BTC

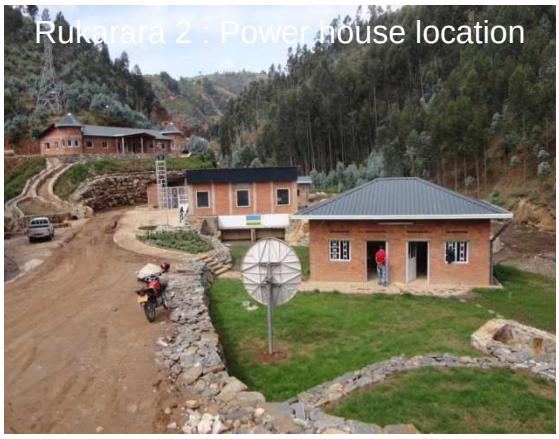
EWSA
Energy Water and Sanitation

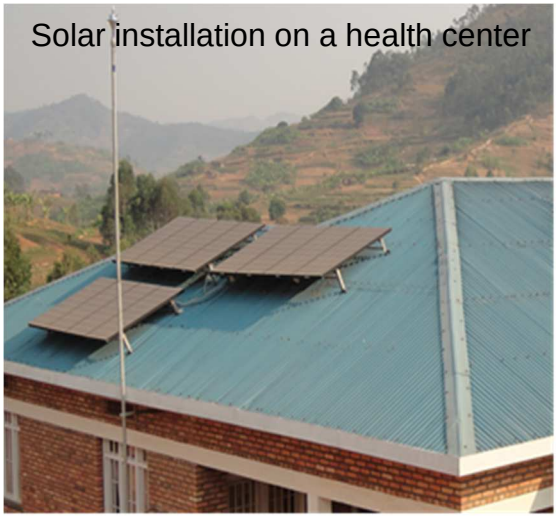
REPUBLIQUE DU RWANDA
MININFRA

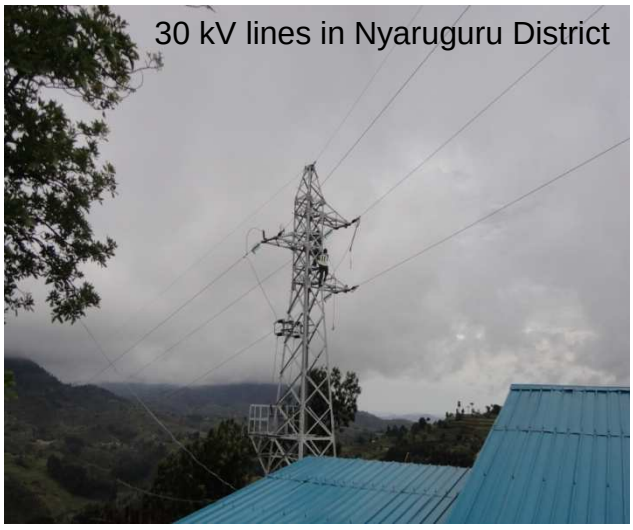
RESULTS REPORT 2013

ACCESS TO ELECTRICITY FOR THE RURAL POPULATION BY UTILIZATION OF RENEWABLE ENERGY. (EPRER PROJECT)


Rukarara2 : Turbines & Alternators


Rukarara 2 : Power house location


Solar installation on a health center


30 kV lines in Nyaruguru District

Acronyms

BTC	Belgian Technical Cooperation, the Belgian development agency
EDPRS	Economic development and poverty reduction strategy
EPRER	Electrification des Populations Rurales par des Energies Renouvelables
EPS	Energy policy and strategy
ESSP	Energy sector strategic plan
ETR	End-Term Review
EWSA	Energy, Water and Sanitation Authority
GoR	Government of Rwanda
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MHPP	Micro hydropower Project
MINAFFET	Ministry of Foreign Affairs and Cooperation
MINECOFIN	Ministry of Finance and Economic Planning
MININFRA	Ministry of Infrastructure
MTR	Mid-Term Review
MW	Mega Watt
TFF	Technical and Financial File
YESDP	Young Engineers Skills development Program

1 Intervention at a glance

1.1 Intervention form

Intervention title	Access to electricity for the rural population by utilization of renewable energy. (EPRER)
Intervention code	RWA 0705511 and RWA 1007711-Complement
Location	Toutes les 4 Provinces du pays
Total budget	EUR 19,333,659: EUR 17 532 659 (Be) EUR 1 801 000 (GoR)
Partner Institution	MININFRA/EWSA
Start date Specific Agreement	19th December 2007
Date intervention start /Opening steering committee	15th February 2008
Planned end date of execution period	30th June 2014
End date Specific Agreement	18th December 2014
Target groups	Populations in rural areas of Rwanda
Impact[1]	Socio-economic development of the rural population and the improvement of their living conditions
Outcome	Relatively cheap electric energy available to the rural users and to national grid during times of lower consumption
Outputs	Result 1. Electricity production from renewable energy sources has increased
	Result 2. Electricity access rate has increased due to the electricity distribution grid extension.
	Result 3. Institutional support has been provided to electricity agencies at national and regional levels.
Year covered by the report	2013

