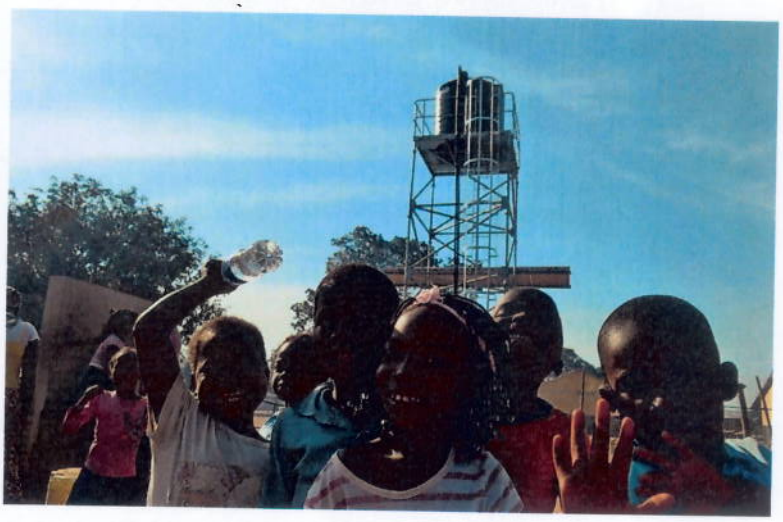
RESULTS REPORT 2015

RENEWABLE ENERGY FOR RURAL DEVELOPMENT
(MOZ 0901811& MOZ1002211)



February 2016

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Acronyms

ADB	African Development Bank
AFD	Agence Française de Développement
BTC	Belgian Technical Cooperation
CDM	Clean Development Mechanism
CEO	Chief Executing Officer
DGDC	Directorate for Development Cooperation
DIPREME	Direcção Provincial de Recursos Minerais e Energia
EdM	Electricidade de Moçambique
EIA	Environmental Impact Assessment
EU	European Union
FUNAE	Fundo de Energia
GIS	Geographical Information System
GIZ	""Deutsche Gesellschaft fuer Internationale Zusammenarbeit"
ICP	Indicative Cooperation Program
kW	kiloWatt
kWh	kiloWatt hour
kWp	kiloWatt peak
MDG	Millennium Development Goals
MIREME	Ministry of Mineral Resources and Energy
MZN	Mozambican Metical, about €0.022 (Jan 2016)
PARP	Plano de Acção para a Redução da Pobreza (=PRSP)
PPP	Public Private Partnership
R&D	Research and Development
RERD	Renewable Energy for Rural Development
RR	Resident Representative of BTC
SC	Steering Committee
SME	Small and Medium-sized Enterprises
TA	Technical Assistant
TFF	Technical and Financial File
UGEA	Unidade Gestora Executora des Aquisições (Procurement Unit at FUNAE)
WB	World Bank

1 Intervention at a glance

1.1 Intervention form

Intervention title	Renewable Energy for Rural Development (RERD)
Intervention code	MOZ 0901811 and MOZ1002211
Location	Mozambique
Total budget	€23.34m
Partner Institution	Fundo de Energia (FUNAE)
Start Date Specific Agreement	20 July 2010 / 28 Dec 2011
Date intervention start /Opening steering committee	14 September 2010
Planned end date of execution period	31 Dec 2016
End Date Specific Agreement	31 Dec 2016 / 28 December 2016
Target groups	Mozambicans in rural areas with no access to electricity in Manica, Sofala, Zambézia and Niassa Provinces
Impact	To promote rural development by providing access to energy
Outcome	To increase access to hydro, solar and wind energy for use in off-grid applications in rural areas
Outputs	1. Solar, wind and hydro systems in rural areas installed and operational. 2. Increased access of rural households to renewable energy products. 3. Technical and administrative capacity of FUNAE is increased.
Year covered by the report	**2015**

1.2 Budget execution

Description	Budget (€)	Expenditure				Balance (EUR)	Disbursement rate at the end of 2015
		Previous years		Year covered by report (2015)			
		2010-2015	Amount (EUR)	2015	Amount (EUR)		
Total	**23.340.000**		**12.291.955**		**6.410.594**	**4.857.424**	**80%**
Output 1: Solar, wind and hydro systems in rural areas installed and operational	16.105.305	2010	0	**2015**	4.802.391	3.052.794	
		2011	2.503.417				
		2012	267.385				
		2013	1.143.853				
		2014	4.335.463				
Subtotal - 1	***16.105.305***		***8.250.119***		***4.802.391***	***3.052.794***	**81%**
Output 2: Increased access of rural households to renewable energy products	157.757	2010	0	**2015**	6.547	118.612	
		2011	811				
		2012	2.865				
		2013	3.443				
		2014	25.479				
Subtotal - 2	***157.757***		***32.599***		***6.547***	***118.612***	**25%**
Output 3: Technical and administrative capacity of FUNAE is increased	4.967.079	2010	0	**2015**	1.010.724	975.702	
		2011	366.024				
		2012	633.444				
		2013	907.059				
		2014	1.074.125				
Subtotal – 3	***4.967.079***		***2.980.653***		***1.010.724***	***975.702***	**80%**

Output 4: VAT Prepaid on access to energy	1.200.000	2010	0	**2015**	442.406	394.092	
		2011	0				
		2012	596				
		2013	115				
		2014	362.791				
Subtotal – 4	***1.200.000***		***363.502***		***442.406***	***394.092***	**67%**
Output 5: General means (REGIE)	909.859	2010	0	**2015**	148.526	316.225	
		2011	86.914				
		2012	292.391				
		2013	144.690				
		2014	141.088				
Subtotal – 5	***909.859***		***665.083***		***148.526***	***316.225***	**89%**

1.3 Self-assessment performance

1.3.1 Relevance

Relevance	Performance
	B

The project is relevant in that many people in the rural areas do not have access to energy. It addresses a priority of the new Government of Mozambique to provide more access to energy in the rural areas through solar and hydro off-grid electrification. With solar installations energy consumers can benefit from illumination, charging cell phones, power for computer / internet, radio, TV and solar water pumping. To apply renewable energy for productive purposes, at least a mini hydropower system is necessary.

