MID-TERM EVALUATION REPORT

Volume I: General Report

Scaling up access to modern electricity services on a regional scale in rural Sub-Saharan Africa by means of a fee for service business model

Mali, Guinea-Bissau and Uganda

ACP-EU Energy Facility 10th European Development Fund
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Acronyms

AMADER	Agence Malienne pour le Développement de l'Energie Domestique et de l'Electrification Rurale
AMEDD	Association Malienne d'Eveil au Développement Durable
ARSEL	Agence de Régulation du Secteur de l'Electricité (Electricity Sector Regulatory Agency, Cameroun)
CAT	The Centre for Appropriate Technology (Cameroun)
CAON	Cellule d'Appui à l'Ordonnateur National (National Authorizing Officer Support Unit (Mali, Guinea-Bissau and Uganda)
CDM	Clean Development Mechanisms
DENARP	National Strategic Document for Poverty Reduction (Guinea-Bissau).
DNE	Direction Nationale de l'Energie (GB)
EU	European Union
FRES	Foundation Rural Energy Services
GB	Guinea-Bissau
GHG	Greenhouse Gases
IPP	Independent Power Producer (Cameroun)
ITW	Interviews
MEIRN	Ministry of Energy and Industry and Natural Resources (GB)
MEMD	Ministry of Energy and Mineral Development (Uganda)
MINEPAT	Ministère de l'Économie, de la Planification et de l'Aménagement du Territoire (Ministry of Economy, Planning and Regional Development), Cameroun
MTR	Mid-term review (also mid-term evaluation)
PANEE	National Action Plan for the Energy Efficiency (GB)
PANER	National Action Plan for the sector of Renewable Energies (GB)
REA	Rural Electrification Agency (Cameroun)
SACCO	Savings and credit Cooperative Societies (Uganda)
SE4ALL	Sustainable Energy for All (GB)
SHS	Solar Home Systems
SME	Small and Medium Enterprises

Executive summary

This report concerns the mid-term evaluation of the ACP Project – EU Energy Facility: Europe Aid/ 133481/ C/ ACT/ Multi « Scaling up access to modern electricity services on a regional scale in rural Sub-Saharan Africa by means of a fee-for-service business model » implemented by the Foundation Rural Energy Services (FRES) and funded by the European Commission.

The contract for the project was signed on 1-12-2014, with a duration of 48 months and will end its operations on 1-12-2018. The total cost of the Action is 10.666.666 €, with an EU/EDF contribution of 8.000.000 € (75%) and a contribution of FRES of 2.666.666 € (25%).

The evaluation was commissioned by FRES, as planned by the project document took place in April-May 2017. As referred in the Terms of Reference for this evaluation, it "must be conducted to receive an external assessment of the progress made until then and the recommendations to improve the intervention and to ensure the achievement of the objectives of the project". The project concerns 3 companies: Yeelen Kura in Mali, FRES Guinea-Bissau and FRES Uganda". At the time of this evaluation, the operations in Cameroon were not yet started, although important preparatory activities started since 2015. An agreement with the competent authorities of the country has not been reached concerning the modalities for the implementation of the project. The reasons for this impasse are analysed further in this report.

Objectives and targets groups

The overall objective of this regional Action is to improve the living conditions of populations in rural areas of Uganda, Mali, Guinea-Bissau and Cameroun using modern energy services and the improvement of climate for entrepreneurship. The target groups consist of rural communities where the population has no access to the national electricity grid in the present or foreseeable future.

The specific objectives of the Action are:

- Provide 8.200 costumers (households and small enterprises with domestic Solar Home Systems (SHS), which are distributed: 1.500 in Mali, 3.200 in Uganda, 1.000 in Guinea-Bissau and 2.500 in Cameroun.

- Provide 1.100 costumers with solar energy produced by photovoltaic mini-grids, which are distributed: 850 in Mali and 250 in Guinea-Bissau.

- Facilitate bi-annual workshops for Rural Electrification Agencies in Cameroun, Mali, Uganda and Guinea-Bissau.

Context of Action

This report briefly analyses the different national contexts of Mali, Guinea-Bissau and Uganda and their Country Energy Policies and Frameworks as well, concluding that the Project consistently fits with the national policies for renewable energies of all the three countries. Consequently, it aims to be a valid contribution to enrich the experiences and the reflections on the business model for rural electrification systems in these countries.

It is essential to highlight that the activities planned for the Action now evaluated are part of the activities of the FRES companies in the 3 countries, already confirmed operators of rural electrification in their respective countries. The Action aims to "upscale" their operations, by supporting them to provide a better and broader answer to an increasing demand of solar electrification services. It should be remembered that the 3 FRES companies concerned by this evaluation have already their own history-basis: Yeelen Kura operates since 2001, FRES-Uganda since 2010 and FRES-Guinea-Bissau since 2011. Their actual number of clients serviced per with SHS and Solar mini-grids is the following:

FRES companies	SHS	Mini-grid	Total
Mali	4.544	3.031	**7.575**
Uganda	4.743	-	**4.743**
Guinea-Bissau	4.130	104	**4.234**
Total costumers	**13.417**	**3.135**	**16.552**

More precisely, concerning the specific targets of this Action, since its start, the situation is the following:

Country/System	2015 (actuals)	2016 (actuals)	2017 (actuals June 2017)	Total Actual	Target 2018 of Action
MALI SHS	573	1.222	313	2.108	1.500
MALI mini-grid	-	-	-	-	850
UGANDA SHS	421	1.119	419	1.959	3.200
GUINEA-BISSAU SHS		-	-	-	1.000
GUINEA-BISSAU mini-grid	-	-	104	104	250
Total costumers	**994**	**2.341**	**836**	**4.171**	**6.800**

This table shows that 61% of the customers have been already installed, after 27 months of implementation. The current dynamic of implementation of all the 3 companies is likely insuring that the target of customers will be met before the end of year 4 (2018).

The facilitation of 2 bi-annual workshops for Rural Electrification Agencies in Cameroun, Mali, Uganda and Guinea-Bissau is presented as a specific objective, but none of them could be performed yet. This delay is due to reasons linked to the impasse generated by the refusal of Cameroon's authorities not accepting the fee for service business model, but also due to political instability in Mali and Guinea-Bissau.

The cooperation and mutual learning amongst the personnel of FRES companies is very encouraging, the sharing of expertise and competencies likely becoming a positive trend in the FRES' organisational culture. This is illustrated by support that the Management team of Yeelen Kura is successfully providing to other FRES companies, as recapped in the following table:

Technical support missions by Yeelen Kura Management performed (2016-2017)

Date	Where	Company	Object
15 to 23/02/16	Guinea-Bissau	FRES- GB	Technical Assistance for the evaluation study of energy needs of solar mini-grid in Contuboel, in the framework of EU Regional project.
29/04 to 07/05/16	Guinea-Bissau	FRES- GB	Operational review of Year 2015 Results of FRES GB. Support to ITWs of recruitment of a new General Director of the company
22 to 25/05/16	Burkina Faso	YEELEN BA	Operational review of Year 2015 of the company
13 to 20/07/16	Guinea-Bissau	FRES-GB	Start interview and job induction of Technical manager and proposal of a new functional organigram
December 2016	Guinea-Bissau	FRES-GB	Staff training by Commercial manager for marketing and communication with communities and clients
04 to 09/04/17	Burkina Faso	YEELEN BA	Operational review year 2016 Deep evaluation of sustainability of Yeelen Ba
2 to 6/05/17	Uganda	FRES Uganda	Evaluation of the new management system and support the implementation of auditor's recommendations

The impasse of the Action in Cameroon

At the time of this evaluation, the operations in Cameroon had not yet started, although the preparatory activities had started since 2015. An agreement with the competent authorities of the country has not been reached concerning the modalities for the implementation of the project. FRES has established contacts with all the relevant authorities to start the operations in the North-

West region of Cameroon, and has submitted all the required authorisations in line with the legal requirements, but so far has not obtained the 2 essential guarantees:

- Taxes exemption for the company
- Acceptance to work as a rural electricity provider by means of a fee for service business model and obtaining a formal authorisation to start operating in North-West region.

After long negotiations and delays, the likely definite position of the Government per April 2017 is:

- Some taxes exemption may be authorized, but case by case and no structural exemption for several years
- The fees proposed by the studies conducted in the country by FRES are unacceptable to the Government. It has proposed to cut the fees by half (50%), to change the business model and, alternatively, to adopt a rent-to-own business model.

The electricity sector regulatory authority (ARSEL)'s conditional Authorisation is actually tailored to grid networks (national grid and mini-grids), and do not fit the Business Model of FRES. The conditions imposed by the Government under which FRES should be operating are unacceptable to FRES. It is necessary to recall that the approved project and the financing agreement of the Action, are explicitly based on the fee for service model, which is, since 2001, the reason of existence and the challenge of FRES in Africa. This approach is well known, even in the title of the approved project.

The FRES approach has proven to be successful and sustainable, in the longer term. To develop national capacities to manage a FRES local company is a long-term and challenging task, well beyond the period of 4 years, so FRES also needs steady guarantees that it would be allowed to work, commit itself and engage its capacities and advice, for a longer period.

Methodology of evaluation

The methodology for this evaluation is a combination of more than one technique, consisting primarily of a participatory approach, giving the floor to the managers and agents of the project, as well as to a significant number of representatives of the customers, in the three countries. For the most part, the methodology results in the use of the following techniques:

- Desk review. FRES (HQ, the companies in the 3 countries) provided the consultants with extensive documentation that makes it possible to fully understand its foundations, objectives, effects and expected outcomes, including the tools designed for planning, implementation, and monitoring.

- A matrix of the mid-term evaluation Framework, which defines the evaluation criteria to be used and sets the central questions to be addressed by the evaluation, indicating the information harvesting techniques to be used, as well as the sources of information to be searched.

- Facilitating the participation of national FRES agents on the project evaluation. The methodology commits the consultants to set up an evaluation working group, in each of the countries, to select and develop the capacities of a small number of field staff (about 8-10 persons), who will be previously trained and prepared to conduct interviews of a significant number of clients. Doing semi-structured interviews (ITW) with a sample of the main technical, management agents and partners of the project since its start-up.

As foreseen in the methodology for this evaluation, it is given an important weight to the participation of customers in assessing the quality of the services rendered by the FRES' companies to them and the perception, by the clients themselves, of the changes that occurred in their lives thanks to the electrification of their homes. The number of clients interviewed for this evaluation is shown in the following table:

Countries	Mali	Guinea-Bissau	Uganda	Total
Nº of clients	53	96	186	**335**

Main Evaluation findings

The evaluation findings are presented following the different criteria of evaluation: Relevance and Strategy, Effectiveness, Efficiency, Impact, Sustainability.

