures, which are also somewhat involved in decision-making. Likelihood of sustainability is good, but there is room for improvement. | | |
| | C | The intervention uses mainly ad-hoc arrangements and the steering committee and other relevant local structures to ensure sustainability. Continued results are not guaranteed. Corrective measures are needed. | | |
| | D | The intervention depends completely on ad-hoc structures with no prospect of sustainability. Fundamental changes are needed to enable sustainability. | | |
| 4.3 What is the level of policy support provided and the degree of interaction between intervention and policy level? | | | | |
| | A | Policy and institutions have been highly supportive of intervention and will continue to be so. | | |
| X | B | Policy and policy enforcing institutions have been generally supportive, or at least have not hindered the intervention, and are likely to continue to be so. | | |
| | C | Intervention sustainability is limited due to lack of policy support. Corrective measures are needed. | | |
| | D | Policies have been and likely will be in contradiction with the intervention. Fundamental changes needed to make intervention sustainable. | | |
| 4.4 How well is the intervention contributing to institutional and management capacity? | | | | |
| | A | Intervention is embedded in institutional structures and has contributed to improve the institutional and management capacity (even if this is not an explicit goal). | | |
| | B | Intervention management is well embedded in institutional structures and has somewhat contributed to capacity building. Additional expertise might be required. Improvements in order to guarantee sustainability are possible. | | |
| | C | Intervention relies too much on ad-hoc structures instead of institutions; capacity building has not been sufficient to fully ensure sustainability. Corrective measures are needed. | | |
| | D | Intervention is relying on ad hoc and capacity transfer to existing institutions, which could guarantee sustainability, is unlikely unless fundamental changes are undertaken. | | |

3.5 Decisions taken by the steering committee and follow-up

| Decision | | | | | Action | | | Follow-up | |
|--|--------------------------|-----------|--------|-------|---|-------|-------------------------|---|---------|
| Decision | Period of identification | Timing | Source | Actor | Action(s) | Resp. | Deadline | Progress | Status |
| Composition and management of Joint Steering Committee | 11 May 2018 | Immediate | JLCB | | Directors of <i>Direcção de Planificação e Cooperação</i> and of <i>Direcção Nacional de Energias Novas e Renováveis</i> will be invited members of the Steering Committee on a permanent basis | JLCB | Next steering committee | Noted | ONGOING |
| | | | | | Joint Steering Committees of CB MIREME and RERD2 will be held jointly; additional Steering Committees may be held for each project individually if need be | JLCB | Next steering committee | Noted | ONGOING |
| TFF's reference to CNELEC applies to ARENE | 11 May 2018 | Immediate | JLCB | | - | - | - | Noted | ONGOING |
| CB MIREME and FUNAE to provide more detailed activity planning until end of 2018 | 11 May 2018 | | JLCB | | After planning sessions formulate more detailed planning | PM | - | FUNAE provided a plan for 2018 which was integrated in the 2019 operational plan. | CLOSED |

3.6 Updated Logical framework

| General Objective | Indicators | Means of verification | Base values | Target | Assumptions |
|---|--------------------------------------|---|--|---|---|
| <i>Rural Economic and Social Development is promoted by increased sustainable access to energy</i> | Poverty indicators of target area | <ul style="list-style-type: none"> Government statistics (INE - Instituto Nacional de Estatística) UNDP | <ul style="list-style-type: none"> •Zambezia: 70.5% •Nampula 54.7% •Niassa 31.9% •Manica 55.1% •Nat. average 54.7% (UNDP 2019 Report on MDGs) | | Successful integration of the RERD2 intervention with other interventions promoting productive uses of energy |
| <i>Specific Objective</i> | Indicators | Means of verification | | | Assumptions |
| <i>Access to energy in rural areas is increased by investments in renewable energy and in support mechanisms to ensure sustainability</i> | Access to electricity in rural areas | <ul style="list-style-type: none"> Existing multi-tier framework surveys (SE4All) Household surveys | 5,97% of rural populations (Global Tracking framework) | 7,97% of rural population of one province | Target based on Zambezia population data |