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

1.2 Budget execution

	Budget (EUR)	Expenditure (EUR)		Balance (EUR)	Disburse-ment rate at the end of year n
		Previous years	2013		
Total	17,532,659	*2012:1,251,139.09 2011: 3,378,143.57 2010: 3,601,758.73 2009: 6,631,411.87 2008: 1,304,987.67*	*603,353.22*	*761,864.85*	96%
Output 1: Energy production	*6,535,784*	*2012: 554,939.33 2011: 1,090,803.35 2010: 2,148,292.69 2009: 1,843,042.14 2008: 532 893,82*	*365,029.96*	180 837,01	97%
Output 2: Grid extension	*9,044,119*	*2012: 482,181.05 2011: 2,062,485.82 2010: 1,133,274.65 2009: 4,548,490.48 2008: 817 531,33*	*0*	155,82	100%
Output 3: Institutional support	*450,000*	*2012: 44,921.60 2011: 18,393.28 2010: 105,747.63 2009: 50,000.00 2008: 52 682,69*	*28,340.51*	149 914,29	67%

1.3 Self-assessment performance

1.3.1 Relevance

	Performance
Relevance	**A**

The intervention is implemented in accordance with the objectives of the Belgian development policy and in line with the policy framework and guidelines of the partner country in terms of power generation and access to modern energy in rural areas, such as Vision 2020, EDPRS1 and EDPRS2, energy policy and strategy, energy sector strategic plan, etc. Increasing the access to modern energy services is also a key element to achieving the Millennium Development Goals (MDGs).

1.3.2 Effectiveness

	Performance
Effectiveness	**B**

The status of the specific objective of the intervention according to their results is as follow:

- The 2 results among 3 (i) institutional support to energy agencies (ii) construction of 68 km 30 kV distribution lines are 100% achieved in reasonable time;

- For the 3rd result which is to add 2.5 MW (2.2 MW at Rukarara 2 and 0.3 MW at Cyimbili) and electrification of 50 health centers by solar is not yet fully achieved due to extra works at Rukarara 2 MHPP that lead to time extension. The implementation rate for Rukarara 2 MHPP is 95%.

The increased number of electricity connections in rural centers in Nyaruguru, Muhanga and Rutsiro Districts contributes to achieving the objectives of the intervention. Electricity becomes a top priority, along with other infrastructure (roads and access to drinking water, etc.).

1.3.3 Efficiency

	Performance
Efficiency	**B**

During the implementation of the intervention, most of the expected results of the outcome were delivered following the agreed budget.
However, more than 12 month delays were registered in civil engineering works (lot 1) at Rukarara 2 micro hydropower site due to contractor's claims for extra works (soil and rock excavated). This has a significant impact in project completion as well as the additional resources in term of finance, human resource and equipment .To solve this problem, the Government of Rwanda took a decision to pay the contractor' claim : an addendum of 1.4 Meur has been signed on September 3rd, 2014. It has been imputed on the budget of the GoR.

1.3.4 Potential sustainability

	Performance
Potential sustainability	**B**

Most components of the intervention (solar, micro hydro, distribution line, institutional support) were implemented with high quality execution (*Technical* sustainability).

EWSA ownership:

- EWSA staff was involved from the beginning of the intervention. For the operation of the plant, a capacity building/effective training of operators is planned to be carried out by Contractors.
- To ensure the durability of hydropower plant, EWSA has put in place a maintenance team for regular maintenance under electricity generation unit. Nevertheless we can observe a need of training, skills and organization to perform with efficiency.

The intervention also funded advanced training in master's level in renewable energy for 2 people in the Electricity Generation Unit/EGU (in charge of power plant management).

However, strong weaknesses are noted on the subject of institutional and organizational sustainability. As it was not the primary aim of the intervention, formulated in 2007 with a technical orientation, the strict application of the quality criteria in annex implies a "B" ranking. Management by EWSA of the hydro power plants built (and transferred to EWSA) remains an important issue today.

1.4 Conclusions

In the framework of the settled objectives, during the year 2013, the project implementation was characterized by following activities:

1. Power generation**:**

1.1. The resuming of works at Rukarara 2 micro hydropower site, the most important project activity, as a result of a long process of negotiation (January-May 2013) on the contractor's claim of 2.9 mio. Euro for extra works (for soil and rock excavated), followed by negotiation of the addendum no. 1 to contract agreement amounting to 1.4 out of the claimed 2.9 mio. Euro and its signature on 3rd of September 2013. According to this agreement, the provisional reception was expected at end January 2014, after a 2 month probationary period.

1.2. Installation of the new turbine housing at Keya micro hydropower plant, 2.2 MW installed capacity in Western Province and start power generation since 6th of December 2013 after more than 18 months of stoppage ; Supply and installation of an Overhead crane at Keya micro hydropower plant.

1.3. Supply and installation of Lightning equipment of 20 out 46 health centers electrified by solar located in high risk areas.

2. Institution support**:** Three masters were funded by the project in the framework of institutional support to national energy agency. As a conclusion in this regard, each project intervention in Capacity building should refer to the capacity building action plan approved by the beneficiary institution/agency.

Activities of the intervention related to increase access for rural areas (construction of MV 30 kV distribution lines in Nyamagabe, Muhanga and Rutsiro Districts) were completed during the previous years and are not taken into account in this report.