- *Concerning Relevance and Strategy*: the project is likely *coherent and consistent* with the government's policies in the 3 countries, as shown in chapter 3 (description of country contexts, and, in a more detailed manner in the 3 country reports (Volume II of this report). The same happens concerning the perceptions of the majority of the 335 clients. The client's answers show that the services offered by the FRES companies fit to a generally perceived important personal and community need.

- *Concerning effectiveness*: the companies and their staff are generally perceived as correct and professionally competent, by almost 100% of the interviewed 335 clients. This important conclusion coincides with other partners of FRES in the 3 countries: government officials, local leaders, EU delegation's representatives and civil society representatives. Moreover, the few cases of mismanagement that occurred in the past are solved or under resolution.

- *Concerning Efficiency*: all the clients elaborated gladly on their suggestions. When given the opportunity of suggesting improvements in the quality of the services rendered by FRES they don't hesitate to do so. An average of 41% of the 335 interviewed clients suggest a reduction of service fees, and a global 20% of them expresses the willing of a modality of Rent-to-own for their systems. The average 20% of clients suggesting a rent-to-own system, should be deeper considered, because it shows that not all the clients completely understand the fee for service business model. As also shown by the answers to the related questions, unambiguously concerning Impact, most clients highly appreciate the services they pay for, and can easily identify the advantages of their systems, when compared to other systems available in their communities.

- *Concerning impact*: the answers demonstrate that all customers understand the changes which occurred in their lives, and that they understand the distinct quality of FRES companies' services as well (intrinsic quality of systems, value of maintenance and replacement…). These are the specific characteristics of the fee for service business model, and the global challenge FRES faces when operating in poor – or even very poor communities.

- *Concerning Sustainability*: the answers are unambiguous, showing that the customers became used to electricity in their homes and small businesses and give the right value to that improvement in their lives. A good number of them are likely not able to buy solar systems at the market, they know that the available systems are of a lower quality and seem to exclude that the FRES' services can stop one day. The acknowledgment, by the customers, of the utility and quality of the FRES companies' services is a guarantee – and a challenge of sustainability.

Conclusions and recommendations

Each of the 3 country reports (Volume II of this MTR report) contain specific conclusions of evaluation and recommendations. As a global conclusion, the Action corresponds well to the global objectives of FRES and those of the 3 FRES concerned companies.

A synthesis of the main conclusions and recommendations, concerning all the 3 companies is the following:

- The demand for households' rural solar electrification is high, sustained and continuous. This demand demonstrates the substantial validity of the services rendered and the approach of FRES.

- The approach “fee for service” is demonstrating its validity, despite the inherent costs. This is proven by the acceptance of most clients, when, although 20% of them will likely appreciate ownership of the systems, they all express an overwhelming positive opinion about the quality of the equipment and understand that they pay for maintenance and replacements.

Nevertheless, some issues deserve more action, and further action for improvement. The main aspects are:

- The rate of fees’ payment is still low (Uganda and Guinea-Bissau).

- The management of FRES-Guinea-Bissau needs further support, to develop an organisation culture more effective and sustainable. The new direction needs to be reinforced and supported by FRES to structure and assess the team based on existing competencies and, when necessary, to complement with more personnel.

- More and better communication with the clients. FRES should avoid appearing as a private company only, and make more explicit it’s actual role in local social-development, moving FRES forward, for more visibility.

- The global networking and cooperation within and among FRES companies should be further developed, to positively influence all the companies. Managers and senior technical staffs should interact more intensively and jointly reflect on the design of a future multi-country company. This will likely overcome weakness and will strengthen identity and visibility.

- Cameroon deserves a special attention, as FRES requested to cancel the procedures in Cameroon and intends to request an amendment of the Action’s EU contract. The FRES Board concluded that the conditions to operate in Cameroon are too stringent and will under no circumstances lead to a viable business case, not in the first four years and not without any governmental support after those four years. The EU Delegation, despite wanting to see this project become reality, acknowledged the difficulties FRES is confronted with. If the withdrawal intentions are confirmed, a duly justified request to the EU for modification of the grant contract should be urgently elaborated. Months after the start of the project it seems advisable not to engage with another new country, but simply request the approval for dispersing the 2.500 SHS, originally planned for Cameroon in Uganda, Mali and Guinea-Bissau.

Sommaire exécutif

Ce rapport concerne l'évaluation à mi-parcours du projet ACP – Facilité de l'Energie de l'UE: Europe Aid/133481/c/Act/multi «Élargissement de l'accès aux services modernes d'électricité à l'échelle régionale dans les régions rurales de l'Afrique subsaharienne au moyen d'un modèle d'entreprise *fee-for-service*», mis en œuvre par la Fondation Services Energie Rurale (FRES) et financé par la Commission européenne.

Le contrat pour ce projet a été signé le 1-12-2014, pour une durée de 48 mois et terminera ses opérations le 1-12-2018. Le coût total de l'Action est de 10.666.666 €, avec une contribution de l'UE/FED de 8.000.000 € (75%) et une contribution de FRES de 2.666.666 € (25%).

Cette évaluation a été commanditée par FRES, comme prévu par le document du projet, et a eu lieu en avril-mai 2017. Comme mentionné dans le mandat de cette évaluation, elle «doit être effectuée pour obtenir une évaluation externe des progrès accomplis jusque-là et des recommandations visant à améliorer l'intervention et à assurer la réalisation des objectifs du projet».

Le projet concerne 3 entreprises: Yeelen Kura au Mali, FRES Guinée-Bissau et FRES Uganda. Au moment de cette évaluation, les opérations au Cameroun n'ont pas encore commencé, bien que d'importantes activités préparatoires aient débuté depuis le 2015. Un accord avec les autorités compétentes du pays n'a pas été atteint concernant les modalités d'exécution du projet. Les raisons de cette impasse sont analysées plus en avant dans ce rapport.

Objectifs et groups-cible

L'objectif global de cette action régionale est d'améliorer les conditions de vie des populations des zones rurales de l'Ouganda, du Mali, de la Guinée-Bissau et du Cameroun en utilisant les services d'énergie modernes et l'amélioration du climat pour l'entrepreneuriat. Les groupes cibles sont constitués par des communautés rurales où la population n'a pas accès au réseau électrique national dans un avenir actuel ou prévisible.

Les objectifs spécifiques de l'action sont:

- Fournir 8.200 clients (ménages et petites entreprises) avec les systèmes solaires domestique (SHS), ainsi distribués: 1.500 au Mali, 3.200 en Ouganda, 1.000 en Guinée-Bissau et 2.500 au Cameroun.
- Fournir 1.100 clients avec l'énergie solaire produite par les mini-réseaux photovoltaïques, ainsi distribués: 850 au Mali et 250 en Guinée-Bissau.
- Faciliter des ateliers biannuels avec les agences d'électrification rurale au Cameroun, Mali, Ouganda et Guinée-Bissau.

Contexte de l'Action

Le présent rapport analyse brièvement les différents contextes nationaux du Mali, de la Guinée-Bissau et de l'Ouganda et de leurs politiques et cadres énergétiques nationaux, concluant que le projet est cohérent avec les politiques nationales en matière d'énergies renouvelables de tous les trois pays. En conséquence, il tend à constituer une contribution valable pour enrichir les expériences et les réflexions sur le modèle d'entreprise pour les systèmes d'électrification rurale dans ces pays.

Il est important de souligner que les activités prévues par l'Action ici évaluées font déjà partie des activités des sociétés FRES dans les trois pays. Ce sont des entreprises déjà confirmées comme étant des opérateurs de l'électrification rurale dans leurs pays respectifs. L'action vise à élargir et renforcer leurs opérations, en les soutenant pour fournir une meilleure et plus large réponse à une demande croissante des services d'électrification solaire. Il convient donc de rappeler que les 3

sociétés FRES concernées par cette évaluation ont déjà leur propre histoire-base: Yeelen Kura opère depuis le 2001, FRES-Ouganda depuis 2010 et FRES-Guinée-Bissau depuis 2011. Leur nombre réel et actuel de clients desservis par SHS et les mini-réseaux solaires est le suivant:

Sociétés FRES	SHS	Mini-réseau	Total
Mali	4.544	3.031	**7.575**
Ouganda	4.743	-	**4.743**
Guinée-Bissau	4.130	104	**4.234**
Total clients	**13.417**	**3.135**	**16.552**

Plus précisément concernant les objectifs de cette Action, les réalisations du projet à ce jour (juin 2017) sont les suivantes:

Pays/Système	2015 (Réalisé)	2016 (Réalisé)	2017 (Réalisé fin juin 2017)	Total Réalisé	Objectif de l'Action (fin 2018)
MALI SHS	573	1.222	313	2.108	1.500
MALI mini-réseau	-	-	-	-	850
OUGANDA SHS	421	1.119	419	1.959	3.200
GUINEÉE-BISSAU SHS		-	-	-	1.000
GUINEÉE-BISSAU mini-réseau	-	-	104	104	250
Total clients	**994**	**2.341**	**836**	**4.171**	**6.800**

Ce tableau montre que 61% des clients ont déjà été installés, après 27 mois de mise en œuvre. La dynamique actuelle de la mise en œuvre de l'ensemble des trois sociétés peut vraisemblablement assurer que la cible des clients sera atteinte avant la fin de l'année 4 (2018).

La facilitation de deux ateliers biannuels pour les agences d'électrification rurale au Cameroun, Mali, Ouganda et Guinée-Bissau est un objectif spécifique régional, mais aucun d'entre eux n'a pu être encore réalisé. Ce retard est dû à des raisons liées à l'impasse engendrée par la situation des opérations de FRES au Cameroun concernant le modèle de négoce « fee-for-service », mais aussi en raison de l'instabilité politique au Mali et en Guinée-Bissau.

La coopération et l'apprentissage mutuel entre le personnel des entreprises FRES est très encourageant, le partage des compétences devient une tendance positive dans la culture organisationnelle de FRES. Cela est illustré par le soutien que l'équipe de gestion de Yeelen Kura (Mali) fournit, avec succès, à d'autres entreprises FRES, comme illustré par le tableau suivant:

Missions d'appui technique par l'équipe de gestion de Yeleen Kura réalisées (2016-2017)

Date	Où	Société	Object
15 au 23/02/16	Guinée-Bissau	FRES- GB	AT pour l'étude d'évaluation des besoins énergétiques du réseau solaire à Contuboel, dans le cadre du projet régional UE
29/04 au 07/05/16	Guinée-Bissau	FRES- GB	Revue opérationnelle des résultats de l'année 2015 de FRES GB. Appui aux ITWs de recrutement d'un nouveau DG pour la société
22 au 25/05/16	Burkina Faso	YEELEN BA	Operational review of Year 2015 of the company
13 au 20/07/16	Guinée-Bissau	FRES-GB	Introduction au travail du nouveau responsable technique et proposition d'un nouvel organigramme fonctionnel
Décembre 2016	Guinée-Bissau	FRES-GB	Formation de l'équipe locale par le responsable Commercial de Yeelen Kura sur marketing et communication avec les communautés et clients
04 au 09/04/17	Burkina Faso	YEELEN BA	Revue Opérationnelle de l'année 2016 Évaluation approfondie de la durabilité de Yeelen Ba
2 au 6/05/17	Ouganda	FRES Uganda	Évaluation du nouveau système de gestion et appui à la mise en oeuvre des recommandations des auditeurs.