| Result 1 | | Indicators | Means of verification | Base values | Target | Assumptions |
|---|--|--|---|---|---|--|
| Mini-grids provide reliable and adequate energy service | | <ul style="list-style-type: none"> Multi-tier framework (World Bank) | <ul style="list-style-type: none"> Household surveys | 5,97% of rural population (Global Tracking framework) | 7,97% of rural population of one province | Suitable operator models can be found |
| | Activities for R1 | Actors involved | Estimated Budget | | | assumptions |
| | R1.A1: Review and update of existing feasibility and baseline studies and site selection in view of productive uses of energy (socio economic surveys) | Consultancy, NGOs, FUNAE, business associations, businesses, other donors, local authorities | €200.000 | 13 existing studies on PV and hydro | 1 to 3 studies revised and updated | <ul style="list-style-type: none"> Quality consultants are found The existing FUNAE pipeline for mini-grids is relevant to the objective Existing studies are of good quality |
| | R1.A2 : Awareness and stakeholder consultations for each site including the private sector | NGOs, FUNAE, business associations, businesses, local authorities | €50.000 | 0 campaigns | 1 a 3 awareness campaigns performed on future sites | NGOs and actors with sufficient knowledge of local conditions can be found |
| | R1.A3: Mini-grid development with productive uses of energy | Private sector, FUNAE, consultants, NGOs, communities, local authorities | € 6.120.000 | 3 large existing hydro mini grids (Sembezia, Murora, Majaua) and 3 large solar mini grids | 1 to 3 additional large hydro mini-grids | <ul style="list-style-type: none"> A financially sustainable management system for mini grid is agreed upon Enforcement of payment for services Sufficient ability to pay |
| | R1.A4 Result dissemination | FUNAE | € 50.000 | 0 publications | Minimum one publication | |

| Result 2 | Indicators | Means of verification | Base values | Target | Assumptions |
|--|---|---|--|--|---|
| Technical and financial sustainability of existing systems is improved | <ul style="list-style-type: none"> Revenues from the systems | <ul style="list-style-type: none"> Baseline for systems and for payments Systems database FUNAE accounts | Fee collection at 50% | Fee collection raised to 80% | <ul style="list-style-type: none"> Continuity in management and continued openness to other stakeholders Users are willing and able to pay for the energy services FUNAE is open to a level of decentralization process giving more autonomy to the Delegations, including financial. Agreement can be found on tariffs and subsidies |
| | <ul style="list-style-type: none"> Percentage of systems working | <ul style="list-style-type: none"> Baseline for systems and for payments Systems database | Working systems: 50% | 80 % of working systems | |
| | <ul style="list-style-type: none"> GIS implemented beyond a static database and used for planning and asset management purpose | <ul style="list-style-type: none"> GIS system Activity reports | GIS currently not used = 0% | <ul style="list-style-type: none"> GIS interconnected with other data bases and used for planning purposes 100% | |
| | <ul style="list-style-type: none"> The existing maintenance strategy for PV is implemented | <ul style="list-style-type: none"> Satisfaction surveys about FUNAE Operation and maintenance report | PV maintenance strategy implemented at 25% | PV maintenance strategy implemented at 80% | |

| | Activities for R2 | Actors involved | Estimated Budget | | | assumptions |
|--|---|--|------------------|---|---|--|
| | R2.A1 Planning, Operation and maintenance | FUNAE with focus on maintenance unit, and other relevant divisions (solar, mini-hydro) | € 200.000 | Maintenance unit half functional 50% | Maintenance unit strengthened 90% | Integration with other departments is simulated Qualified human resources are kept in FUNAE |
| | R2. A2 Strengthening of Information systems | FUNAE maintenance unit and delegations | € 200.000 | Data base and GIS not connected Information not shared between departments 0% | GIS and data base connected and used for asset management, site identification and planning 100% | Integration with other departments is simulated Qualified human resources are kept in FUNAE |
| | R2 A3 Implementation of monitoring remote monitoring systems | FUNAE delegations in the provinces and relevant divisions | € 360.000 | 8 systems installed; 3 different technologies | One technology chosen. Number of systems installed according to budget | Monitoring systems are adequate for the targeted systems. |
| | R2 A4 Implementation of payment systems (metering, fee collection, pre-payment) | FUNAE maintenance unit and Delegations in the provinces | €500.000 | 1000 Meters and pre-payment systems purchased but not operational yet 0 % of systems operational | Pre- payment (for domestic users) and meters systematic on the mini-grids financed by RERD2 100% of mini-grids equipped with pre-payment systems | Users are willing and able to pay for services |