The partner institution FUNAE formulated increase in access to electricity for rural areas as main objective in its new Strategic Plan (2015 -2019). The project activities fit within the Government of Belgium development priorities by promoting the standard of living through rural development and the economic opportunities through providing clean power to Mozambicans.
The End Term Review in its draft report of December 2015 shares the performance self-assessment.

1.3.2 Effectiveness

Effectiveness	Performance
	B

The intervention will achieve the main objectives on result area 1, especially in terms of installed capacity of hydro and solar power and people that benefit from renewable electricity services. The areas where less concrete outcomes will be achieved are generation of renewable electricity through wind power and access to private households as SPV electrification does not include individual houses or businesses. Despite all efforts by the project so far, promoting private sector investment into rural electrification proves to be difficult in the Mozambican context. The regulatory environment of the project is not conducive to private sector engagement. The market development study that was commissioned for this purpose had to be ended without achieving results by mid-2015. A study with simplified Terms of Reference is being launched early 2016 with the aim to create a basis for future planning of Private Sector engagement of FUNAE in the renewable energy sector. As the overall budget of this component represents just 3% of the total budget, the performance classification is still B.

1.3.3 Efficiency

Efficiency	Performance
	B

The activities in the project are mostly achieved at increased cost than initially foreseen due to high prices resulting from tender procedures and limited competition (few qualified companies especially in the hydro sector doing business in Mozambique). The "Value for Money" Audit of December 2014, confirmed that the measurements taken by the project are adequate. Another restriction is the considerate amount of project funds used to advance VAT payments which will later have to be repaid by the partner. These amounts create cash flow strains that request rescheduling and postponement of activities

planned. The application of Belgian procurement law for short term consultancies has been successfully introduced to shorten the tender process and increase dynamism. In general the project manages the inputs fairly well under given conditions.

1.3.4 Potential sustainability

	Performance
Potential sustainability	C

The sustainability of the intervention is mainly determined by how well the installations will be maintained. In the first years for the solar installations this will happen through technician training and a maintenance contract, additionally through the maintenance department of FUNAE, set up and with spare parts in stock purchased by the project. Partly FUNAE, partly Line Ministries, but also beneficiaries will be responsible for this. RERD also invests in a remote monitoring system for the larger solar systems which aims to reduce theft and vandalism as well as facilitate preventative maintenance.

For the management of the two concluded mini hydro plants by the project (Muhoa and Sembezeia) as well as the mini hydro of Majaua (RERD financed a grid extension) FUNAE is currently taking full responsibility and needs to provide funds for administration, operation and Human resources, thus increasing the dependency on external financing by development partners.

All these interventions however cannot avoid that in 5-8 years the batteries of the solar systems will have to be replaced and maintenance of civil works will be required at significant cost, for which there are currently not enough financial provisions. Therefore the performance assessment is C.

1.4 Conclusions

- The project has been extensively evaluated end 2014/2015 in organisational, financial and performance aspects (Value for Money Audit, Mixed Audit, and End Term Review) with overall satisfactory results under given constraints (Value for Money, tax advances, delays due to external factors).

- Huge progress in terms of completion of installations (solar systems (85%), solar water pumps (80%), completion of two hydro power sites (160 kW) as well as capacity building and further strengthening of FUNAE delegations.

- High impact can be reported on the installation of solar water pumps which improve the health of the families and decrease the work load of women, the main responsible for the provision of water.

- Improved co-management structure modalities of the project lead to implementation progress with a disbursement rate of 80% and better communication between the partners.

- Special emphasis has to be given to focus on sustainability of the systems. Management systems, pre-payment meters, monitoring and maintenance have to be guaranteed.

- Room for improvement is in Market development and Private Sector engagement with focus on pico-solar / pico-hydro systems, to better investigate the options and

role of FUNAE in this process.

- Violent tensions and extreme weather conditions in the centre of Mozambique (destruction of Majaua hydro plant due to extreme flooding in January 2015) continued in 2015 and have led to additional cost and delays.

- The project provides a flexible way to address the main challenges of FUNAE, i.e. managing country-wide rural infrastructure, planning new investments and enhancing sustainability of installations.

RERD Project Manager	RERD Project Co- Manager
Mario Batsana	**Irene Novotny**

2 Results Monitoring

2.1 Evolution of the context

2.1.1 General context

During 2015, Mozambique has maintained an economic growth of 6,8 %. There have been changes in some Ministries, for example the Ministry of Energy merged with the Ministry of Mineral Resources to the Ministry of Mineral Resources and Energy MIREME after the presidential elections of October 2014 won by the Frelimo candidate Filipe Nyusi. Political tensions in the centre of the country, including provinces where the project has activities still exist sporadically.

Significant investment in energy infrastructure is continuing, due to Mozambique's natural resources potential i.e. natural gas, coal, large hydro power, the backbone electricity line from north to south. EDM, the main electricity utility aimed at electrifying all district capitals by the end of 2015. However, the rural areas are still deprived from access to clean energy sources, which is the focus of FUNAE and the RERD project.

2.1.2 Institutional context

During 2015, FUNAE has continued operations of the solar panel assembling factory. This state-owned government facility managed by FUNAE intends to serve the upcoming local demand for solar modules. The Renewable Energy Atlas identifying interesting opportunities in the area of wind energy, hydro power, solar, geothermal and biomass, is a reference document.