L'impasse de l'Action au Cameroun

Au moment de cette évaluation les opérations au Cameroun n'avaient pas encore commencé, bien que des activités préparatoires aient débuté depuis 2015. Un accord avec les autorités compétentes du pays n'a pas été atteint concernant les modalités d'exécution du projet. FRES a

établi des contacts avec toutes les autorités compétentes pour démarrer les opérations dans la région Nord-Ouest du pays et a soumis toutes les autorisations requises en conformité avec les exigences légales, mais jusqu'ici n'a pas obtenu les 2 garanties essentielles:

- Exonération de taxes pour l'entreprise

- Acceptation de travailler en tant que fournisseur d'électricité rurale au moyen du système de négoce « fee-for-service » et l'obtention d'une autorisation formelle pour commencer à opérer dans le nord-ouest de la région.

Après de longues négociations et des retards importants, la position probable du gouvernement en avril 2017 est:

- Certaines exonérations d'impôt peuvent être autorisées, mais au cas par cas et aucune exemption structurelle pour plusieurs années

- Le modèle de négoce et tarifs proposés, d'après des études effectuées dans le pays par FRES, sont inacceptables pour le gouvernement, lequel a proposé de réduire les tarifs de moitié (50%), de modifier le modèle d'entreprise et, en alternative, d'adopter un système «location-vente».

L'autorisation conditionnelle par l'Autorité Régulatrice du secteur de l'électricité est en fait plutôt adaptée aux réseaux plus importants (réseau national et mini-réseaux) et ne correspond pas au modèle commercial de FRES. Les conditions imposées par le gouvernement selon lesquelles FRES devrait fonctionner sont inacceptables pour FRES. Il est nécessaire de rappeler que le projet approuvé par la CE et l'accord de financement de l'action, sont explicitement basés sur le modèle « fee-for-servie », qui est, depuis 2001, la raison de l'existence même et le défi de FRES en Afrique. Cette approche est bien connue, même dans le titre du projet approuvé.

L'approche FRES s'est avérée fructueuse et durable, à plus long terme. Le développement des capacités nationales de gestion d'une entreprise locale FRES est une tâche à long terme et difficile, bien au-delà de la période de 4 ans, faisant en sorte que FRES a également besoin de garanties constantes d'être autorisée à travailler, s'engager et d'engager ses capacités techniques et de conseil, pour une bien plus longue période.

Méthodologie de l'évaluation

La méthodologie de cette évaluation est une combinaison de plus d'une technique, consistant en une approche participative, donnant la parole aux gestionnaires et aux agents du projet, ainsi qu'à un nombre significatif de représentants des clients, dans les trois pays. Pour la plupart, la méthodologie se traduit par l'utilisation des techniques suivantes:

- Etude documentaire. FRES (HQ, les entreprises des 3 pays) ont fourni aux consultants des documents exhaustifs qui permettent de comprendre les objectifs, les effets et les résultats escomptés, ainsi que les outils conçus pour la planification, la mise en œuvre et le suivi.

- Une matrice du cadre d'évaluation à mi-parcours, qui définit les critères d'évaluation à utiliser et fixe les questions centrales à aborder par l'évaluation, en indiquant les techniques de collecte d'information, ainsi que les sources d'information à rechercher.

- Facilitation de la participation des agents FRES nationaux à l'évaluation du projet. La méthodologie engage les consultants à mettre en place un groupe de travail d'évaluation, dans chacun des pays, pour sélectionner et développer les capacités d'un petit nombre d'agents sur le terrain (environ 8-10 personnes), qui seront préalablement formés et prêts à mener des entretiens avec un nombre important de clients et faire des entrevues semi-structurées (ITW) avec un échantillon des principaux agents techniques, de gestion et partenaires du projet depuis sa mise en service.

Comme prévu dans la méthodologie de cette évaluation, il est donné un poids très important à la participation des clients dans l'évaluation de la qualité des services qui leur sont rendus par les

entreprises FRES, ainsi qu'à la perception, par les clients eux-mêmes, des changements qui ont eu lieu dans leur vie, grâce à l'électrification de leurs foyers. Le nombre de clients interviewés pour cette évaluation est indiqué dans le tableau suivant:

Pays	Mali	Guinée-Bissau	Ouganda	Total
Nº de clients	53	96	186	**335**

Principales conclusions de l'évaluation

Les résultats de l'évaluation sont présentés selon les différents critères d'évaluation: pertinence et stratégie, efficacité, efficience, impact, durabilité.

-*Concernant la pertinence et la stratégie*: le projet est vraisemblablement cohérent et consistant avec les politiques énergétiques du gouvernement dans les trois pays, comme le montre le chapitre 3 (Description des contextes des pays et, de manière plus détaillée, dans les trois rapports-pays (qui constituent le volume II du présent rapport).) La même perception se dégage des réponses de la majorité des 335 clients interviewés. En général, les réponses des clients montrent que les services rendus par les entreprises FRES correspondent à un besoin personnel et communautaire important.

-*En ce qui concerne l'efficacité*: les entreprises FRES et leurs personnels sont généralement perçus comme corrects et compétents sur le plan professionnel par près de 100% des 335 clients interrogés. Cette conclusion importante coïncide avec les avis d'autres partenaires de l'Action dans les trois pays: fonctionnaires gouvernementaux, dirigeants locaux, représentants de la délégation de l'UE et représentants de la société civile. En outre, les rares cas de mauvaise gestion, qui se sont produits dans le passé, sont résolus ou en cours de résolution.

-*En ce qui concerne l'efficacité*: tous les clients ont élaboré volontiers leurs suggestions. Lorsqu'on leur donne l'occasion de suggérer des améliorations de la qualité des services rendus par FRES, ils n'hésitent pas à le faire. En moyenne, 41% des 335 clients interrogés suggèrent une réduction des frais de service, et de 20% d'entre eux exprime le désir d'une modalité de location-vente pour leurs systèmes. La moyenne de 20% des clients suggérant un système de location-vente devrait être plus approfondie, car elle montre que pas tous les clients ne comprennent pas complètement le système *fee-for-service* et le modèle d'entreprise. Par ailleurs, l'ensemble des questions posées concernant l'efficacité montrent sans ambiguïté que la plupart des clients apprécie significativement services qu'ils paient, et peuvent facilement identifier les avantages de leurs systèmes, par rapport à d'autres systèmes disponibles dans le marché et dans leurs communautés.

-*En ce qui concerne l'impact*: les réponses démontrent que tous les clients explicitent bien les changements qui se sont produits dans leur vie, et qu'ils comprennent la qualité distincte des services des entreprises FRES, aussi bien la qualité intrinsèque des systèmes, la valeur de l'entretien et du remplacement des équipements. Ce sont les caractéristiques spécifiques du modèle *fee-for-service,* en cela confortant la réussite de FRES, même parmi les communautés pauvres, voire très pauvres.

-*En ce qui concerne la durabilité*: les réponses des clients sont sans ambiguïté, montrant que les clients se sont habitués à l'électricité dans leurs foyers et petites entreprises et donnent une juste valeur aux améliorations de leur vie. Un bon nombre d'entre eux ne sont probablement pas en mesure d'acheter des systèmes solaires sur le marché, ils savent que les systèmes disponibles sont de qualité inférieure et semblent exclure que les services FRES peuvent s'arrêter un jour. La reconnaissance, par les clients, de l'utilité et de la qualité des services des entreprises FRES sont une garantie – et un défi de durabilité.

Conclusions et recommandations

Chacun des trois rapports-pays (volume II du présent rapport) contient des conclusions spécifiques d'évaluation et de recommandations. En conclusion globale, l'action correspond bien aux objectifs globaux de FRES et ceux des 3 entreprises FRES concernées, en cohérence avec les politique des énergies renouvelables nationales. Une synthèse des principales conclusions et recommandations, concernant l'ensemble des trois sociétés, est la suivante:

- La demande d'électrification rurale par les ménages ruraux est élevée, soutenue et continue. Cette demande démontre la validité substantielle des services rendus et l'approche de FRES.

- L'approche *fee-for-service* démontre sa validité, malgré les coûts inhérents. Ceci est prouvé par l'acceptation par la plupart des clients, quand, bien que 20% d'entre eux apprécieraient probablement la modalité location-vente, ils expriment tous une écrasante opinion positive écrasante par rapport à la qualité de l'équipement et comprennent qu'ils paient pour l'entretien et les remplacements.

Néanmoins, certaines questions méritent davantage d'action et des améliorations. Les principaux aspects à améliorer sont:

- Le taux de paiement des redevances est encore faible (en Ouganda et en Guinée-Bissau).

- La gestion de FRES-Guinée-Bissau a besoin d'un soutien supplémentaire, pour développer une culture d'organisation plus efficace et plus durable. La nouvelle direction des opérations doit être renforcée et soutenue par FRES pour structurer et évaluer l'équipe en fonction des compétences existantes et, si nécessaire, pour la compléter avec plus de personnel plus performant.

- Une communication plus efficace avec les clients. FRES devrait éviter d'apparaître comme une entreprise privée seulement, et de rendre plus explicite son rôle réel dans le développement social et économique local, pour plus de visibilité.

- La mise en réseau et l'inter-coopération au sein et entre les entreprises FRES devraient être davantage développées, pour influencer positivement toutes les entreprises. Les gestionnaires et les cadres techniques devraient interagir plus intensément et réfléchir ensemble à la conception d'une future entreprise multi-pays. Cela va probablement surmonter les faiblesses et renforcer l'identité et la visibilité.