| Result 3 | | Indicators | Means of verification | Base values | Target | Assumptions |
|--|---|--|---|--|---|--|
| The capacity of FUNAE in planning and project management is improved | | <ul style="list-style-type: none"> Capacity building plan Quality of tender documents Quality of socio-economic survey methodology Quality of working procedures | <ul style="list-style-type: none"> Surveys Activity reports Coordination reports | <p>No plan for capacity building</p> <p>No standard method for socio-economic surveys</p> <p>Incomplete procedures</p> | <p>Agreed plan for capacity building</p> <p>Standard template for surveys</p> <p>Working procedures are operational</p> | <ul style="list-style-type: none"> Continuity in management Cooperation between divisions FUNAE retains qualified human resources |
| | Activities for R3 | Actors involved | Estimated budget | | | Assumptions |
| | R3.A1 Project management is improved at HQ level | <ul style="list-style-type: none"> FUNAE relevant divisions in HQ | € 100.000 | Processes and working procedures not updated | Clear processes and tools for project management | <ul style="list-style-type: none"> Integration with other departments is simulated Qualified human resources are kept in FUNAE |
| | R3.A2. Capacity building of Delegations in sector planning and coordination | FUNAE maintenance unit and delegations | € 200.000 | Planning process with DIPREME unclear | Clear working processes and structure; Technicians better trained | <ul style="list-style-type: none"> Qualified human resources are kept in FUNAE More autonomy for FUNAE Delegation |
| | R3 A3 Technical assistance | Enabel | €2.250.000 | | | <ul style="list-style-type: none"> Experts with adequate profiles are found |
| | R3 A4 Surveys, field trips workshops and seminars, study tours | FUNAE and Enabel staff | €200.000 | | | |

3.7 MoRe Results at a glance

| | |
|---|--|
| Logical framework's results or indicators modified in last 12 months? | No |
| Baseline Report registered on PIT? | No |
| Planning MTR (registration of report) | Not yet determined (intervention just started) |
| Planning ETR (registration of report) | Not yet determined |
| Backstopping missions since 01/01/2018 | 0 |

3.8 "Budget versus current (y – m)" Report

Financial Planning of MOZ1503411

Project Title : Investment in Renewable Energy for Economic and Social Development in Rural Mozambique