The overall completion rate of the intervention is at 96%.

In terms of positive effect of the intervention on people in rural areas, following impacts were observed on the beneficiaries:

- changes in the way people live: less energy expenses for lighting and communication (radio, TV, mobile phones), increased time for leisure and to organize household duties ;
- development of productive activities (energy for productive uses) like welding and carpentry workshops ;
- enhancement of health and education services,
- Significant progression of revenues during and after construction works;
- Etc.

National execution official[2]	BTC execution official[3]
Felicien NDABAMENYE, Directeur d'Intervention	Gilles BARCHMAN, Project Co-Manager since 01/01/2014)

[2] *Name and Signature*
[3] *Name and Signature*

2 Results Monitoring[4]

2.1 Evolution of the context

2.1.1 General context

The national energy strategy has been reviewed by the GoR (date) with higher energy targets. The overal target is to increase the electricity access rate to 50% and to develop over 564 MW additional generating capacity by 2017 in which, the intervention contributes to the achievement of following targets:

(a) Increase hydropower generation to about 320 MW ;
(b) Strengthen and expand the transmission lines by an additional 2100 km ;
(c) Reach a total of 1,200,000 connections to the electricity grid ;
(d) 100% Electrify access for schools, health facilities and sector & Cell offices.

2.1.2 Institutional context

The energy sector is under responsibility of following institution:

- Ministry of Infrastructure (MININFRA) in charge of policy framework and monitoring;
- EWSA in charge of implementation and development functions for energy programmes;
- RURA for regulations and Energy tariffs.

The EPRER project is under direct supervision of EWSA.

MININFRA and EWSA have played a big role in the execution of Rukarara II-MHPP, preventing the failure of the project by negotiating the reasonable cost of additional works and allow the progress of work on site in order to put the MHPP on the national grid as soon as possible (first quarter of 2014).

MININFRA and EWSA also ensure:
(a) Easy access to any documentation or necessary information for the implementation of activities ;
(b) Any relevant services necessary for the project implementation.

During the reporting period no institutional reform was made, although change occurred on the top management of EWSA (DG, DDGE) and MININFRA (Senior Minister,PS). Those events have had no or minor consequences and roll out of the project.

2.1.3 Management context: execution modalities

The intervention is implemented in co-management modality. The project management unit is composed of Project manager (Directeur d'intervention) and Project co-manager (Délégué à la Cogestion). EWSA and BTC-Rwanda are thus the contracting authority.

[4] Impact refers to global objective, Outcome refers to specific objective, output refers to expected result

A project steering committee is established to take important decisions on the intervention. It is composed of a MININFRA representative (PSC Chair), a MINAFFET representative, a MINECOFIN representative and the BTC resident representative (Vice Chair). The steering committee took place two times only this year: January and July 2013.

The co-management execution modality has the following positive effects:

- Benefit from the exchange of the national and international expertise and relationship.
- Ensure the strict application of the legislation, detailed in the BTC manual on the application of procurement procedures according to Rwandan law.
- Ensure the respect of terms of the grant agreement.
- Reinforce the quality and the sustainability for the phasing out and the appropriation by EWSA.

2.1.4 Harmo context

A sector wide approach (SWAp) was created in the electricity sector to harmonize all the stakeholder's actions and align them to government priorities. Most of intervention is in Electricity Access roll out program, methane gas, solar energy and new electricity connections in rural Districts; those development actors/partners include World Bank, European Union, GIZ, Netherlands and GoR.

2.2 Performance outcome

2.2.1 Progress of indicators

Outcome: "Relatively cheap electric energy available to the rural users and to national grid during times of lower consumption"					
Indicators	**Baseline value[5]** **(2007)**	**Value year N-1[6]** **(2012)**	**Value year N[7]** **(2013)**	**Target year N[8]** **(2013)**	**End Target[9]** **(2014)**
Electricity production cost (RwF/kWh)	**70**	**67**	**60**	**60**	**60**
Annual electricity production (GWh/year)	**237**	**418**	**456**	**498**	**500**
Electricity access rate (%)	**5**	**16**	**17**	**16.5**	**50**

2.2.2 Analysis of progress made

There is a significant progress made to reach the outcome through the indicators already set:

1. 46 health centers in rural area have been connected to solar electricity. As the energy *operating* cost is mainly considered as cheaper by using solar energy instead of diesel generators, we can assume it has contributed to the reduction of the average electricity production cost from 70 Rwf/kWh to 60 Rwf/kWh,

2. During year 2013, in electricity generation, 1,450 MWh/yr was generated by the completed micro hydropower plant of Cyimbili with 300 kW installed capacity.

   The micro hydropower plant of Rukarara II is expected to be on national grid by end of March 2014 with the energy production of 13GWh/Year.

   Solar equipment with average installed capacity of 2.5 kWc each on 46 health centers, continued running and generating energy, but it is not measured.

3. 13 Rural centers in Nyaruguru and 11 in Rutsiro districts continued benefiting electricity from distribution lines constructed by the intervention.