In September 2015 the PCA of FUNAE changed. After 18 years of duty, Miquelina Menezes was replaced by Antonio SAIDE who was Director of Renewable Energy in the Ministry of Energy.
In 2015 FUNAE has finalized its new Strategic Plan for the period of 2015-2019. Main aspects are increasing the number of beneficiaries, maintaining a high level of quality of activities, strengthening the sustainability of the institution and looking for Private Sector engagement as well as guaranteeing proper maintenance of the existing investments.

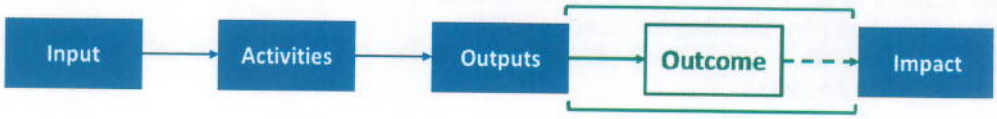
2.1.3 Management context: execution modalities

During 2015 the execution modality of co-management has further improved Actions to shorten the long procurement procedures by carrying out procurement for short term consultancies through REGIE modality have brought some gains. A Value for Money Audit was conducted in December 2014. The recommendations have started to be implemented during 2015.
In October 2015 a Mixed Audit (financial / administrative) was executed.
In November 2015 the End Term Review took place. It is expected that the findings will help to formulate the planned project RERD II.
In this context a BTC formulation mission took place in the same period, November of 2015, preparing the steps for the continuation of the Phase II of the RERD project with the aim to start still in 2016.

2.1.4 Harmo context

During 2015, the Energy Sector Working Group (ESWG) was led by the Head of Development Cooperation of the Embassy of Belgium, which created the conditions of better information sharing, better coordination and cooperation. Relevant information on Renewable Energy subjects is being shared regularly with the project. Cooperation with partners like GIZ and EU is ongoing and some studies are coordinated.

Performance outcome



2.1.5 Progress of indicators

Impact: Promote rural development providing access to renewable energy					
Indicators	**Baseline value**	**Value year 2013**	**Value 2014**	**Target year 2015**	**End Target (2016)**
Number of electrified schools with evening classes	0	0	0[1]	3	10
Number of institutional births/month with access to quality illumination in electrified Health Centres	0	0	140[2]	1000	2300
Number electrified infrastructures that use IT/AV appliances	0	60	100[3]	200	500

Outcome: Increased access to hydro, solar, and wind energy for use in off grid applications in rural areas					
Indicators	**Baseline value**	**Value year 2013**	**Value year 2014**	**Target year 2015**	**End Target (2016)**
Number of beneficiaries	0	100.000	400 000	400 000	600 000
Beneficiary satisfaction (0-100%)	n/a	No data[4]	86%[5]	86%	85%
Total power installed (kW)	0	92	850 kW	1045 kW	1600 kW

[1] None of the visited schools have introduced evening courses yet, as the electrifications took place during the on-going school year and planning and inscriptions start at the beginning of a new school year (2016)

[2] Based on 4 Health Centres as others visited have been in rehabilitation and not fully operational

[3] Estimate based on number of schools and administrative buildings electrified and observations in the field

[4] Based on the short period of operation of the systems in 2013, and subsequently the small sample of beneficiaries interviewed, the satisfaction indicator was not sufficiently reliable.

[5] Based on 50 infrastructures with solar systems visited and that are operational for at least 12 months. Computer distribution for schools started in December 2014, not all distributed in 2015..

2.1.6 Analysis of progress made

At the end of the year, out of the 704 systems, 680 (181 schools, 79 health centres with complementary 73 vaccine fridges, 265 residences, 73 administrative posts and localities,) have been electrified with solar panels and handed over, after having passed the final quality check. Delays are still in the Sofala Province due to some remaining violent conflicts. Schools received also TV/ a DVD and table lamp, health centres a vaccine fridge and lamps for examinations. Most schools also received a computer with a multifunctional printer/scanner.
The micro-hydro plant of Majaua (955kW) was operational since July 2014 until January 2015 where it was flooded. Rehabilitation is planned and funds will be made available by EU. Connections to households and public infrastructure have been made, the extension of the 19km isolated mini grid was finalised in 2015.
The micro hydro plants of Sembezeia (62 kW) and Muoha (100kW) are functioning since August and December 2015.

2.1.7 Potential Impact

The envisaged outcome of the programme is: To increase access to hydro, solar and wind energy for use in off-grid applications in rural areas.
As stated in the final review report, the project makes a contribution, although modest due to its size, to increasing energy access in rural area which is a pre requisite for rural development.
Further to provision of access to energy, RERD has also supplied energy-based equipment, mainly for schools, but also health centres, in order to make the benefits that energy can bring a reality in the rural areas. Access to energy service and products that RERD project has facilitated has a great potential to make a change in forming a better educated and skilled new generation, but visible only in the long term.
Huge impact for the rural population has been demonstrated in providing solar water pumping systems which increases availability of safe drinking water and reduces the work load and time spent at the pumps for women who are the main responsible for water supply in the families.

Potential to improve is in sustainability, maintenance, end user training and security of the systems to avoid theft and vandalisation of components. It is also presumed that impact will increase through the project-supplied computer and multifunctional printer, which will be measured during the course of 2015.

2.2 Performance output 1

2.2.1 Progress of indicators

Output 1: Hydro, solar and wind systems in rural areas installed and operational					
Indicators	**Baseline value**	**Value 2013**	**Value year 2014**	**Target Year 2015**	**End Target 2016**
Priority locations for solar systems are established	0	580	625	625	625
Number of total power of hydro power plants and solar systems installed, operational and properly maintained	0	PV: 92kWp Hydro: 0kW	PV: 255kWp Hydro: 595[6] kW	PV: 290 kWp Hydro 160KW	PV: 300kWp Hydro 755KW
Number of schools, health centres, administrative posts and residences electrified	0	188	526	625	625
Number of solar water pumps installed	0	0	0	28	45
Number of hybrid systems	0	0	0	0	1

2.2.2 Progress of main activities

Progress of main activities	**Progress:**			
	A	B	C	D
1 Needs assessment and feasibility studies		X		
2 Hydropower project implementation		X		
3 Solar power project implementation		X		
4 Wind power measurement			X	
5 Set up Maintenance Structure		X		

2.2.3 Analysis of progress made

Significant progress was achieved in the solar PV system implementation and as per end 2015 is at about 85% completion. The final systems to be accepted are mostly cases where FUNAE did not provide a provisional acceptance yet due to insufficient quality. Almost all of the schools electrified obtained a computer and a multifunctional printer to increase impact.