Fin Plan Version: 2019Q1


Budget Version: C02

Donor: DGD

Currency: EUR

Amounts in 1000 EUR

| Status | Fin Mode | Budget | TtY-1 | Balance | 2019 | | | | Total | 2020 to end | Est. end Proj. Bal. | Est. % exec |
|-------------------------------------|----------|-----------|--------|-----------|--------|--------|--------|--------|----------|-------------|---------------------|-------------|
| | | | | | Q1 | Q2 | Q3 | Q4 | | | | |
| A INCREASE ACCESS TO ENERGY | | 10.410,00 | 127,25 | 10.282,75 | 118,55 | 190,55 | 258,05 | 392,05 | 959,21 | 9.323,54 | 0,00 | 100% |
| 01 Mini-grids provide reliable and | | 6.400,00 | 8,93 | 6.391,07 | 0,00 | 17,00 | 82,00 | 146,00 | 245,00 | 6.146,07 | 0,00 | 100% |
| 01 Review and update of existing | REGIE | 200,00 | 8,93 | 191,07 | 0,00 | 17,00 | 22,00 | 31,00 | 70,00 | 121,07 | 0,00 | 100% |
| 02 Awareness and stakeholder | REGIE | 150,00 | 0,00 | 150,00 | 0,00 | 0,00 | 0,00 | 25,00 | 25,00 | 125,00 | 0,00 | 100% |
| 03 Mini grid development | COGEST | 6.000,00 | 0,00 | 6.000,00 | 0,00 | 0,00 | 60,00 | 90,00 | 150,00 | 5.850,00 | 0,00 | 100% |
| 04 Result dissemination | REGIE | 50,00 | 0,00 | 50,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 50,00 | 0,00 | 100% |
| 02 Technical and financial | | 1.260,00 | -8,00 | 1.268,00 | 0,00 | 55,00 | 55,00 | 55,00 | 165,00 | 1.103,00 | 0,00 | 100% |
| 01 Planning, operation and | REGIE | 200,00 | -8,00 | 208,00 | 0,00 | 20,00 | 20,00 | 20,00 | 60,00 | 148,00 | 0,00 | 100% |
| 02 Strengthening of information | REGIE | 200,00 | 0,00 | 200,00 | 0,00 | 15,00 | 15,00 | 15,00 | 45,00 | 155,00 | 0,00 | 100% |
| 03 Implementation of remote | COGEST | 360,00 | 0,00 | 360,00 | 0,00 | 15,00 | 15,00 | 15,00 | 45,00 | 315,00 | 0,00 | 100% |
| 04 Implementation of payment | COGEST | 500,00 | 0,00 | 500,00 | 0,00 | 5,00 | 5,00 | 5,00 | 15,00 | 485,00 | 0,00 | 100% |
| 03 Capacity building of FUNAE in | | 2.750,00 | 126,15 | 2.623,85 | 118,55 | 118,55 | 121,05 | 191,05 | 549,21 | 2.074,64 | 0,00 | 100% |
| 01 Project management at FUNAIE | REGIE | 100,00 | 0,00 | 100,00 | 0,00 | 0,00 | 0,00 | 20,00 | 20,00 | 80,00 | 0,00 | 100% |
| 02 Capacity building of Delegations | REGIE | 200,00 | 0,00 | 200,00 | 0,00 | 0,00 | 0,00 | 50,00 | 50,00 | 150,00 | 0,00 | 100% |
| 03 Technical Assistance | REGIE | 2.250,00 | 126,15 | 2.123,85 | 108,55 | 108,55 | 108,55 | 108,55 | 434,21 | 1.689,64 | 0,00 | 100% |
| 04 Surveys, field trips, workshops | REGIE | 200,00 | 0,00 | 200,00 | 10,00 | 10,00 | 12,50 | 12,50 | 45,00 | 155,00 | 0,00 | 100% |
| 04 Prepaid on Increase Access to | | 0,00 | 0,17 | -0,17 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | -0,17 | 0,00 | ?? |
| 01 VAT - Prepaid on RERD II R | REGIE | 0,00 | 0,17 | -0,17 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | -0,17 | 0,00 | ?? |
| 02 VAT - Prepaid on RERD II C | COGEST | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | ?? |
| X CONTINGENCIES | | 326,00 | 0,00 | 326,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 326,00 | 0,00 | 100% |
| 01 Contingencies | | 326,00 | 0,00 | 326,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 326,00 | 0,00 | 100% |
| | REGIE | 4.977,00 | 242,99 | 4.734,01 | 172,27 | 224,27 | 231,77 | 335,79 | 964,11 | 3.769,90 | 0,00 | 100% |
| | COGEST | 7.023,00 | 0,00 | 7.023,00 | 0,00 | 20,00 | 80,00 | 110,00 | 210,00 | 6.813,00 | 0,00 | 100% |
| TOTAL | | 12.000,00 | 242,99 | 11.757,01 | 172,27 | 244,27 | 311,77 | 445,79 | 1.174,11 | 10.582,90 | 0,00 | 100% |



European Directorate of MOZ1503411 - Printed on: mozambique 14 January 2019

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Financial Planning of MOZ1503411 Printed on maandag 14 januari 2019

page: 1

“Budget versus current (y – m)” Report (cont'd)