- Le Cameroun mérite une attention particulière, compte tenu du fait que FRES a demandé l'annulation des procédures au Cameroun et a l'intention de demander une modification du contrat UE pour l'Action. Le Conseil d'Administration de l'FRES a conclu que les conditions d'exploitation au Cameroun sont trop strictes et ne mèneront, en aucun cas, à une rentabilité viable, soit au cours des quatre premières années et sûrement sans un soutien gouvernemental, après ces quatre années. La délégation de l'UE, en dépit de vouloir voir ce projet devenir réalité, a reconnu les difficultés auxquelles FRES est confrontée. Si les intentions de retrait sont confirmées, une demande à l'UE de modification du contrat de subvention, dûment justifiée, devrait être élaborée d'urgence. Trente mois après le début du projet, il semble souhaitable de ne pas s'engager dans un autre nouveau pays, mais il semble plutôt souhaitable de demander l'approbation pour disperser le 2.500 SHS, initialement prévus pour le Cameroun, en Ouganda, au Mali et en Guinée-Bissau.

1. Introduction

This report concerns the mid-term evaluation (MTR) of the ACP Project – EU Energy Facility: Europe Aid/ 133481/ C/ ACT/ Multi « Scaling up access to modern electricity services on a regional scale in rural Sub-Saharan Africa by means of a fee-for-service business model » implemented by the Foundation Rural Energy Services (FRES)[1] and funded by the European Commission (EC).

The contract for the project was signed on 1-12-2014, with a duration of 48 months and will end its operations on 1-12-2018. The total cost of the Action is 10.666.666 €, with an EU/EDF contribution of 8.000.000 € (75%) and a contribution of FRES of 2.666.666 € (25%).

The MTR was commissioned by FRES, as planned by the project document and accordingly with the paragraph "Procedures for follow up, internal monitoring and evaluation of the description of the Action, annex I of the grant contract. As referred in the Terms of Reference for this evaluation, it “must be conducted to receive an external assessment of the progress made until then and the recommendations to improve the intervention and to ensure the achievement of the objectives of the project. This project concerns 3 companies: Yeelen Kura in Mali, FRES Guinea-Bissau and FRES Uganda”.

At the time of this evaluation, the operations in Cameroon were not yet started, although important preparatory activities started since 2015. An agreement with the competent authorities of the country has not been reached concerning the modalities for the implementation of the project. The reasons for this delay are analysed further in this report.

The evaluation took place in April-May 2017[2].

The project contract was signed on December 1, 2014 for a period of 48 months; therefore, it will end on December 1, 2018. The action, started in practice in January 2015 and is executed by FRES through the following rural electrification companies:

- Yeelen Kura, SDD – company of decentralized services, South Mali, regions of Ségou and Sikasso
- FRES Guiné-Bissau (FRES GB) in Guinea Bissau, region of Gabú
- FRES Uganda Limited (FRES Uganda), in the South-Western region of Uganda

In the framework of this MTR, country visits and research, mainly based on desk-studies, interviews and case-studies, were planned in all 3 countries where the FRES project is currently being implemented (Mali, Guinea-Bissau and Uganda)[3].

2. Objectives and target groups of the project

The overall objective of this regional Action is to improve the living conditions of populations in rural areas of Uganda, Mali, Guinea-Bissau and Cameroun using modern energy services and the improvement of climate for entrepreneurship.

The specific objectives are:

[1] More information about FRES can be found at: http://www.fres.nl/
[2] Mr João de Azevedo (team leader) was responsible for the field visits to Mali and Guinea-Bissau, for the country reports on Mali and Guinea-Bissau and for this General Regional Report; Mrs Marian Noppert was responsible for field visit in Uganda and the elaboration of the Uganda country report.
[3] The 3 country reports of these field visits and researches are in Volume II of this report.

- Provide 8.200 costumers (households and small enterprises with domestic Solar Home Systems (SHS), which are distributed: 1.500 in Mali, 3.200 in Uganda, 1.000 in Guinea-Bissau and 2.500 in Cameroun.
- Provide 1.100 costumers with solar energy produced by photovoltaic mini-grids, which are distributed: 850 in Mali and 250 in Guinea-Bissau.
- Facilitate bi-annual workshops for Rural Electrification Agencies in Cameroun, Mali, Uganda and Guinea-Bissau.

The target groups

The target groups consist of rural communities where the population has no access to the national electricity grid in the present or foreseeable future. The main target groups include income-generating households whose main activity is farming, partly commercial. Another target group is small – medium enterprises (SME) including shops, movie halls, mechanics workshops, craftsmen and small agriculture activities.

The final beneficiaries are:

- The families directly provided with access to electricity that benefit from improved living conditions and increased opportunities for socio-economic development
- The owners and employees of small-medium enterprises that benefit from increased business growth in quality and scope
- Local people in the rural areas that benefit from direct or indirect employment and rural communities that benefit from an increase in electricity-related services, such as mobile charging, movie halls, tailors, etc
- Other final beneficiaries are also the local employees of the FRES companies, that benefit from structural, clean and future-promising employment. As some materials and services are sourced locally, so do contractors and suppliers up and down the supply chain. Indirectly, the rural community will benefit from an increase in electricity-related services.

The estimated results are:

- A total of direct beneficiaries is estimated to 9.300 customers. The indirect beneficiaries could then be estimated to 74.400 persons[4], provided with sustainable and affordable electricity via SHS and solar mini-grids.
- Installation of 1.4MWp of solar PV capacity.
- Direct structural employment and training for 76 new local staff in FRES companies (on top of already existing staff).
- Improved capacity building within rural electrification agencies.

3. Description of country contexts

The context of rural electrification of each of the three countries concerned by this MTR is different, but can briefly be described in this chapter:

Context of Mali

Mali is a vast landlocked and geographically varied country of 1,241,238 km². It is mostly a desert country with a highly undiversified economy. The country has a population of more than 17 million, 10 percent of whom live in the northern desert or semi-desert regions. High population growth rates and drought have systematically powered food insecurity, poverty, and often political and military instability. The delivery of services in this large, sparsely populated territory is challenging, and affects geographic equity and social cohesion. Poverty is much lower in urban areas, with 90 percent of all poor households living in rural areas in the south, where population density is the highest. Drought and conflict have only increased the incidence of poverty.

[4] Considering an average of 8 persons per household

Country Energy Policy and Framework

The objectives, results and impact expected by the Action are coherent and consistent regarding the energy policy of Mali, adopted by the Government in March 2006, which serves as a reference for all the projects and programmes implemented in the country in the field of energy. In a country where solar irradiation is in the range of 5 to 7 kwh/m2/day, and with a very low rate of access to electricity, especially in rural areas and estimated to about 18%, the renewable energy sector is strategic in all national energy policy documents. The policy document cited lists three main objectives for the renewable energy sub-sector, namely:

- Promote a wide use of renewable energy technologies and equipment to increase the share of renewable energy devices in national electricity production from less than 1% in 2004 to 6% in 2010 and 10% in 2015;
- Create the best conditions for the sustainability of renewable energy services;
- Search for sustainable financing mechanisms adapted to renewable energies.

The project now evaluated in Mali is an entrepreneurial response to these 3 major national objectives. This report seeks to demonstrate how Yeelen Kura contributes, at its scale, to a responsible understanding of these 3 objectives.

Context of Uganda

Uganda has one of the lowest per capita electricity consumption rates in the world. With a population of approximately 39 million only 20% has access to electricity. Challenges the energy sector faces include power shortages, increased demand (10-12% annually), lack of new power-generation projects, climate change and high upfront costs of technologies such as solar. Furthermore, households in the South-Western region of Uganda face lower levels of human capital, few assets and limited access to services and infrastructure compared to the Central region. Although enrolment levels for primary education in the South-Western region are high with 84%, many households reside in rural areas and have little access to water, sanitation, electricity and other facilities. These households are heavily reliant on subsistence farming and are often affected by weather conditions such as prolonged droughts, which affects their income levels.

Country Energy Policy and Framework

On an Energy policy level, the Ministry of Energy and Mineral Development (MEMD) implemented the government's Power Sector Reform and Privatisation Policy, which resulted in the liberalisation of Uganda's energy sector. A feed-in-tariff (FiT) scheme was introduced in 2007 together with the GET FiT programme to boost investments in the sector. The energy sector in Uganda now attracts the largest private sector investments in the country. According to Uganda's Vision 2040, 80% of the population will have access to electricity by the year 2040. The total estimated potential of Uganda's renewable energy resources lies around 5.300 MW. These resources remain largely unexploited, mainly due to the perceived technical and financial risks. However, solar power is receiving increasing attention by investors and several companies such as FRES, Solar Now and M-Kopa which provide solar panels and equipment, using different business models, in urban and rural areas in Uganda.

Context of Guinea-Bissau

Guinea-Bissau (GB), with an estimated population of 1,582,000 inhabitants (2010) is a country extremely dependent on the exterior, importing about 80% of what it consumes. It is through emigration that many Bissau Guinean find subsistence conditions. The pillar of the country's economy is agriculture, which represents about 40% of GDP, mainly from exports of raw cashew nuts. The country is largely portrayed as an unfavourable environment, political, institutional severe

instability, serious shortcomings of basic economic infrastructures, including energy and transportation. The average real growth rate in 2010 was 3.5, but still below the 5% target established by the first national strategic document for poverty reduction (DENARP).

The level of human development in Guinea-Bissau remains weak. The constant political instability has not been favourable to the implementation of ambitious and sustainable public policies.

Country Energy Policy and Framework

The rate of access to electricity in GB varies from year to year due to the precarious situation of the production of electricity in the country. The electrification rate of Guinea Bissau is one of the worst in Africa due to several problems associated to political instability. The electrification rate of Guinea-Bissau in 2010 (last available and reliable figure), was about 11.5%. Without investment, ambitious projects and measures ensuring an increase in the electrification rate both in urban and rural areas, this rate will hardly increase until 2030. Despite the limits of this unfavourable and unstable context, the country designed an energy policy and a framework for renewable energies. Three policy and planning documents were produced in the last years as follows:

- Sustainable Energy for All (SE4ALL), a document elaborated based on the:
- National Planning Action for Energy Efficiency (PANEE) and the
- National Action Plan for the sector of Renewable Energies (PANER)

Therefore, and since September 2015 the country is committed to an Agenda of Action for the Sustainable Energy for All in Guinea-Bissau. The National Action Plan for the Energy Efficiency (PANEE) portraits the situation of electrification in the country (excluding the city of Bissau) as follows:

- Only 16 out of 3.763 localities have electricity
- The rate of geographical electrification, excluding Bissau, is about 0,4%
- The average monthly household income across the country would be 63.753 FCFA (XOF) on a sample of 1536 households surveyed
- The provision to pay electricity is estimated at 10 200 XOF.