In 2015 five wind masts were installed in small communities along the coast of Cabo Delgado, Nampula and Zambézia, and one in Niassa. These masts already started to collect wind potential data to determine the feasibility of wind/solar wind/diesel hybrid systems to power village mini-grids. The first results however are not very promising, not enough wind for sustainable use.

The hydro power investments of the Majaua isolated grid extension, construction of micro hydro plants in Muoha and Sembezeia are finalised. The launch of feasibility studies for

[6] This number refers to the installed capacity of Majaua Hydro ; This system was rehabilitated with funds from the European Union and FUNAE, and part of the corresponding grid extension has been financed by the RERD project.

the sites Berua, Luaice and Zizi have been prepared in 2015 will being executed in 2016.. Keeping in mind the recommendations of the Value for Money audit, the tenders of the Nintulo and Murralelo micro hydro plant have been cancelled because of extremely high prices.
To improve the functionality of the existing (solar) systems, a maintenance unit has been consolidated. Procurement of spare parts has started in 2015, delivery will be finalized early 2016. The first tranche to install 100 remote monitoring systems at (larger) solar systems will be finalized early 2016.

Table of Solar Photovoltaic Systems installed by end of 2015

		LOCAIS SPV			
PROVÍNCIA	LOTE		PREVISTOS	Concluídos	SALDO
Manica	1	EPC	25	25	0
		APO	10	10	0
		SH	23	23	0
Sofala	2	EPC	80	74	6
		CS	20	20	0
		SH	106	97	9
		VAC	20	14	6
		APO	29	26	3
Zambézia	3	EPC	50	50	0
		CS	50	50	0
		SH	101	101	0
		VAC	50	50	0
		APO	26	26	0
Zambézia	4	EPC	40	40	0
		CS	9	9	0
		SH	44	44	0
		VAC	9	9	0
		APO	12	12	0
total			704	680	24

The SPV systems in Sofala are not all installed yet due to armed conflict in the area. There is the possibility that it will not be executed in time.

EPC = complete primary school
APO= Administrative post office
SH= Staff House
CS = Health Center
VAC= Vaccine fridge

2.3 Performance output 2

2.3.1 Progress of indicators

Output 2: Increased access of rural households to renewable energy products					
Indicators	**Baseline value**	**Value 2013**	**Value 2014**	**Target 2015**	**End Target 2016**
Market Development Study	0	0	0	1	1
Number of promotional activities for renewable energy products	0	0	0	2	2

2.3.2 Progress of main activities

Progress of main activities	**Progress:**			
	A	B	C	D
1 Marketing study			x	
2 Promotion of small solar products				x
3 Institutional support to FUNAE			x	
4 Financial support				x

2.3.3 Analysis of progress made

The focus of this component is to develop the renewable energy market and engage with Private Sector stakeholders. However, the Legal Framework of Mozambique and internal regulations of the Public Partner institution are considered limiting factors to fully engage in private sector development.

The study for market analysis and mapping exercise for small renewable energy systems for households and small scale businesses that was commissioned in July 2014 had to be cancelled because of underperformance of the consulting company. Due to capacity deficits and coordination difficulties within the consultancy team to deliver the expected results in quality and on time, the progress of this component is delayed.
Terms of Reference for a new simplified and short term study have been prepared, to focus on options for the role of FUNAE in engage with Private Sector stakeholders in the renewable energy sector. The results of the study are expected early Q2/2016. This should give a good basis for discussion of options for the next project on how to further improve market development.

2.4 Performance output 3

2.4.1 Progress of indicators

Output 3: Technical and administrative capacity of FUNAE is increased					
Indicators	Baseline value	Value 2013	Value 2014	Target 2015	End Target
Number of trained people	0	85	40	77	30
Number of trainings	0	16	15	15	22
Number of documents for research projects	0	2	2	1	2
GIS- tool for planning and asset management in place	0	50%	60%	65%	70%

2.4.2 Progress of main activities

Progress of main activities	Progress:			
	A	B	C	D
1. Training	X			
2. Research & Development		X		
3. GIS-system			X	
4. Technical assistance	X			
5. Set-up of new delegations		X		

2.4.3 Analysis of progress made

The capacity building part of the RERD programme demonstrates satisfactory results in providing technical trainings, support to the GIS unit, Technical Assistance and investments in delegations of FUNAE.

With regards to **trainings,** more local post graduate trainings of FUNAE staff have been approved, having a positive effect on the retention of qualified staff within the institution. Strong focus on English languages courses continues. There is good progress made towards the achievement of the output, as the capacity building activities are considered to lead to increased capacity of the partner organisation.

The GIS unit was further strengthen with a 12 months long term consultancy, to consolidate the knowledge acquired during the initial assessment made the year before.

Under the budget line "**Set up of new delegations**", the delegations have been further strengthened with the acquisition of all terrain cars and continuation of providing working budget for field visits. There is still need for close follow up on the administration of the working fund by FUNAE headquarter and the project administrator.

2.5 Transversal Themes

2.5.1 Gender

FUNAE continues to prepare annual gender activity plans and coordinate gender activities with the focal points of the divisions as well as with other public institutions.
For the baseline and impact studies, gender disaggregated data is included in the questionnaires wherever feasible.