| Financial Planning of MOZ1503411 | | | | | | | | | | | | |
|--|-----------------|------------------|---------------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------------|-------------|-------------|
| Project Title : Investment in Renewable Energy for Economic and Social Development in Rural Mozambique | | | | | | | | | | | | |
| Fin Plan Version: 2019Q1 | | | | | | | | | | | | |
| Budget Version: C02 | | | | | | | | | | | | |
| Donor: DGD | | | | | | | | | | | | |
| Currency: EUR | | | | | | | | | | | | |
| Amounts in 1000 EUR | | | | | | | | | | | | |
| Status | Fin Mode Budget | TtY-1 | Balance | 2019 | | | | Total | 2020 to end | Est. end Proj. Bal. | Est. % exec | |
| 01 Contingencies | COGEST | 163,00 | 0,00 | 163,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 163,00 | 0,00 | 100% |
| 02 Contingencies | REGIE | 163,00 | 0,00 | 163,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 163,00 | 0,00 | 100% |
| Z GENERAL MEANS | | 1.264,00 | 115,74 | 1.148,26 | 53,72 | 53,72 | 53,72 | 53,73 | 214,90 | 933,36 | 0,00 | 100% |
| 01 Personnel Costs | | 690,00 | 110,29 | 579,71 | 34,38 | 34,38 | 34,38 | 34,38 | 137,50 | 442,21 | 0,00 | 100% |
| 01 Regional Administration Finance | REGIE | 450,00 | 101,96 | 348,04 | 26,88 | 26,88 | 26,88 | 26,88 | 107,50 | 240,54 | 0,00 | 100% |
| 02 Finance/admin/procurement staff | REGIE | 120,00 | 8,33 | 111,67 | 4,50 | 4,50 | 4,50 | 4,50 | 18,00 | 93,67 | 0,00 | 100% |
| 03 Driver | REGIE | 120,00 | 0,00 | 120,00 | 3,00 | 3,00 | 3,00 | 3,00 | 12,00 | 108,00 | 0,00 | 100% |
| 02 Investment costs | | 40,00 | 3,86 | 36,14 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 36,14 | 0,00 | 100% |
| 01 ICT/ERP | REGIE | 40,00 | 3,86 | 36,14 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 36,14 | 0,00 | 100% |
| 03 Operating costs | | 372,00 | 1,59 | 370,41 | 19,35 | 19,35 | 19,35 | 19,36 | 77,40 | 293,01 | 0,00 | 100% |
| 01 Office consumable | REGIE | 12,00 | 0,23 | 11,77 | 0,60 | 0,60 | 0,60 | 0,60 | 2,40 | 9,37 | 0,00 | 100% |
| 02 Communication costs | REGIE | 30,00 | 0,25 | 29,75 | 1,50 | 1,50 | 1,50 | 1,50 | 6,00 | 23,75 | 0,00 | 100% |
| 03 Fuel and maintenance | REGIE | 60,00 | 1,01 | 58,99 | 3,00 | 3,00 | 3,00 | 3,00 | 12,00 | 46,99 | 0,00 | 100% |
| 04 Mission costs | REGIE | 105,00 | 0,00 | 105,00 | 6,25 | 6,25 | 6,25 | 6,25 | 25,00 | 80,00 | 0,00 | 100% |
| 05 Other operation costs | REGIE | 5,00 | 0,10 | 4,90 | 0,25 | 0,25 | 0,25 | 0,25 | 1,00 | 3,90 | 0,00 | 100% |
| 06 Office rental | REGIE | 150,00 | 0,00 | 150,00 | 7,50 | 7,50 | 7,50 | 7,50 | 30,00 | 120,00 | 0,00 | 100% |
| 07 Office renovation and | REGIE | 10,00 | 0,00 | 10,00 | 0,25 | 0,25 | 0,25 | 0,25 | 1,00 | 9,00 | 0,00 | 100% |
| 04 Audit, Follow-up and Evaluations | | 162,00 | 0,00 | 162,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 162,00 | 0,00 | 100% |
| 01 Audit | REGIE | 50,00 | 0,00 | 50,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 50,00 | 0,00 | 100% |
| 02 Mid-term and final evaluation | REGIE | 80,00 | 0,00 | 80,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 80,00 | 0,00 | 100% |
| 03 Follow-up and backstopping | REGIE | 32,00 | 0,00 | 32,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 32,00 | 0,00 | 100% |
| | REGIE | 4.977,00 | 242,99 | 4.734,01 | 172,27 | 224,27 | 231,77 | 335,79 | 964,11 | 3.769,90 | 0,00 | 100% |
| | COGEST | 7.023,00 | 0,00 | 7.023,00 | 0,00 | 20,00 | 80,00 | 110,00 | 210,00 | 6.813,00 | 0,00 | 100% |
| TOTAL | | 12.000,00 | 242,99 | 11.757,01 | 172,27 | 244,27 | 311,77 | 445,79 | 1.174,11 | 10.582,90 | 0,00 | 100% |



Financial Planning of MOZ1503411 Printed on maandag 14 januari 2019

page: 2

3.9 Communication resources

The project is in the start-up phase. As such it has not produced any communication resources yet.