The Government of Guinea-Bissau, through the Ministry of Energy and Industry and Natural Resources (MEIRN) is committed to the process of sectoral restructuring with the focus on the electricity sector. As a tropical country, GB has a strong solar irradiation estimated at 5.5 kw/m²/day. If this potential of renewable solar energy is exploited, Guinea-Bissau can decrease its greenhouse gases (GHG) emissions and can take advantage of the clean development mechanisms (CDM).
To be noted that the PANEE foresees the implementation of electrification projects through mini and micro-grids of renewable and / or hybrid energies, the development and implementation of Individual Electricity Systems for isolated households, the conception of a Business Model for the funding of Isolated Electric Networks and Autonomous Renewable Energies Systems and the creation of an Energy Access Fund.

As a possible synthesis of the 3 different national contexts, the Project now assessed through this report consistently fits with the national policies for renewable energies. Therefore, it aims to be a valid contribution to enrich the experiences and the reflections on the business model for rural electrification systems in the country.

4. Development of the project

The contract for the project was signed on 1-12-2014, with a duration of 48 months and will end its operations on 1-12-2018. This MTR took place in April-May 2017, 27 months after it started, therefore 21 months before its end.

The 3 FRES companies initiated marketing and sales campaigns in their areas of operation, organised meetings with the local population and local leaders to continue to sensitise them on the fee-for-service model and explain how to use a SHS.

Efforts were made to increase public awareness on the benefits of taking up the SHS on a fee-for-service model through various promotional drives like radio commercials, radio talk shows, public presentations in churches, mosques and markets, the distribution of posters and brochures, the use of a mobile SHS for demonstration in local markets and trading centres, door to door explanations and using village agents. During the sensitising processes in local communities, the marketing and sales teams and the staff of the decentralised Energy Stores discuss in detail the different proposed contracts.

It is essential to highlight that the activities planned for the Action now evaluated are part of the activities of the FRES companies in the 3 countries, already confirmed operators of rural electrification in their respective countries.

The Action aims to “upscale” their operations, by supporting them to provide a better and broader answer to an increasing demand of solar electrification services. It should be remembered that the 3 FRES companies concerned by this evaluation have already their own history-basis: Yeelen Kura operates since 2002, FRES-Uganda since 2010 and FRES-Guinea-Bissau since 2011. Their actual number of clients serviced with SHS and Solar mini-grids is the following:

(June 2017)

FRES companies	SHS	Mini-grid	Total
Mali	4.544	3.031	**7.575**
Uganda	4.743	-	**4.743**
Guinea-Bissau	4.130	104	**4.234**
Total costumers	**13.417**	**3.135**	**16.552**

Concerning the specific targets of this Action, the situation is the following:

Country/System	2015 (actuals)	2016 (actuals)	2017 (actuals June 2017)	Total Actual	Target 2018 program
MALI SHS	573	1.222	313	2.108	1.500
MALI mini-grid	-	-	-	-	850
UGANDA SHS	421	1.119	419	1.959	3.200
GUINEA-BISSAU SHS		-	-	-	1.000
GUINEA-BISSAU mini-grid	-	-	104	104	250
Total costumers	**994**	**2.341**	**836**	**4171**	**6.800**

This table shows that 61% of the customers have been already installed, after 27 months of implementation. The current dynamic of implementation of all the 3 companies is likely insuring that the target of customers will be met before the end of year 4 (2018).

The facilitation of 2 bi-annual workshops for Rural Electrification Agencies in Cameroun, Mali, Uganda and Guinea-Bissau is presented as a specific objective, but none of them could be performed yet. This delay is due to reasons linked to the impasse generated by the refusal of

Cameroon's authorities not accepting the fee for service business model[5], but also due to political instability in Mali and Guinea-Bissau.

The cooperation and mutual learning amongst the personnel of FRES companies is very encouraging. This practical sharing of expertise and competencies is becoming a trend in the FRES' organisational culture. This is demonstrated by the Management team of Yeelen Kura successfully providing technical advice and assistance to other FRES companies, as recapped in the following table:

Technical support missions by Yeelen Kura Management performed (2016-2017)

Date	Where	Company	Object
15 to 23/02/16	Guinea-Bissau	FRES- GB	- Technical Assistance for the evaluation study of energy needs of solar mini-grid in Contuboel, in the framework of EU Regional project.
29/04 to 07/05/16	Guinea-Bissau	FRES- GB	- Operational review of Year 2015 Results of FRES GB. - Support to ITWs of recruitment of a new General Director of the company
22 to 25/05/16	Burkina Faso	YEELEN BA	- Operational review of Year 2015 of the company
0? to 20/07/16	Guinea-Bissau	FRES-GB	- Start interview and job induction of Technical manager and proposal of a new functional organigram
December 2016	Guinea-Bissau	FRES-GB	- Staff training by Commercial manager for marketing and communication with communities and clients
04 to 09/04/17	Burkina Faso	YEELEN BA	- Operational review year 2016 - Deep evaluation of sustainability of Yeelen Ba
2 to 6/05/17	Uganda	FRES Uganda	- Evaluation of the new management system and support the implementation of auditor's recommendations

The impasse of the Action in Cameroon

As referred to in the Introduction of this report, at the time of this evaluation, the operations in Cameroon had not yet started, although the preparatory activities had started since 2015. An agreement with the competent authorities of the country has not been reached concerning the modalities for the implementation of the project.

FRES has established contacts with all the relevant authorities to start the operations in the North-West region of Cameroon, and has submitted all the required authorisations in line with the legal requirements, but so far has not obtained the 2 essential guarantees:

- Taxes exemption for the company
- Acceptance to work as a rural electricity provider by means of a fee for service business model and obtaining a formal authorisation to start operating in North-West region of Cameroon.

After long negotiations and delays, the likely definite position of the Government per April 2017 is:

- Some taxes exemption may be authorized, but case by case and no structural exemption for several years
- The fees proposed by the studies conducted in the country by FRES are unacceptable to the Government. It has proposed to cut the fees by half (50%), to change the business model and, alternatively, to adopt a rent-to-own business model.

The electricity sector regulatory authority (ARSEL[6])'s conditional Authorisation is actually tailored to grid networks (national grid and mini-grids) and many characteristics are not relevant, feasible or do not fit the Business Model of FRES, such as a mandate to map every village, connect any

[5] A specific recommendation concerning the impasse in Cameroon in chapter 7 (Conclusions and Recommendations)

[6] ARSEL: Agence de Régulation du Secteur de l'Electricité (Yaoundé)

willing customer, regulated tariffs and the legal requirement to purchase electricity produced from any other Independent Power Producer (IPP). The current legislation does not fit with the philosophy of the Action, and this means that a wider regulatory reform in the sector is needed to accommodate SHS-based models for rural electrification outside the scope of mini-grids.

The conditions imposed by the Government under which FRES should be operating are unacceptable to FRES. It is necessary to recall that the approved project and the financing agreement of the Action, are explicitly based on the fee for service model, which is, since 2001, the reason of existence and the challenge of FRES in Africa. This approach is well known, even in the title of the approved project.

Energy has always concrete costs, and solar electrification is not valid neither sustainable if it does not consider professional maintenance and, above all, the guarantee of the amortisation and replacement of the equipment. The FRES approach has proven to be successful and sustainable, in the longer term. To develop national capacities to manage a FRES local company is a long-term and challenging task, well beyond the period of 4 years, so FRES also needs steady guarantees that it would be allowed to work, commit itself and engage its capacities and advice, for a longer period.

5. Methodology of evaluation

The methodology for this evaluation is a combination of more than one technique, consisting primarily of a participatory approach, giving the floor to the managers and agents of the project, as well as to a significant number of representatives of the customers, in the three countries.

For the most part, the methodology results in the use of the following techniques:

- Desk review. FRES (HQ, the companies in the 3 countries) provided the consultants with extensive documentation that makes it possible to fully understand its foundations, objectives, effects and expected outcomes, including the tools designed for planning, implementation, and monitoring. Other information and documents are obtained near the project, in each of the FRES companies. The list of documents reviewed and consulted are annexed to the country reports (Volume II) of this report.

- A matrix of the mid-term evaluation Framework, which defines the evaluation criteria to be used and sets the central questions to be addressed by the evaluation, indicating the information harvesting techniques to be used, as well as the sources of information to be searched.

- Facilitating the participation of national FRES agents on the project evaluation. The methodology commits the consultants to set up an evaluation working group, in each of the countries, to select and develop the capacities of a small number of field staff (about 8-10 persons), who will be previously trained and prepared to conduct interviews of a significant number of clients.

- They were prepared to identify lessons learned and suggestions for the continuation of the operations of their enterprise. These persons were led to consider this experience as an opportunity of learning and to better understand their enterprise and the clients. Moreover, this left more time for consultants to interview other partners and clients. A specific training guide was prepared for their training.

- Doing semi-structured interviews (ITW) with a sample of the main technical, management agents and partners of the project since its start-up. These interview formats provide an opportunity for respondents to make suggestions for improving the project's performance and making recommendations for its future. Two formats of interviews are used, the questions asked being modulated depending on the type of interviewees. The ITW formats are in Annex 1.

- The interviewees consisted of members of the Board of Directors of FRES NL and of the board of Directors of FRES Guinea-Bissau, Uganda and Yeelen Kura/Mali. The General Directors of the same 3 FRES companies, A selection of a significant number of clients of the 3 companies; representatives of the EU delegations in the 3 countries, who know and follow the project; a representative of the Government Authority partner of the project, in each country[7].

As foreseen in the methodology for this evaluation, it is given an important weight to the participation of customers in assessing the quality of the services rendered by the FRES' companies to them and the perception, by the clients themselves, of the changes that occurred in their lives thanks to the electrification of their homes.

The number of clients interviewed for this evaluation is shown in the following table:

Countries	Mali	Guinea-Bissau	Uganda	Total
Nº of clients	53	96	186	**335**

6. Evaluation findings

The evaluation findings are presented following the different criteria of evaluation: Relevance and Strategy, Effectiveness, Efficiency, Impact, Sustainability.

6.1 Relevance and strategy

The project is likely coherent and consistent with the government's policies in the 3 countries, as shown in chapter 3 (description of country contexts, and, in a more detailed manner in the 3 country reports (Volume II of this report). The same happens concerning the perceptions of the majority of the 335 clients, as demonstrated by the following table:

QUESTIONS		
SECTION 1: RELEVANCE AND STRATEGY OF THE FRES COMPANIES		
1. Do you know the FRES company objectives? (What does the company want to achieve?)		
MALI (53 clients)	**GUINEA-BISSAU (96 clients)**	**UGANDA (186 clients)**
- 50 clients know (To bring electricity to our villages, bring us out of darkness, bring light to our homes and develop the village) **(94%)** - 3 clients don't know (5,6%)	- 72 clients know FRES and its objectives (to give us light and bring development to our villages **(75%)** - 24 clients don't know the objectives of FRES (25%)	- 161 clients know (To give us solar services, to get income from solar, no more darkness, get rid of diseases caused by smoke, TV/radio, to light homes, to develop people in rural areas) **(87%)** - 25 clients don't know (13%)
2. What is your assessment of the services that are provided to you by the FRES company?		
- 52 clients assess Yeelen Kura's services as satisfactory or very satisfactory **(98%)** **-** 1 client is not satisfied (his system is disconnected) (2%)	- 89 clients assess FRES-GB 's services as satisfactory or very satisfactory **(93%)** - 7 clients are less satisfied (7%) 6 of them said their batteries are already old and weak; 1 said that the equipment was proposed to be paid in 3 years and therefore assess as unfair to pay fees	- 184 clients are very satisfied or satisfied with the services of FRES Uganda Ltd services **(99%)** - 2 clients are less satisfied with the services of FRES (They keep charging monthly fee, no definite end) (1%)
3. What type of contract has been signed between you and the FRES company? With what terms of payment? Do you regularly pay your fees?		