2.5.2 Environment

FUNAE is conducting Environmental Assessments for infrastructures to be built.
The installation of PV systems for public infrastructure and staff houses are expected to lead to a decrease in the use of batteries and kerosene as energy sources, thus producing less toxic waste and reduce the use of fossil energy sources.
Impact of hydro plants on environment will be limited as there will be no dams retaining water, only overflowing walls to lift the water. For any other impact, Environmental Impact Assessments are performed for every individual micro hydro plant.

FUNAE is certified ISO 14001/2004 thus following the requirements for implementing an environmental management system.

2.5.3 Other

HIV Aids

There is no discrimination within the activities regarding people with HIV/AIDS. FUNAE has a HIV / Aids focal point. Regular meetings for awareness rising are organized within the partner organisation. The International Aids Day is commemorated within the institution through open discussions. Condoms are available at no cost to the staff.

2.6 Risk management

Risk Identification			Risk analysis			Risk Treatment			Follow-up of risk	
Description of Risk	Period of identification	Risk category	Probability	Potential Impact	Total	Action(s)	Resp.	Deadline	Progress	Status
Theft of solar system components (solar panels)	2015	OPS	Medium	Medium	Medium Risk	Awareness raising and involving local community; use anti-theft material; monitoring system	FUNAE / BTC	before finalisation of installation	Training of beneficiaries, use of anti-theft material part of checklist for provisional acceptance	OK
Budget execution risk, foreseen sites for further hydro development are not suitable or socio-economically not viable		FIN	Low	Medium	Low Risk	Identify more sites than needed for budget execution in order to have a better choice on site development	FUNAE / BTC	ongoing	Sufficient hydro power sites have been identified in 2015	OK
Low Value for Money of bids requires retendering and further delays		FIN	Medium	Medium	Medium Risk	Improve specifications of tender documents and publish tender in English to receive higher number of bids	FUNAE / BTC	ongoing	Value for money audit took place Dec 2014, new tenders also published in English	OK
Natural occurrences (heavy rains, floods) and difficult access due to bad roads delay the execution of infrastructure projects		OPS	Medium	Medium	Medium risk	Consideration of risks in planning process and inclusion of clause of risk sharing in contracts and/or insurance	FUNAE / BTC	throughout the project period	Planning of activities assume some delay in the rainy season	OK
Improper use of components in solar/hydro systems			Low	Medium	Low Risk	Training and leaflets in local language, monitoring visits	FUNAE / BTC	throughout the project period	End users trained	OK
Fluctuation of key staff at partner institution			Medium	Medium	Medium Risk	Good documentation of project progress to ease new staff to familiarize with the project	FUNAE / BTC	throughout the project period	Project progress documented	OK
Procurement rules and procedures according to national legislation are not applied correctly.		JUR	Low	High	Medium Risk	Every tender requires authorization by the Ministry of Finance and "Tribunal Administrativo"; the local partner is experienced in the procedures of tenders ;	FUNAE / BTC	ongoing	Most tenders turn out to be legally acceptable but the process is relatively long.	OK
Technical problems and delays affect image of partner negatively		REP	Low	Low	Low Risk	Regular quality surveys and sensitization campaigns	FUNAE / BTC	throughout the project period	Response to technical problems followed up within acceptable period	OK
Political Risk / Security: Political instability, especially in the middle of the country might worsen, affecting security and therefore negatively affect progress		DEV	High	Medium	High Risk	Monitor closely information available about armed attacks in the project area.	FUNAE / BTC	throughout the project period	Implementation in the province of Sofala is still delayed, some installation cannot be carried out as planned. TAs do not travel to Sofala during negative travel advice;	OK

3 Steering and Learning

3.1 Strategic re-orientations

The use of renewable energy based services has increased in the areas where the project has operated. However, this varies between different beneficiary groups. Schools have not yet been able to make full use of the provided services due to planning and financing constraints for implementing the additional activities (such as evening courses), which they seem committed to resolve by the next scholar year. Close follow up on this component is recommended in order to maximise impact.

The challenges for operation and maintenance (O&M) of the systems developed by the project are high. Organisational and financial capacity to carry out such activities will have to be improved. Assumption for securing an adequate funding level for O&M could by government funds or later be covered by users' tariffs.

The recent audit and reviews conclude that the project had to learn and ascertain that some difficulties or challenges cannot be solved just by the Project Management Team. There is also a lack of qualified local experts and consulting companies and not satisfying results of the market development study so far.

The modality of pre-payment of taxes in order to increase implementation cannot be considered as a long term solution.

3.2 Recommendations

Recommendations of Results Report 2013	Actor	Deadline
Future consultancy work with an estimated value lower than €85,000 will be contracted by BTC under Belgian Law, using the "negotiated procedure".	*BTC/FUNAE*	*Completed*
Consider (pre-) payment by the project of local taxes to avoid delays in implementation and payment through a reserved budget line in the administration of the project.	*BTC/FUNAE*	*Completed*
Train TAs in Belgian Procurement Law.	*BTC HQ*	*Completed*
Hire a PPP expert with knowledge about the Mozambican procurement law and PPP law to investigate new PPP opportunities for FUNAE.	*BTC/FUNAE*	*Delayed*
Hire a Procurement expert / Time Keeper (full time) with experience of Mozambican and Belgium procurement laws.	*BTC/FUNAE*	*Completed*

Recommendations 2014	Actor	Deadline
Repayment of taxes by FUNAE that have been pre-paid by the project has to be assured.	*BTC/FUNAE*	*End of each quarter*
Action Plan of Value for Money Audit recommendations	*BTC/FUNAE*	*Completed*
Hire a PPP expert with knowledge about the Mozambican procurement law and PPP law to investigate new PPP opportunities for FUNAE	*BTC/FUNAE*	*Cancelled*
Assure smooth transition of RERD II project	*BTC HQ*	*Delayed*