[5] *The value of the indicator at time 0. Refers to the value of the indicators at the beginning of the intervention (baseline)*
[6] *The achieved value of the indicator at the end of year N-1*
[7] *The achieved value of the indicator at the end of year N. If the value has not changed since the baseline or since the previous year, this value should be repeated.*
[8] *The planned target at the end of year N*
[9] *The target value at the end of the intervention*

2.2.3 Potential Impact

The specific objective contribute to the EDPRS-2, that states that national energy strategy target is to increase the electricity access rate to 75%, and to develop over 563 MW additional generating capacity by 2017, mainly based on renewable energy ressource, hydropower and solar among others.

Electricity generated by MCH and solar panels on 46 health centers contributed to the social economic development and improvement of the rural population living conditions :

- Job creation specially those using electricity (welding workshops, Hair saloons, mealing machines, carpently workshops,sewing workshops …)
- Quality service improvement
- Increase working hours
- Public and domestic ligting
- electrified health centers facilitate the store of drugs and vaccine,
- Improvement of communication (radio, TV, mobile phone charging, …)
- Rural education facility (reading and homework for pupils)

2.3 Performance output 1

2.3.1 Progress of indicators

Output 1: Electricity production from renewable energy sources has increased					
Indicators	**Base-line value**	**Value year N-1**	**Value year N**	**Target year N**	**End Target**
Energy production by MHPP, GWh/yr	**0**	**0.5**	**0.7**	13.5	13.5
Number of health centers electrified by solar	**0**	**46**	**0**	**46**	**50**

2.3.2 Progress of main activities

Progress of main activities [10]	**Progress:**			
	A	B	C	D
1 .MHPP construction in the southern province (Rukarara II)				X
2. Health centers electrification		X		
3. Supply of lightning rod conductors and surge protectors for protection PV systems at HC		X		

2.3.3 Analysis of progress made

Although the delay countered in project achievement to reach the results, the activities are still leading to the intended output. Initially Rukarara II was planned to start in January 2011 and to be completed in July 2012, but due to the logistic problem and lack of site organisation, the work progress encountered the delays during the project execution.

In December 2012, the contractor introduced the claim for payment of additional quantities for soil excavation and this wasn't communicated before to the client, and the signed contract was on lump sum basis. The contractor decided to hold the works on site until February 2013 to force a decision in his favour. The negotiation started in February 2013 and the new contract was signed in September 2013 for a period of 4.5 months.

Even, the full commissioning was planned for November 2013 and due to new technical problem, the contractor postponed it again and rescheduled to December 2013. At date, the commissioning is not yet successful.

[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.

Electrification of 46 health centres was completed on time. To ensure the installation durability, the contract was made for the supply and installation of lightning rod conductors and surge protectors for PV systems.

2.4 Performance output 2

2.4.1 Progress of indicators

Output 2: Electricity access rate has increased due to the electricity distribution grid extension					
Indicators	**Base-line value**	**Value year N-1**	**Value year N**	**Target year N**	**End Target**
MV lines constructed by the project (km)	**0**	**170**	**0**	**0**	**170**
Number of rural centers connected to the MV network by the project	**0**	**48**	**0**	**0**	**48**
Number of schools electrified by the project	**0**	**38**	**0**	**0**	**38**

2.4.2 Progress of main activities

Progress of main activities [11]	**Progress:**			
	A	B	C	D
1 Construction of the MHPP interconnection line in Nyamagabe district		X		

2.4.3 Analysis of progress made

The construction of interconnection line connecting the Rukarara II –MHPP to national grid was partially completed, due to the technical problem of lack of air break switch; the line is not completed 100 %.While the contractor and the client are still discussing on the issue the line is operating in those conditions.

[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.

2.5 Performance output 3

2.5.1 Progress of indicators

Output 3: Institutional support has been provided to electricity agencies at national and regional levels.					
Indicators	**Base-line value**	**Value year N-1**	**Value year N**	**Target year N**	**End Target**
Number of support activities financed by the projects	**0**	**1**	**1**	**/**	**/**
Number of trained and operational technicians (MHPP and solar installations)	**0**	**37**	**0**	**/**	**/**
Number of staff who benefited funds for post graduate masters	**0**	**0**	**3**	**3**	**3**

2.5.2 Progress of main activities

Progress of <u>main</u> activities [12]	**Progress:**			
	A	B	C	D
1. Institutional support by payment of 1 year salary for 3 local counterparts in human resource management and procurement.		X		
2. Capacity building of EWSA staff for post graduate (masters).		X		

2.5.3 Analysis of progress made

Overall the institutional support activities in the year 2013 has been fruitful and done on schedule. However the initiated Young Engineers Skill Development Program-YESDP was not started as planned in 2013 as the terms of execution agreement were not yet agreed upon, and as EWSA did not have a person in charge in piloting the process.

[12] 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

Various indications show that women tend to benefit more from electrification than men, especially in rural areas. Although it is hard to quantify these differences, common sense as well as insight by external studies can bring some of these dynamics in which women's advantages are higher to the foreground,
As women are almost responsible of domestic activities, those ones become easier with the installation of milling machine, sewing machine,… Therefore, children benefit the electricity in their school and house lighting for the improvement of evening homework

And men in general, benefit the access of electricity in their activities such as commerce, art.