[7] The lists of interviewees are in the annexes to the country reports (Volume II of this report).

QUESTIONS

MALI

Number and % per payment of fees:

Modality of contract	Number of clients	%
Paying fees monthly	24	**45%**
Paying fees quarterly	6	11%
Paying fees per semester	3	6%
Paying fees yearly	18	**34%**
Doesn't know	2	4%
Total	**53**	**100%**

- ***47 clients declare to pay regularly (89%)***
- ***6 clients declare to pay irregularly (11%)***

GUINEA-BISSAU

Number and % per payment of fees:

Modality of contract	Number of clients	%
Paying fees monthly	92	**96%**
Paying fees quarterly	1	1%
Paying fees per semester	1	1%
Paying fees yearly	1	1%
Doesn't know	1	1%
Total	**96**	**100%**

- ***70 clients declare to pay regularly (73%)***
- ***26 clients declare to pay irregularly or even very irregularly (27%)***
- *3 clients are unsatisfied and not paying, arguing that after their contract they should already possess the equipment, after 3 years of payment of fees (3%)*
- *2 clients delaying payment of fees because waiting for new batteries*

UGANDA

Number and % per payment of fees:

Modality of contract	Number of clients	%
Paying fees monthly	182	**98%**
Paying fees quarterly	4	2%
Paying fees per season	0	0%
Paying fees annually	0	0%
Doesn't know	0	0%
Total	**186**	**100%**

- ***148 clients declare to pay regularly (80%)***
- ***38 clients declare to pay irregularly (20%)***

Conclusions concerning Relevance and Strategy:

The client's answers show that the services offered by the FRES companies fit to a generally perceived important personal and community need. These first 3 questions also show that a clear majority of the clients know well the FRES enterprises, identify their objectives and mission and they are satisfied or even very satisfied with their services.

The clients of Yeelen Kura are likely better off than in the other 2 countries, as there are 34% of customers paying year fees. But this can also be an effect of a strong marketing competency of Yeleen Kura, promoting one-year contracts, with one month of bonus, closely linked to the agriculture season. Surprisingly, clients answer quite well, in a free and self-declarative manner, concerning the current average rates of payment of fees in the 3 cases, as shown by the statistical global information available by the FRES global monitoring system:

Payment rates averages (years 2015-2016)

Year	Yeelen Kura Mali (actual)	Annual target	FRES Guinea-Bissau (actual)	Annual target	FRES Uganda (actual)	Annual target
2015	101%	95%	78%	95%	89%	90%
2016	96%	95%	60%	95%	75%	90%

Later in this report (chapter 7, Final Conclusions and Recommendations), the issue of payment rates is further developed.

6.2 Effectiveness

QUESTIONS		
SECTION 2 : EFFECTIVENESS		
4. In your opinion, are the FRES' staff contacts with you correct and satisfactory? If not, why?		
MALI	**GUINEA-BISSAU**	**UGANDA**
- 52 clients consider the contact with Yeelen Kura satisfactory or very satisfactory **(98%)** - 1 client less satisfied (more than 3 days of delay in service delivery) (2%)	- 93 clients consider the contact with FRES-GB satisfactory or very satisfactory **(97%)** - 3 clients are less satisfied (1 because considers that FRES harasses them to pay the fees, 1 because FRES doesn't recognize the rent-to-own of system after 3 years of fees (3%)	- 186 clients are satisfied or very satisfied with the contact with FRES Uganda (**100%)**
5. Does the FRES company meets its contractual duties with you? If not, why?		
MALI	**GUINEA-BISSAU**	**UGANDA**
- 52 clients consider that Yeelen Kura fully fulfils its contractual obligations **(98%)** - 1 client is not satisfied (his system is not working, his battery not yet changed)	- 90 clients consider that FRES GB fulfils its contractual obligations **(94%)** - 4 clients consider that FRES GB is often late to renew lamps and batteries (4%) - 1 client considers that FRS GB is not respecting the agreement of transferring the propriety of the equipment after 3 years of payment of fees (1%) - 1 client declares not knowing the contract (1%)	- All 186 clients answered YES (Regular maintenance and servicing, respond quickly, high staff availability, attending to faults in time, meet their contractual terms, attend to complaints, FRES is there for people, do their work effectively, give education on solar) **(100%)**
6. Have you known or heard of cases of mismanagement by the team of the FRES company?		
MALI	**GUINEA-BISSAU**	**UGANDA**
- All the 53 clients answered No **(100%)**	- 87 clients have not heard of cases of mismanagement **(91%)** - 5 clients heard rumours off staff members that left FRES-GB after taking money from some clients (5%) - 4 clients consider as mismanagement that FRES GB betrayed the clients when promising in the past the rent-to-own system after 3 years of monthly fees payment[8] (4%)	- 180 clients have not heard of cases of mismanagement **(97%)** - 6 clients have heard of cases of mismanagement (3%)

[8] Some clients, or groups of clients, in well-identified and limited communities, argue that, in the past, it would have been promised to them the possession of the SHS after 3 years of payment of the fees, although

Conclusions concerning Effectiveness

The companies and their staff are perceived as correct and professionally competent, by almost 100% of the interviewed 335 clients. This important conclusion coincides with other partners of FRES in the 3 countries: government officials, local leaders, EU delegation's representatives and civil society representatives. Moreover, the few cases of mismanagement that occurred in the past are solved or under resolution. The case of FRES Guinea-Bissau illustrates past occurrences, in the meantime resolved and the persistence of a small but significant group of clients, claiming a rent-to-own system.

6.3 Efficiency

QUESTIONS

SECTION 3: EFFICIENCY

7. Do you have any suggestions to improve the quality of services provided to the clients by the FRES company? Which? (*please make at least one suggestion*)

MALI

Suggestions of 53 clients	**Frequency**
Diminution of fees	**24**
Encourages Yeleen Kura to continue doing its good work as it already does	**12**
Rent-to-own system	**9**
A mini-grid in the village	8
Reduce the technical assistance waiting time	7
Increase the number of lamps	4
Clients can mobilise new clients	3
Reduction of the installation and connection time	3
Include TV in the service	3
Include refrigerator in the service	2
More sensitisation of clients	2

GUINEA-BISSAU

Suggestions of 96 clients	**Frequency**
Diminution of fees	**63**
Increase the system capacity to use refrigerators, ventilators…	**17**
Rent-to-own system (after 3 years of payment of fees)	**13**
Reduce the technical assistance waiting time	9
Encourages FRES GB to continue doing its good work as it already does	5
Replace old batteries and converters	5
Training the staff to clean the panels monthly and other maintenance	4
No suggestions	2

UGANDA

Suggestions of 186 clients	**Frequency**
Decrease the service fee	**94**
Provide more lamps	**51**
Ownership of the system	**44**
Include other items in the package (flat TV, subwoofers, flat iron, radio)	**21**

they have signed a clear standard contract with FRES GB in the past. The company is currently committed to withdraw these systems, with public campaigns and, when necessary, accompanied by police officers (thanks to the collaboration of the Police of Gabú). This issue will be further developed in this report.

Increase the size of the system (to run refrigerators, water heaters)	12
Increase the brightness/quality of bulbs	8
Bonuses/gifts for good paying clients	7
Reduction of connection fees	6
Payments to stop at some point	5
Improve in quick services	4
More sensitisation	3
Extend to other villages that don't have power	2
Being more tolerant in fee payment	2

Conclusions concerning Efficiency

All the clients elaborated gladly on their suggestions. When given the opportunity of suggesting improvements in the quality of the services rendered by FRES they don't hesitate to do so.
The sample used for this assessment is specific to a qualitative assessment only, and is not supposed to have a statistical value.

These questionnaires, applied to a significant number of clients (men and women) are about "getting clients to talk," knowing they always have a say and what they say is always important to any businesses. Therefore, is seems important to take note to some common aspects in the 3 countries, as shown by the following table:

Country	**Nº of interviewed clients**	**Reduction of service fees**		**Rent-to-own modality**	
		Nº suggestions	**%**	**Nº of suggestions**	**%**
Mali	53	24	45%	9	17%
Guinea-Bissau	96	63	66%	13	14%
Uganda	186	94	51%	44	24%
Total	335	138	**41%**	66	**20%**

An average of 41% of the 335 interviewed clients suggest a reduction of service fees, and a global 20% of them expresses the willing of a modality of Rent-to-own for their systems. While it is likely normal that 41% of energy customers, when consulted and interviewed, will highly appreciate a reduction of fees, worldwide and not only in these 3 countries, the average 20% of clients suggesting a rent-to-own system, should be deeper considered, because it shows that not all the clients completely understand *the fee for service business model*.

As shown by the following questions - unambiguously concerning Impact, but also the overall questions and answers, most clients highly appreciate the services they pay for, and can easily identify the advantages of their systems, when compared to other systems available in their communities.

A specific recommendation is further included in this report, concerning the need of a better communication with the clients, to demonstrate the fee structure. Annex 2 illustrates the current tariffs applied by the 3 companies.

6.4 Impact

Impact concerns a forecast of the longer-term, positive and negative effects that the project induces, whether directly or indirectly. At the stage of a mid-term evaluation it is only possible to identify aspects of a possible and probable impact already detectable, to be confirmed subsequently.

The answers given by the 335 clients interviewed can allow to detect these impact elements, as felt by the clients themselves and which, consequently, deserve some attention. It is likely

important to identify these impact elements, as they can contribute to the design of tools and the identification of measures to be taken, capable of ensuring and reinforcing, or even broadening the positive impact of the action.