Recommendations 2015	Actor	Deadline
Repayment of taxes by FUNAE that have been pre-paid by the project has to be assured.	*BTC/FUNAE*	*One repayment made; delayed / end of each quarter*
Action Plan of Mixed Audit recommendations	*BTC/FUNAE*	*Completed*
Action Plan End Term Review (Nov 2015)	*BTC/FUNAE*	*In progress*
Assure smooth transition of RERD II project	*BTC HQ*	*Delayed*

3.3 Lessons Learned

Lessons learned	Target audience
A smooth transfer between RERD-I and RERD-II requires early action for the identification and formulation processes to run their course	BTC HQ
Pre-payment of taxes on co-managed expenses facilitates payment and fastens implementation, however during 2015 it was re-confirmed that taxes are not eligible RERD project costs and therefore need to be recovered from the partner FUNAE	BTC / FUNAE
Some studies and preparation works like clearing access roads with the local authorities and population have been implemented in REGIE modality, and resulted in faster results.	BTC / FUNAE
Financial/Economic strengthening at the BTC Representation has assisted in smooth facilitation of various budgetary issues and the implementation of the Value for Money audit.	BTC HQ
Financial and procurement capacity contracted by the project greatly facilitates implementation and should have been considered earlier during the project implementation	BTC
Emphasis has to be given to ex ante needs assessments both for end consumers/ installation planning and institutional capacity building.	BTC / FUNAE
In order to increase sustainability of operations of installed systems and mini-grids, arrangements about operation & management have to be discussed and agreed before implementation.	BTC / FUNAE

4 Annexes

4.1 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?					
	A	Clearly still embedded in national policies and Belgian strategy, responds to aid effectiveness commitments, highly relevant to needs of target group.			
X	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. EFFECTIVENESS TO DATE: Degree to which the outcome (Specific Objective) is achieved as planned at the end of year N					
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 EFFECTIVENESS : total score		A	B	C	D
			X		
2.1 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.			
X	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.			

2.2 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.
X	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.

3. 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				
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				
Assessment EFFICIENCY : total score	A	B	C	D
		X		

3.1 How well are inputs (financial, HR, goods & equipment) managed?		
	A	All inputs are available on time and within budget.
X	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.

3.2 How well is the implementation of activities managed?		
	A	Activities implemented on schedule
X	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.

3.3 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.
X	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.

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
			X		
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.			
X	B	Financial/economic sustainability is likely to be good, but problems might arise namely from changing external economic factors.			
	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?					
	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.			
X	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. Likeliness 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?					
X	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.			

4.2 Decisions taken by the steering committee and follow-up

Provide an overview of the <u>important</u> strategic decisions taken by the steering committee and the follow-up of those decisions.

Decision to take	Action			Follow-up	
Decision to take	Action(s)	Resp.	Deadline	Progress	Status
Extension of project until Dec 2015	Minutes of SC	BTC/DGD	asap	Minutes of SC sent to BTC	Done
	Approval by BTC HQ/DGD	DGD	asap	Request sent to BTC	
	Request to extend TA contracts	BTC	asap	SC 6/2014 approved	
Modification of Logical Framework Results and Adaptation of Project Budget Lines (following MTR recommendations and project extension)	Modification needs adjustment of indicators	PMT	08/2013		Done
	Approval of adjusted Log frame by next SC	SC	06/2014		Done
	Modify Budget lines in FIT	LAF/BTC HQ	08/2013	done	Done
Stronger focus on Maintenance of Solar systems	Creating Maintenance unit	FUNAE	09/2013		Done
	Maintenance Strategy	FUNAE	12/2013		Done
	Training of Maintenance unit	FUNAE	12/2015	Continuous trainings	On-going
Speeding up of procurement process	Agree on improved internal Procedures	FUNAE	12/2013	Proposal presented to BTC Res Rep	Done
	Hire external procurement expert	BTC	09/2014		Done
	Increase of use of B procurement for short consultancy	BTC	01/2014	First consultancies already published	Done
Improvement of Project Management Structure according to TFF	Regular PMT meetings	PMT	ongoing	PMT meetings can now be called by Project Director	implemented
Extension of project until Dec 2016 according to Donor mission decision of 11/2014 to guarantee smooth transition for RERD II	Minutes of meeting and official letters	BTC/DGD	asap		done

4.3 Updated Logical framework

Intervention logic	*Indicators*	*Means of Verification*	*Risks and assumptions*
Global Objective: To promote rural development by providing access to energy	- Number of electrified schools that have evening classes - Number of institutional births - Use of IT /AV in electrified infrastructures	- Surveys from line ministries - Baseline Survey - FUNAE monitoring system	Energy systems are used as intended
Specific Project Objective: To increase access to hydro, solar and wind energy for use in off-grid applications in rural areas	- Number of beneficiaries - Beneficiary satisfaction - Total power installed	- Surveys/impact evaluations - Project reports - GIS data base	Systems are well designed and installed Projects are implemented on time and on budget
Intermediate Result 1: Solar, wind and hydro systems in rural areas installed and operational	- Priority locations for solar systems are established - Number of renewable energy systems installed, operational and properly maintained - Number of schools, hospitals and public administration buildings and residences electrified - Number of SPV water pumps installed	- Data base of planning division - Project reports - Surveys - GIS data base	Access to sites does not deteriorate Proper maintenance by ministries
For activities:	*Actors*	*Budget*	*Risks and assumption*
Activity 1.1: Needs assessment and feasibility studies	Consultancy, Min Education, Min Health, Min Energy	€1.300.000	Quality consultants available
Activity 1.2: Hydropower project implementation	Consultancy (supervision), Construction Companies, ARA	€5.400.000	Functional management modality available. Viable sites are found.
Activity 1.3: Solar power project implementation	Consultancy (supervision), Companies, Min Education, Min Health	€9.300.000	Proper maintenance by ministries
Activity 1.4: Wind power	Consultancy (supervision), Companies	€500.000	Use of small scale wind is viable
Activity 1.5: Set up Maintenance Structure	Min Education, Min Health, Min State Administration, Companies, FUNAE delegations	€1.100.000	Institutions benefitting from systems show commitment (in actions) to ensure maintenance.