2.6.2 Environment

Electricity produced by hydro plants and solar decrease the need for energy coming from generator fuels, kerosene lamp, firewood and others which can damage the environment.

The availability of electricity will also decrease the need of rural villagers to use kerosene lamp and candles for their lighting needs.

Natural erosion on the Rukara site will be a problem. Unsolved at this stage, as the main focus is to get the plant running, and that budget to fund environmental protection is not available.

2.6.3 Other : HIV/AIDS

Due to electricity access, the access to information was made easy by availability of radio, television and other source of information that may require electricity. Particularly the sensitization campaign on the awareness on AIDS/HIV was increased through the different media accessibility.
Improvement of refrigeration, sterilisation of some medicine and medical equipment has increased the degree of AIDS/HIV prevention.

2.7 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
Accumulated delay in construction works at Rukarara II.	11/1/2012	REP	High	High	Very high	Support KDFEE for maximum site operations.	DI+IIH	9/1/2013	Agreements (addenda to contract) were made by both parties to complete the works and fix new planning	Ongoing
Inefficient measures for river bank protection at Sebeya river-Keya Action Plan.	11/1/2012	FIN	High	High	Very high	Involve the local authorities and MINIRENA/MINA GRI.	DI+HM	1/1/2014	Project is in contact with MINERENA and the Rubavu District.	Ongoing
Idem supra	11/1/2012	FIN	High	High	Very high	Dedicated technical action plan	DI+DELCO	03/03/2014	One turbine housing had to be replaced, and some preventive measure are temporarily yet implemented	Ongoing
Risk due to delay in recruitment of Project co-manager after the leaving of Mr Valery Pirotte.	7/1/2013	OPS	High	Medium	High	Accelerate the recruitment process.	BTC	9/1/2013	The new project co-manager on board since 16th January 2014.	Closed
Litigation by Belgian suppliers during the PV installation of health centers by SST company.	3/1/2013	REP	Low	Medium	Low	Find an agreement with SST company and request him to pay the Belgian suppliers.	DI+JPT	6/1/2013	No agreement was found: the case was presented to local commercial court and the decision was made to pay only the local supplier.	Closed

3 Steering and Learning

3.1 Strategic re-orientations

Following the quick wear out of the turbine housing of Keya pp, the steering committee decided to take the following actions in order to restore and sustain the operation of the plant and achieve the objective of maximum production of 2.2 MW:

- Replacement of damaged turbine housing.
- Construction of second sand trap at intake to remove the sand.
- Implementation of SCADA system for operation monitoring.
- Afforestation and Protection of Sebeya River bank to prevent the sediment transport.
- Improvement of operation maintenance manual.

3.2 Recommendations

Recommendations	**Actor**	**Deadline**
Description of the recommendations	*The actor responsible for (dis)approving the recommendation*	*e.g. Q1, Q2, Q3 or Q4 of year N+1*
Construction of silting basin	EWSA	Q3
Improve the plant automation (by SCADA system)	EWSA	Q3
Improve the plant operation and maintenance manual	EWSA	Q2
Follow up of afforestation and Protection of Sebeya River bank	EWSA & Local Authorities.	-
Develop organised hydropower maintenance and repair department.	EWSA	Q3

3.3 Lessons Learned

Lessons learned	Target audience
Description of the lesson learned.	The audience that may be interested in the lesson learned. (intervention, Representation, BTC HQ department, partner department…).
The technical and organizational assessment of a contractor cannot be based on the offers only. Procuring entity has to assess the capacities by checking conscientiously the references, experience and adequate ressources (qualified key personnel, equipment, financial).	Intervention, BTC Representation, partner institution.
To ensure an adequate project management cycle and, in particular, to ensure a good monitoring and evaluation, the result indicators should be properly formulated (SMART). They often remain too vague to evaluate the progress made and this can cause a diversion from the original objectives	Project formulation team
Avail a technical committee which will be able to check the feasibility study and designs, tender documents (technical specification, terms of references).	Procuring entity

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?					
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?					
X	**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).			
	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	**I**ntervention 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					
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		
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?		
	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.
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.
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.

3. 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		
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.		
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.		
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.		
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.		

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**	
		X
	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.
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?		
X	**A**	Policy and institutions have been highly supportive of intervention and will continue to be so.
	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).
X	**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

Decision to take					Action			Follow-up	
Decision to take	**Period of identification**	**Timing**	**Source**	**Actor**	**Action(s)**	**Resp.**	**Deadline**	**Progress**	**Status**
BTC to extend contract for the co-manager up to end of Sept. 2013	1/1/2013	4/1/2013	MoM SMCL no. 23	BTC	Extension of contract for Mr. Valery PIROTTE	BTC	Feb. 2013	Extended	Closed
The project to define the needed resource (who and qualification) inside EWSA to lead and achieve the Keya Action Plan	7/1/2013	-	MoM SMCL no. 24	PMU	Eng. Marcel HABIMANA to be on the payroll of EWSA	PMU	1/9/2013	Done since Sept. 2013	Ongoing
					EWSA maintenance team to be involved in the process.	EWSA/EGU	6/30/2014	ongoing	
The project to submit the amendment no. 2 and the 10% increase contract for Rukarara 2 to BTC for non-objection	7/1/2013	7/15/2013	MoM SMCL no. 24	PMU	Submit the 2 contracts (addendum no. 2 and 10% increase contract) to BTC RR for non-objection	PMU	7/10/2013	Submitted & N.O. granted	Closed
BTC will not be contracting party for the 10% increase contract of 335.700 €	7/1/2013	-	MoM SMCL no. 24	BTC	Approval & non-objection	BTC		N.O. granted	Closed
The project to set up a financial plan to extend the activities of the project till June 30th, 2014 and the hiring of another DelCo from October 2013	7/1/2013	7/25/2013	MoM SMCL no. 24	PMU/ BTC	Budget proposal	PMU/BTC	7/15/2013	Budget presented on 7/25/2013	closed
					ToR for the recruitment of the new co-manager	BTC	7/20/2013	ToR drafted	
					Job advertisement	BTC	9/1/2013	advertised	