Therefore, some "impact elements" can be revealed by the following questions/answers:

QUESTIONS

SECTION 4: IMPACT

8. Can you explain what has changed in your life and your family with electricity at home? *(for women, men, children)*

MALI

Answers about changes in the life of 53 clients	Frequency
The children are happy and are studying more	**35**
The joy of always having electricity for the whole family	**26**
The women can work more easily including at night and early morning	**24**
The television at anytime	**17**
The house and courtyard are more secure	10
The cell phones are easily charged	5
The shop is always open	4
No more buying batteries and petrol	4

GUINÉA-BISSAU

Answers about changes in the life of 96 clients	Frequency
The joy of having electricity fulltime for the whole family, no more darkness	**74**
The television, radio, music, at any time, more information for all the family	**47**
The children are happy and are studying more in the evenings	**32**
The cell phones are charged for free and at anytime	**29**
The house and courtyard are more secure (from thieves and wild animals)	14
Improved income from business/ability to work at night	7
Reduced expenditure (candles, paraffin, batteries for torches, small generator)	9

UGANDA

Answers about changes in their lives of 186 clients	Frequency
Fulltime and enough light, no more darkness (even in rainy season)	**85**
Improved income from businesses/ability to work at night (saloons, phone charging)	**48**
Can charge phone at anytime	**48**
Children can read their books at home at night	**45**
Reduced expenditure	**31**
Can watch TV at anytime	28
Improved communication (news from TV/radio)	25
Home security improved (from thieves, wild animals)	21
Happy family	15
Improved standards of living (incl. health)	7
No more candles and paraffin	2

QUESTIONS

9. Do you know other people who want to have electricity at home too? Why they do not have it yet?

MALI

Answers of 53 clients

- ***36 clients know other people who want to have electricity in their home***
- ***17 don't know***
- ***34 declare that many people cannot afford the costs of contract and connection***
- *2 declare that they know neighbours using other systems, different from Yeelen Kura*
- *3 declare that a neighbour is waiting for the connection from Yeelen Kura*
- *1 person is still building his house and will make a contract later*

GUINEA-BISSAU
Answers of 96 clients
- **76 clients know other people who want to have electricity in their home.** - 20 clients declared that they don't know - **57 clients declared that these persons people don't have money to afford costs of contract/connection and fees with FRES GB** - 11 clients declared that many people wished they had electricity, if fees were lower - 9 clients declared that some potential clients fear lifetime endless payment of fees - 4 clients said that some neighbours interested are still waiting for their contract, because FRES GB has no batteries available for new installations (May 2017)
UGANDA
Answers of 186 clients
- **140 clients know other people who want to have solar electricity at their homes** - 46 clients don't know other persons **They do not have it yet because:** - **Don't have money, are still looking for the money (52 clients)** - **Fear of monthly fee (46 clients)** - **Fear of lifetime payments (17 clients)** - People have no money for connection fees (15 clients) - Wish of ownership, Rent-to-own (8 clients)
10. Do you know other people who have electricity at home with other systems different from FRES? What is the difference between other systems and the system of Yeelen Kura?
MALI
Answers of 53 clients
40 clients declared they know other people with other systems - 13 clients declared they don't - **32 clients declared that Yeelen Kura's equipment – and service, are better** - **15 clients declared that the equipment one can find at the market is of lower quality** - **14 clients declared that the batteries we can buy at the market are of lower quality** - 4 clients declared that they experienced market equipment in the past, but they switched to a contract with Yeelen Kura because of its guarantee of quality of equipment and services
GUINEA-BISSAU
Answers of 96 clients
- **68 clients declared that they know people with other systems in their home** - 18 clients declared that they don't know - **68 clients declared that FRES GB systems and service, are stronger and of better quality (mainly 24 h of electricity, batteries, but also panels, cables, etc)** **- 6 clients (in Gabú town) said that the state system is stronger, but 8h/day only and very expensive (30.000 FCFA/month)** - 4 clients declared that with other solar systems (bought in the market) they don't pay fees
UGANDA
Answers of 186 clients
- **163 clients declared that they know people with other systems in their home.** - 23 clients declared that they don't know - **117 clients said that FRES systems are stronger and of better quality, also during rainy seasons** - **20 clients said that other systems are owned** - 11 clients said that other systems have no services, own maintenance - 4 clients said that electricity from other systems/solar (Solar Now, M-Kopa) is not reliable - 3 clients said that other systems bought at the market are cheaper

Conclusions concerning Impact

The answers to questions 8, 9 and 10 demonstrate that all customers understand the changes which occurred in their lives, and that they understand the distinct quality of FRES companies' services as well (intrinsic quality of systems, value of maintenance and replacement…). These are

the specific characteristics of the fee for service business model, and the global challenge FRES faces when operating in poor – or even very poor communities.

6.5 Sustainability

SECTION 5: SUSTAINABILITY
11. If the FRES company was to stop its operations tomorrow, how are you going to continue to have electricity at home?
MALI
Answers of 53 clients
- ***30 clients declared that they will be forced to buy equipment at the market, as they don't want to go back to darkness*** - ***25 declared that they will feel deeply unhappy if Yeelen Kura was to stop providing its quality equipment and services*** - ***25 declared that they can't afford to buy solar systems in the market, therefore they will be back to the darkness, using torches and petrol lamps***
GUINEA-BISSAU
Answers of 96 clients
- **44 clients declared that they will be forced to go back to darkness** **- 34 clients declared that they will feel deeply unhappy if FRES GB will stop providing its good quality equipment and services** **- 20 clients declared that they can't afford to buy solar systems in the market, therefore they will be back to the darkness, using candles, torches and petrol lamps** **- 13 clients declared that in case FRES GB will stop they will like to keep the system (panels, batteries)** **- 9 clients will buy other systems in the market** - 8 clients declared that they will not accept if FRES GB stops its operations - 6 clients will buy a generator - 4 clients declared that the public system is unreliable, very expensive and therefore not an alternative
UGANDA
Answers of 186 clients
- **62 clients declared that they would be forced to buy (solar) from other companies** - **20 clients declared that they would go back to darkness** - **18 clients declared that they would go back to candles/ paraffin/ firewood/petrol/ generators/ torches** - 16 clients declared that they would feel very bad/unhappy/suffer * Most clients would buy smaller solar panels at the market or from other solar companies, although they explained that the quality of those panels is poorer. Few clients would connect to the national grid Umeme

Conclusions concerning Sustainability

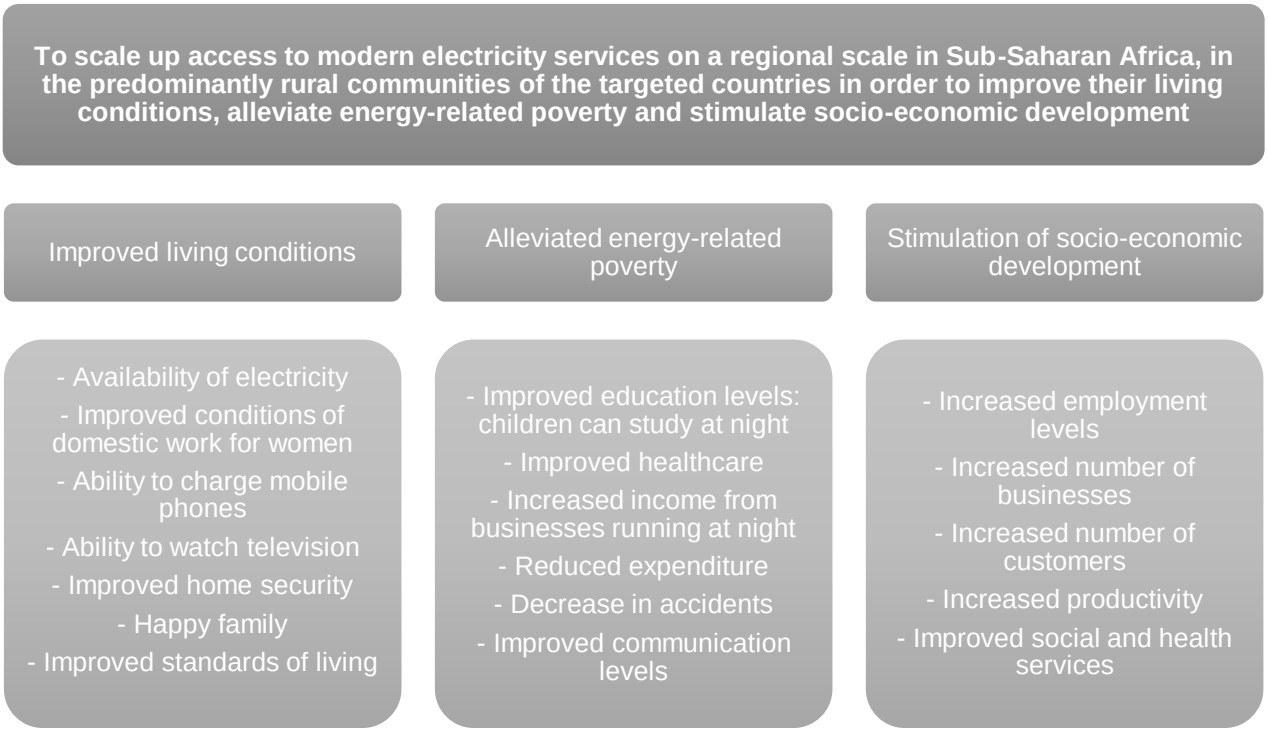
The answers to this question are unambiguous, showing that the customers became used to electricity in their homes and small businesses and give the right value to that improvement in their lives. A good number of them are likely not able to buy solar systems at the market, *they know that the available systems are of a lower quality* and seem to exclude that the FRES' services can stop one day.

The acknowledgment, by the customers, of the utility and quality of the FRES companies' services is a guarantee – and a challenge of sustainability.

7. Final Conclusions and Recommendations

Each of the 3 country reports (Volume II of this MTR report) contain specific conclusions of evaluation and recommendations. This chapter synthetises the main conclusions and recommendations, only, some of them concerning all the 3 companies.

As a global conclusion, the Action corresponds well to the global objectives of FRES and those of the 3 FRES concerned companies. This can be illustrated by the following figure:



The demand for households' rural solar electrification is high, sustained and continuous. This demand demonstrates the substantial validity of the services rendered and the approach of FRES.

The approach "fee for service" is demonstrating its validity, despite the inherent costs. This is proven by the acceptance of most clients, when, although 20% of them will likely appreciate ownership of the systems, they all express an overwhelming positive opinion about the quality of the equipment and understand that they pay for maintenance and replacements.

Nevertheless, some issues deserve more action, and further action for improvement. The main aspects are:

- The rate of fees' payment is still low (Uganda and Guinea-Bissau).

- The management of FRES-Guinea-Bissau needs further support, to develop an organisation culture more effective and sustainable. The new direction needs to be reinforced and supported by FRES to structure and assess the team based on existing competencies and, when necessary, to complement with more personnel.