Intervention logic	*Indicators*	*Means of Verification*	*Risks and assumptions*
Result 2: Increased access of rural households to renewable energy products	- Number of small solar products in rural shops/markets - Number of promotional activities for renewable energy products - Number of inquiries through "Linha Verde"	Survey	Private companies/suppliers and FUNAE agree on smooth cooperation model; Role of FUNAE for Private Sector Support defined
For activities:	*Actors*	*Budget*	*Risks and assumption*
Activity 2.1: Marketing study	Consultant	€200.000	Quality consultant available
Activity 2.2: Promotion of small solar products	Media, FUNAE, consultant, marketing companies, radio, etc.	€200.000	Rural marketing infrastructure available
Activity 2.3: Institutional support to FUNAE	Consultant	€200.000	Quality consultants available
Activity 2.4: Financial support	Private companies	€300.000	Private companies willing to cooperate with FUNAE
Result 3: Technical and administrative capacity of FUNAE is increased	- Organisational capacity development plan - Number of trained people - Number of training person days - Number of document research projects - GIS- tool for planning and asset management in place	- Reports, - Audits, - GIS asset management system	TAs are provided with sufficient space to contribute to organisational capacity building. Trained people stay at FUNAE (no brain-drain)
For activities:	*Actors*	*Budget*	*Risks and assumption*
Activity 3.1: Training	FUNAE staff	500.000 €	
Activity 3.2: R&D	FUNAE	200.000 €	
Activity 3.3: GIS-system	Consultancy, software provider, GPS suppliers	300.000 €	
Activity 3.4: Technical assistance	BTC	2.375.000 €	
Activity 3.5: Set-up of new delegations	FUNAE	500.000 €	

The logical framework underwent some changes with regard to updated indicators that were more relevant to measure the impact.

4.4 More Results at a glance

Logical framework's results or indicators modified in last 12 months?	No
Baseline Report registered on PIT?	Yes
Planning MTR (registration of report)	MTR carried out in Q1 2013
Audit CdC (Bollen)	Audit carried out in Q3/2013
Value for Money Audit	VfM audit carried out Q4/2014
Mixed Audit	Mixed Audit carried out in Oct 2015
Planning ETR (registration of report)	ETR carried out in Nov 2015
Backstopping missions	12/2011, 11/2013, 03/2014, 03/2015, 11/2015

4.5 Budget versus Current (y – m) Report

Budget vs Actuals (Year to Date) of MOZ0901811

Project Title : **Expansion de systèmes d'énergie renouvelable pour la promotion du développement rural**

Budget Version: **I01**
Currency : **EUR**
YtD : **Report includes all valid transactions, registered up to today**

	Status	Fin Mode	Amount	Start - 2015	Expenses 2016	Total	Balance	% Exec
01 Training		COGES	800.000,00	562.656,52	0,00	562.656,52	237.343,48	70%
02 Research and Development		COGES	3.400,00	3.400,28	0,00	3.400,28	-0,28	100%
03 Implement GIS asset management system		COGES	200.000,00	148.181,54	0,00	148.181,54	51.818,46	74%
04 Technical Assistance		REGIE	1.900.000,00	1.692.252,22	0,00	1.692.252,22	207.747,78	89%
05 Set-up of new delegations/offices		COGES	950.000,00	789.031,00	0,00	789.031,00	160.969,00	83%
06 Technical Assistance - MOZ1002211		REGIE	800.000,00	611.650,17	0,00	611.650,17	188.349,83	76%
07 Research And Development		REGIE	213.679,00	138.108,95	0,00	138.108,95	75.570,05	65%
08 Implement GIS Asset Managment System		REGIE	100.000,00	46.096,23	0,00	46.096,23	53.903,77	46%
04 VAT - Prepaid on access to energy			1.200.000,00	805.907,90	0,00	805.907,90	394.092,10	67%
01 VAT prepaid on access to energy		COGES	1.200.000,00	805.907,90	0,00	805.907,90	394.092,10	67%
X Reserve			0,00	0,00	0,00	0,00	0,00	7%
01 Reserve			0,00	0,00	0,00	0,00	0,00	7%
01 co-managed Reserve		COGES	0,00	0,00	0,00	0,00	0,00	7%
Z General Means			909.859,00	593.634,49	0,00	593.634,49	316.224,51	65%
01 Personnel Costs			176.000,00	134.639,78	0,00	134.639,78	41.360,22	76%
01 Accoutnant and Administrative officer		REGIE	150.000,00	109.242,42	0,00	109.242,42	40.757,58	73%
02 Procurement Officer		REGIE	26.000,00	25.397,36	0,00	25.397,36	602,64	98%
02 Investments			73.965,00	67.263,99	0,00	67.263,99	6.701,01	91%
01 Vehicles		REGIE	53.965,00	53.965,48	0,00	53.965,48	-0,48	100%
02 ICT		REGIE	20.000,00	13.298,51	0,00	13.298,51	6.701,49	66%
03 Operating costs			303.894,00	186.991,38	0,00	186.991,38	116.902,62	62%
01 Vehicles operation and maintenance		REGIE	21.532,00	21.532,48	0,00	21.532,48	-0,48	100%
		REGIE	5.567.399,00	3.921.391,15	0,00	3.921.391,15	1.646.007,85	70%
		COGEST	17.772.601,00	14.561.184,74	0,00	14.561.184,74	3.211.416,26	82%
		TOTAL	23.340.000,00	18.482.575,89	0,00	18.482.575,89	4.857.424,11	79%