4.3 Updated Logical framework

During the reporting period there were no changes of logical framework. Only a new activity of Young Engineer Skills Development Program (YESDP) was added to the 3rd result of the institutional support provided to electricity agencies at national and regional level which influenced the budget reallocation.

Results	Results indicators	Verification source	Risks and hypotheses
R1. Electricity production from renewable energy sources has increased	• **Energy production per MHPP** • **Number of electrified HC**	Statistics from EWSA, MININFRA and MINISANTE	• **The management and maintenance of the MHPP are done by EWSA**
Activities per results	**Means**	**Costs in Euros**	**Risks and Hypotheses**
• .1. Cyimbili MHPP construction	Contractor	1.190,425.00 €	
• .2.Study and follow-up of the MHPP works in the southern province	Study bureau	807,922.00 €	The studies confirm the feasibility
• .3 .MHPP construction in the southern province (Rukarara II)	Contractor	3,040,072.47 €	The full expropriation is paid by Rwandan Contribution
• .4. Study and following of the health centers electrification	Study bureau	103,618.82 €	The studies confirm the feasibility
• .5. Health centers electrification	Contractor	1,376,065.00 €	The maintenance is done by the technical services of MINISANTE
• .6.Pilote installation of energy	Contractor	17,681.00 €	
	Total for Energy production	**6,535,784.29 €**	

Results	Results indicators	Verification source	Risks and hypotheses
R2. Electricity access has increased thanks to the electricity distribution grid extension	• **MV lines constructed by the project (km)** • **Number of rural centers connected to the MV network by the project** • **Number of schools electrified by the project**	Statistics from EWSA, MININFRA and MINISANTE	• **The management and maintenance of the installations are done by EWSA**
Activities per results	**Means**	**Costs in Euros**	**Risks and Hypotheses**
2.1 Study and follow-up of MV lines and LV network work	Study bureau	329,998.00 €	The full expropriation is paid by Rwandan Contribution
2.2 Construction of the MHPP interconnection lines in the districts of Rutsiro and Rubavu	Contractor	1.862.989,19 €	
2.3 Extension of the MV line Kigali – Kiyumba	Contractor	2.183.697,96 €	
2.4 Construction of the MHPP interconnection line in Nyaruguru district	Contractor	4.667.434,00 €	
	Total for lines and network	**9,044,119.15 €**	

Results	Results indicators	Verification source	Risks and hypotheses
R3. An institutional support has been provided to electricity agencies at national and regional level	**Number of support activities financed by the project**	o **PV of the PSC meetings** o **Analytical accountancy**	o **The GoR keeps financing the agencies**
Activities per results	**Means**	**Costs in Euros**	**Risks and Hypotheses**
1.1. Institutional support to national agencies	expertize	150,000.00€	The national agency for renewable energy is operational
1.2. Institutional support to regional agency (EGL)	expertize	150,000.00€	The Great Lakes countries support the EGL agency
1.3. Young Engineer Skills Development Program (YESDP)	expertise	150,000.00€	
	Total for institutional support	**450,000.00€**	

Results	Results indicators	Verification source	Risks and hypotheses
X. Reserve		**95,890.70 €**	

Global execution means	Human resources	Belgian contribution	Rwandan contribution
1. Personal	Minifra, EWSA & CTB	1,075,915.00 €	There is a contribution on national staff salaries (15%) and on operating costs (offices, water, electricity, internet, …)
2. Investments		53,701.44 €	
3. Operating costs	Mininfra, EWSA & CTB	174,248.42 €	
4. Audit, Monitoring and Evaluation	Mininfra, EWSA & CTB	102,999.99 €	
	Total for global execution means	**1,406,864.85 €**	126.000 €

TOTAL EPRER (parts 1 & 2)	**17,532,569.00 €**	**1,801,000.00€**
	19,333,569.00€	

4.4 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)	NA
Planning ETR (registration of report)	April 2014
Backstopping missions since 01/01/2013	August 2013

"Budget versus current (y– m)" Report

Budget vs Actuals (Year to Month) of RWA0705511

Project Title : Accès à l'électricité pour les populations rurales à travers les énergies renouvelables

Budget Version: F01
Currency : EUR
Year to month : 31/12/2013
YtM : Report includes all closed transactions until the end date of the chosen closing