Budget vs Actuals (Year to Date) of MOZ0901811

Project Title : **Expansion de systèmes d'énergie renouvelable pour la promotion du développement rural**

Budget Version: **I01**
Currency : **EUR**
YtD : **Report includes all valid transactions, registered up to today**

	Status	Fin Mode	Amount	Start - 2015	Expenses 2016	Total	Balance	% Exec
02 Communication costs		REGIE	18.500,00	7.262,47	0,00	7.262,47	11.237,53	39%
03 Mission costs		REGIE	164.000,00	117.272,82	0,00	117.272,82	46.727,18	72%
04 Other operating costs		REGIE	77.723,00	22.171,84	0,00	22.171,84	55.551,16	29%
05 Bank charges		REGIE	1.000,00	489,35	0,00	489,35	510,65	49%
06 Bank charges		COGES	8.000,00	5.772,26	0,00	5.772,26	2.227,74	72%
07 Local VAT pre payment		COGES	2.139,00	2.138,92	0,00	2.138,92	0,08	100%
08 Retention tax pre payment		COGES	11.000,00	10.351,24	0,00	10.351,24	648,76	94%
04 Audits, Follow-up and Evaluations			356.000,00	204.762,36	0,00	204.762,36	151.237,64	58%
01 Audit		REGIE	145.000,00	82.160,94	0,00	82.160,94	62.839,06	57%
02 Internal control and risks assessment		REGIE	65.000,00	53.977,67	0,00	53.977,67	11.022,33	83%
03 Mid term and Final evaluation		REGIE	110.000,00	56.041,92	0,00	56.041,92	53.958,08	51%
04 Baseline study		REGIE	20.000,00	2.145,27	0,00	2.145,27	17.854,73	11%
05 Follow-up and backstopping		REGIE	16.000,00	10.436,56	0,00	10.436,56	5.563,44	65%
98 Conversion rate adjustment			0,00	-23,02	0,00	-23,02	23,02	7%
98 Conversion rate adjustment		REGIE	0,00	-23,02	0,00	-23,02	23,02	7%
99 Conversion rate adjustment		COGES	0,00	0,00	0,00	0,00	0,00	7%

REGIE	5.567.399,00	3.921.391,15	0,00	3.921.391,15	1.646.007,85	70%
COGEST	17.772.601,00	14.561.184,74	0,00	14.561.184,74	3.211.416,26	82%
TOTAL	23.340.000,00	18.482.575,89	0,00	18.482.575,89	4.857.424,11	79%

Budget vs Actuals (Year to Date) of MOZ0901811

Project Title : **Expansion de systèmes d'énergie renouvelable pour la promotion du développement rural**

Budget Version: **I01**
Currency : **EUR**
YTD : **Report includes all valid transactions, registered up to today**

	Status	Fin.Mode	Amount	Start - 2015	Expenses 2016	Total	Balance	% Exec
A INCREASE ACCESS TO ENERGY			22.430.141,00	17.888.941,40	0,00	17.888.941,40	4.541.199,60	80%
01 Access to energy is increased by implementation			16.105.305,00	13.052.511,11	0,00	13.052.511,11	3.052.793,89	81%
01 Needs assessments, feasibility studies		COGES	1.026.000,00	835.295,86	0,00	835.295,86	190.704,14	81%
02 Hydroprojects		COGES	4.290.000,00	3.249.695,18	0,00	3.249.695,18	1.040.304,82	76%
03 Solar electrification		COGES	7.850.000,00	7.019.439,05	0,00	7.019.439,05	830.560,95	89%
04 Wind water pumping		COGES	9.317,00	9.316,87	0,00	9.316,87	0,13	100%
05 Maintenance Structure		COGES	1.255.000,00	958.440,89	0,00	958.440,89	296.559,11	76%
06 Needs assessments, feasibility Studies		REGIE	230.000,00	45.238,45	0,00	45.238,45	184.761,55	20%
07 Solar electrification		REGIE	1.230.000,00	759.975,06	0,00	759.975,06	470.024,94	62%
08 Wind energy		COGES	124.988,00	128.951,75	0,00	128.951,75	-3.963,75	103%
09 Wind Energy		REGIE	90.000,00	46.158,00	0,00	46.158,00	43.842,00	51%
02 Micro financing mecanisms are developed and subsidised			157.757,00	39.145,48	0,00	39.145,48	118.611,52	25%
01 Set-up of MF mechanism		COGES	3.677,00	3.676,73	0,00	3.676,73	0,27	100%
02 Communication		COGES	0,00	0,00	0,00	0,00	0,00	?%
03 Investment funds		COGES	80,00	79,54	0,00	79,54	0,46	99%
04 Financial Incentives / Subsidies solar system market		COGES	0,00	0,00	0,00	0,00	0,00	?%
05 Marketing Study small solar system market		COGES	29.000,00	28.849,21	0,00	28.849,21	150,79	99%
06 Promotion of small solar systems market		COGES	10.000,00	0,00	0,00	0,00	10.000,00	0%
07 Institutional support to FUNAE - marketing		COGES	0,00	0,00	0,00	0,00	0,00	?%
08 Private Sector Officer		REGIE	35.000,00	4.140,00	0,00	4.140,00	30.860,00	12%
09 Short Term Consultancies		REGIE	80.000,00	2.400,00	0,00	2.400,00	77.600,00	3%
03 Capacity of co-management is increased			4.967.079,00	3.991.376,91	0,00	3.991.376,91	975.702,09	80%
		REGIE	5.567.399,00	3.921.391,15	0,00	3.921.391,15	1.646.007,85	70%
		COGEST	17.772.601,00	14.561.184,74	0,00	14.561.184,74	3.211.416,26	82%
		TOTAL	23.340.000,00	18.482.575,89	0,00	18.482.575,89	4.857.424,11	79%

4.6 Communication resources

N/A