	Status	Fin Mode	Amount	Start to 2012	Expenses 2013	Total	Balance	% Exec
A L'ENERGIE ELECTRIQUE RELATIVEMENT BON MARCHE EST			16.029.903,45	15.305.625,38	**393.370,46**	15.698.995,84	330.907,61	**98%**
01 La production d'énergie électrique à partir de ressources			6.535.784,30	5.989.916,85	**365.029,95**	6.354.946,80	180.837,50	**97%**
01 Construction de la MCH de Cyimbili		COGES	1.190.425,00	1.062.962,71	**44.149,28**	1.107.111,99	83.313,01	93%
02 Etudes et suivi des travaux aux MCH de Nyaruguru		COGES	807.922,00	472.811,66	**243.182,78**	715.994,44	91.927,56	89%
03 Construction des MCH de Nyaruguru		COGES	3.040.072,47	3.037.765,82	**7.171,40**	3.044.937,22	-4.864,75	100%
04 Etudes et suivi des travaux d'électrification des Centres de		COGES	103.618,82	102.489,18	**2.502,96**	104.992,14	-1.373,32	101%
05 Electrification des Centres de Santé		COGES	1.376.065,00	1.297.648,35	**68.070,22**	1.365.718,57	10.346,43	99%
06 Installation pilote d'énergie renouvelable		COGES	17.681,00	17.680,66	**0,00**	17.680,66	0,34	100%
07 Suivi 3MCH Ouest_Contrepartie		COGES	0,01	-1.441,53	**-46,69**	-1.488,22	1.488,23	-14882
02 L'accès à l'énergie électrique est amélioré par l'extension			9.044.119,15	9.043.963,33	**0,00**	9.043.963,33	155,82	**100%**
01 Etude et suivi des travaux aux lignes d'interconnexion des		COGES	329.998,00	329.842,18	**0,00**	329.842,18	155,82	100%
02 Construction de la ligne d'interconnexion des MCH des		COGES	1.862.989,19	1.862.989,19	**0,00**	1.862.989,19	0,00	100%
03 Extension de la ligne MT Kigali-Kiyumba		COGES	2.183.697,96	2.183.697,96	**0,00**	2.183.697,96	0,00	100%
04 Construction de la ligne d'interconnexion des MCH du		COGES	4.667.434,00	4.667.434,00	**0,00**	4.667.434,00	0,00	100%
03 Un appui institutionnel a été mis à la disposition des			450.000,00	271.745,20	**28.340,51**	300.085,71	149.914,29	**67%**
01 Appui institutionnel aux agences nationales et régionales		COGES	300.000,00	271.745,20	**28.340,51**	300.085,71	-85,71	100%
02 YESDP		COGES	150.000,00	0,00	**0,00**	0,00	150.000,00	0%
X RESERVE BUDGETAIRE			95.890,70	0,00	**0,00**	0,00	95.890,70	**0%**
01 Budget Temp Excel Digestor			95.890,70	0,00	**0,00**	0,00	95.890,70	**0%**
01 Réserve Budgétaire COGEST		COGES	95.890,70	0,00	**0,00**	0,00	95.890,70	0%
02 Réserve Budgétaire REGIE		REGIE	0,00	0,00	**0,00**	0,00	0,00	?%
Z MOYENS GLOBAUX			1.406.864,85	861.815,55	**209.982,76**	1.071.798,31	335.066,54	**76%**
		REGIE	959.827,00	574.455,99	**112.071,83**	686.527,82	273.299,18	72%
		COGEST	16.572.832,00	15.592.984,94	**491.281,39**	16.084.266,33	488.565,67	97%
		TOTAL	17.532.659,00	16.167.440,93	**603.353,22**	16.770.794,15	761.864,85	96%

Budget vs Actuals (Year to Month) of RWA0705511 Printed on woensdag 29 januari 2014 page: 1

Budget vs Actuals (Year to Month) of RWA0705511

Project Title : **Accès à l'électricité pour les populations rurales à travers les énergies renouvelables**

Budget Version: **F01**
Currency : EUR
Year to month : 31/12/2013
YtM : **Report includes all closed transactions until the end date of the chosen closing**

	Status	Fin Mode	Amount	Start to 2012	Expenses 2013	Total	Balance	% Ex
01 Frais de personnel			1.075.915,00	613.786,69	**162.493,47**	776.280,16	299.634,84	72
01 Assistant technique		REGIE	801.299,00	463.521,38	**105.875,24**	569.396,62	231.902,38	71
02 Staf national		COGES	218.310,00	117.893,92	**50.993,84**	168.887,76	49.422,24	77
03 Autres frais personnel		COGES	41.306,00	32.371,39	**5.624,39**	37.995,78	3.310,22	92
04 Service Level Agreement		REGIE	15.000,00	0,00	**0,00**	0,00	15.000,00	0
02 Investissements			53.701,44	53.701,86	**0,00**	53.701,86	-0,42	100
01 Véhicules		REGIE	37.392,00	37.392,00	**0,00**	37.392,00	0,00	100
02 Equipement bureau et Télécom		COGES	16.309,44	16.309,86	**0,00**	16.309,86	-0,42	100
03 Frais de fonctionnement			174.248,42	120.407,63	**44.428,63**	164.836,26	9.412,16	95
01 Frais de fonctionnement des véhicules		COGES	124.141,11	81.743,92	**32.550,21**	114.294,13	9.846,98	92
02 Télécommunications		COGES	24.682,02	17.563,88	**6.073,50**	23.637,38	1.044,64	96
03 Fournitures de bureau		COGES	21.795,26	18.243,70	**4.213,69**	22.457,39	-662,13	103
04 TVA		COGES	0,01	2.772,85	**-1.625,19**	1.147,66	-1.147,65	1147
05 Frais bancaires		COGES	494,01	460,04	**80,49**	540,53	-46,52	109
06 Assistant Junior		REGIE	0,01	-376,76	**0,00**	-376,76	376,77	-376
07 Frais de Consultance juridique		REGIE	3.136,00	0,00	**3.135,93**	3.135,93	0,07	100
04 Audit et suivi et évaluation			102.999,99	73.919,37	**3.060,66**	76.980,03	26.019,96	75
01 Suivi et backstopping technique CTB		REGIE	47.999,99	34.219,71	**3.060,66**	37.280,37	10.719,62	78
02 Evaluation à mi-parcours		REGIE	25.000,00	26.580,92	**0,00**	26.580,92	-1.580,92	106
03 Audit		REGIE	30.000,00	13.118,74	**0,00**	13.118,74	16.881,26	44
99 Conversion rate adjustment			0,00	0,00	**0,00**	0,00	0,00	?%
98 Conversion rate adjustment		REGIE	0,00	0,00	**0,00**	0,00	0,00	?
		REGIE	959.827,00	574.455,99	**112.071,83**	686.527,82	273.299,18	72
		COGEST	16.572.832,00	15.592.984,94	**491.281,39**	16.084.266,33	488.565,67	97
		TOTAL	17.532.659,00	16.167.440,93	**603.353,22**	16.770.794,15	761.864,85	96

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	Status	Fin Mode	Amount	Start to 2012	Expenses 2013	Total	Balance	% Exec
99 Conversion rate adjustment		COGES	0,00	0,00	**0,00**	0,00	0,00	?%
		REGIE	959.827,00	574.455,99	**112.071,83**	686.527,82	273.299,18	72%
		COGEST	16.572.832,00	15.592.984,94	**491.281,39**	16.084.266,33	488.565,67	97%
		TOTAL	17.532.659,00	16.167.440,93	**603.353,22**	16.770.794,15	761.864,85	96%

4.5 Communication resources

During the reporting period (year 2013), two (2) communication resources were registered:

1. An article and photos published on BTC website on project implementation progress for Rukarara 2 micro hydropower project ;
2. A site visit to Keya micro hydropower project in December 2013 by Head of cooperation in Belgian Embassy, Desk officer from DGD and Operations Manager from BTC Bruxelles.

1.4 Conclusions

In the framework of the settled objectives, during the year 2013, the project implementation was characterized by following activities:

1. Power generation:
   1.1. The resuming of works at Rukarara 2 micro hydropower site, the most important project activity, as a result of a long process of negotiation (January-May 2013) on the contractor's claim of 2.9 mio. Euro for extra works (for soil and rock excavated), followed by negotiation of the addendum no. 1 to contract agreement amounting to 1.4 out of the claimed 2.9 mio. Euro and its signature on 3rd of September 2013. According to this agreement, the provisional reception was expected at end January 2014, after a 2 month probationary period.
   1.2. Installation of the new turbine housing at Keya micro hydropower plant, 2.2 MW installed capacity in Western Province and start power generation since 6th of December 2013 after more than 18 months of stoppage ; Supply and installation of an Overhead crane at Keya micro hydropower plant.
   1.3. Supply and installation of Lightning equipment of 20 out 46 health centers electrified by solar located in high risk areas.
2. Institution support: Three masters were funded by the project in the framework of institutional support to national energy agency. As a conclusion in this regard, each project intervention in Capacity building should refer to the capacity building action plan approved by the beneficiary institution/agency.

Activities of the intervention related to increase access for rural areas (construction of MV 30 kV distribution lines in Nyamagabe, Muhanga and Rutsiro Districts) were completed during the previous years and are not taken into account in this report.

The overall completion rate of the intervention is at 96%.

In terms of positive effect of the intervention on people in rural areas, following impacts were observed on the beneficiaries:

- changes in the way people live: less energy expenses for lighting and communication (radio, TV, mobile phones), increased time for leisure and to organize household duties ;
- development of productive activities (energy for productive uses) like welding and carpentry workshops ;
- enhancement of health and education services,
- Significant progression of revenues during and after construction works;
- Etc.

National execution official[2]	BTC execution official[3]
Felicien NDABAMENYE, Directeur d'Intervention	Gilles BARCHMAN, Project Co-Manager since 01/01/2014)

[2] *Name and Signature*
[3] *Name and Signature*

1.4 Conclusions

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- enhancement of health and education services,
- Significant progression of revenues during and after construction works;
- Etc.

National execution official[2]	BTC execution official[3]
Felicien NDABAMENYE, Directeur d'Intervention	Gilles BARCHMAN, Project Co-Manager since 01/01/2014)

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