- More and better communication with the clients. FRES should avoid appearing as a private company only, and make more explicit it's actual role in local social-development, moving FRES forward, for more visibility.

- The global networking and cooperation within and among FRES companies should be further developed, to positively influence all the companies. Managers and senior technical staffs should interact more intensively and jointly reflect on the design of a future multi-country company. This will likely overcome weakness and will strengthen identity and visibility.

- Cameroon deserves a special attention, as FRES requested to cancel the procedures in Cameroon and intends to request an amendment of the Action's EU contract. The FRES Board concluded that the conditions to operate in Cameroon are too stringent and will under no circumstances lead to a viable business case, not in the first four years and not without any governmental support after those four years. The EU Delegation, despite wanting to see this project become reality, acknowledged the difficulties FRES is confronted with. If the withdrawal intentions are confirmed, a duly justified request to the EU for modification of the grant contract should be urgently elaborated. Months after the start of the project it seems advisable not to engage with another new country, but simply request the approval for dispersing the 2.500 SHS, originally planned for Cameroon in Uganda, Mali and Guinea-Bissau.

The following table elaborates on the recommendations for the 3 companies.

8. Countries' Recommendations

Mali	Guinea-Bissau	Uganda
Recommendation nº1: To guarantee the total sustainability of the company in the longer term and increase its future independence from the subsidies, it is advisable to further strengthen the financial balance, which can be achieved through a mix of different measures - The continuation of the trend of increasing the number of clients, based on the equipment provided by current subsidies (including from European Cooperation), and, to some extent, by releasing financial capacity through reductions in other operational costs that are still compressible. - To improve the payment of fees by an important number of clients by cell-phone. The real start of this form of payment by a good percentage of clients may reduce costs of the overall costs of fee recovery, with savings in staff costs, transport and fuel, among others. - Encourage the continuation of the actual policy of internal and on-job training, combined with the performance evaluation of all members of staff, to ensure their optimum performance towards a form of excellence, necessary to meet the needs of staff adjustment and upgrade to the future requirements of the company's development, and connecting salaries to performance and technical improvements.	**Recommendation nº1: To urgently improve the payment rate** - FRES GB should intensify the withdraw of the SHS from the debtors and unfulfilling clients of contractual conditions. The collaboration of the local police forces has shown to be effective. The removed SHS could be immediately attributed to the customers in the waiting list. - The urgent resume of the past cooperation with FRES Mali (Yeelen Kura) to support a large and intense campaign of information on the on-going and future contracts, to avoid misunderstandings with future clients. - This communication efforts include the critical importance of regular payment of fees to guarantee the sustainability, finding an appropriate demonstration of the company real costs, including, obviously, the costs of maintenance and replacement. An illustration of the fee structure could be used during community sessions, as proposed for Yeelen Kura.	**Recommendation nº1: Sustainable services** - After sale services: maintaining high quality of services and good customer care, sensitisation / education for new and existing clients, to ensure monthly payments. - Picking on E-payment to reduce costs, reach more clients. - Discount or bonus at the end of the year for good-paying /regular paying clients, as it happens with other FRES companies (ex: top up one month for example, or giving discount on additional products)

Mali	Guinea-Bissau	Uganda
Recommendation nº2: Capitalize the Yeelen Kura experiences by strengthening the communication-visibility activities and publications around solar energy and the know-how of the company At the time of this evaluation, Yeelen Kura was recruiting a new communication officer, to operate under the supervision of the marketing and sales manager. This demonstrates the fact that the company clearly feels the need to constantly increase the capacity of the staff to better cope with the challenges of the future and thus, to increase the global capacity of the enterprise. On this matter, we suggest: - To increase the overall communication of Yeelen Kura towards the Malian society in general, to broaden the knowledge and to seek a better recognition of its work. Solar energy is an important part of the future of the country. The actual efforts could be further developed: production of films and television programmes, but also through social networks, very active in Mali. - To conceive a tool – which could take the form of a large colour poster, to be used in meetings with clients, their communities and local authorities illustrating the structure of the fees: services, maintenance, depreciation and replacement of equipment (SHS and mini-networks).	**Recommendation nº2: Steady/consistent logistics** - The planning should always cover a higher availability of equipment to provide for clients. - Picking on E-payment to reduce costs, reach more clients. - Discount or bonus at the end of the year for good-paying /regular paying clients, as it happens with other FRES companies (ex: top up one month for example or giving discount on additional products) **Recommendation nº3: Increased marketing and advertisement** - Community sensitisation on solar power, bringing teachers and other leaders to collaborate in FRES communication campaigning - Sensitisation on fee-for-service model, increased marketing/advertisement, participating in conferences with other energy stakeholders, becoming more visible within the energy sector, branding. - Providing more light bulbs per package or providing spare bulbs per package which clients can replace themselves to reduce on expenditure (traveling there only for one light bulb).	**Recommendation nº2: Increased marketing and advertisement** - Sensitisation on fee-for-service model, increased marketing/advertisement, participating in conferences with other energy stakeholders, becoming more visible within the energy sector, branding. - Expansion of equipment such as bigger panels or other smaller systems/sellable items to reach low-income households as well. However, these items should not compete with the SHS. - Providing more light bulbs per package or providing spare bulbs per package which clients can replace themselves to reduce on expenditure (traveling there only for one light bulb). **Recommendation nº3: Increased cooperation with other energy stakeholders and increased partner meetings** - More local cooperation, between FRES Uganda and REA and UMEME, the government, the EU, and other energy stakeholders. Ensuring visibility of FRES Uganda.
	Recommendation nº4: Increased cooperation with other energy stakeholders and increased partner meetings - More local cooperation, between FRES GB and other initiatives of photovoltaic energy, as between the company through Contuboel and Bambadinca mini-	

Mali	Guinea-Bissau	Uganda
	grids, both operating in the Bafatá region, likely profitable for both management teams. -The global visibility of FRES GB should be improved, preparing the future of the company.	
	Recommendation nº5: To accelerate the reform of project internal organisation, based on proven competencies of staff -The ongoing restructuration of staff should be accelerated, accompanying the empowerment of the new general manager. Evaluation of all members of staff should be immediately implemented, similarly to Yeelen Kura /Mali, to allow redistribution of tasks, recognizing the more devoted and motivated staff members, at all levels. FRES HQ should temporarily directly support this re-organisation. A clearer and efficient work/task responsibility will consequently improve the performance and the organisational culture of FRES GB, reinforcing the internal discipline and, ultimately, the payment rate.	

Annexes

Annex 1 Interview formats

Format 1: Interviews with representatives of the Government/Ministries (at the national and local levels), responsible for the project in the EU Delegations and senior staff of FRES/Netherlands and the management team of the project.

Name and function of the interviewee (s):
Place and date of the interview:
Interviewer Name:

QUESTIONS
SECTION 1. RELEVANCE AND STRATEGY
1. Do you know about the FRES/EU project and its objectives?
2. To what extend is the project coherent and consistent with the Government's objectives and with the cooperation framework of the EU in the country?
3. How are the objectives of the project linked and complementary with other programs of the Government, or from other partners and the European Cooperation in the country?
4. What levels of synergy, complementarity, cooperation and mutual learning between the project and other programs at the national, regional or international levels working in the same field have been established? What is your assessment on this point?
5. From your knowledge of the project, do you think it was designed/prepared with the participation of all relevant stakeholders?
6. According to what you know of the preparation of the project, which specific strategies were developed to meet the specific needs and practices of women and men? And how were these strategies planned/developed?
7. Do you think that the project has been provided with sufficient means to achieve its objectives?
8. Would other means and approaches, in quality and quantity, have been more appropriate to achieve the objectives? Which are they, if we had to rewrite the project today?
SECTION 2. PROJECT'S EFFECTIVENESS
1. Based on what you know of the project, what progress has been achieved concerning the effects, results - and if this is the case, impacts expected from the project? Are the results which have been achieved and the services provided by the project satisfactory, in quantity and quality? If not, why?
2. Do the project's results and effects benefit men and women equally?
3. Which activities/effects/results have not been achieved? And why?
4. Do the operations, carried out by the project (since its start), overall match with work plans and annual budgets? If not, why?
5. Which factors made an impact on the effectiveness of the project? (Positive or negative)
6. Has the project received adequate levels of support: from development policies in the sector of energy; technical, on aspects of the training and implementation of its activities; and administrative-financial, regarding the disbursement from the donors?
7. Are the coordination arrangements, management, Monitoring & Evaluation systems adequate and do they work with stability and regularity? Has the project experienced organizational shortcomings, on the coordination of its various components, relationships with partners, other?
8. Was there a clear understanding of roles and responsibilities within the team of the project and between the project and its implementation partners?
9. Was the information on the achievements of the project shared regularly and timely with all the partners and funders?
10. Have you heard of episodes of mismanagement during the project, by the management team or other stakeholders/partners? And what solutions have been provided, if this was the case?
11. In your opinion, can we consider some unexpected results of the project, that were not planned?
SECTION 3. EFFICIENCY
1. Were the technical and financial resources adequately and timely provided to the project when they were needed and scheduled? What were the bottlenecks that have reduced the capacity of the project?
2. Do you think that the already acquired results would have possibly been obtained with lower costs? Or with a different approach? Why? Can you give examples?
3. Are the project's resources used (human, budgetary, logistical) in a satisfactory manner? Have you experienced any episodes of mismanagement, on behalf of the project's resources or by partners? And if so, which and with what kind of solutions?
4. What is your opinion about the level of satisfaction of partners/donors? Regarding information sharing,

QUESTIONS
achievements and/or delays of the project?
5. Did the project ever had to review its plans, its budget, and even its indicators and logical framework to better adapt to the real pace of delivery?
6. What is your view on the project's performance and technical and operational capacities?
SECTION 4. IMPACT
1. Can we consider that the project has contributed and continues to contribute to real ownership and empowerment acquired by the national organisations/teams?
2. What are your perceptions on the management teams of the FRES companies in the country about the new skills they acquired during the biannual meetings of the regional project (changes of styles of management, technical improvements, etc., of participants in these meetings
3. Can we already speak of an impact of the project in its areas of intervention? In which aspects?
4. Can we already observe some improvements in the lives of the clients (farmers, traders, agents of health and education…) in the concerned regions? What kind of improvements?
SECTION 5. SUSTAINABILITY
1. Did the project adopted an "exit strategy" to prepare, in an explicit way, with the partners, the future of the project?
2. Which activities are more sustainable, even after the end of the project?
3. Which aspects of the project should have been different so that the results would have been more sustainable, or those that should be avoided in a project of this type?
4. From the experiences gained through this project, what are the main lessons we can extract? Indicate at least one lesson.
5. Which "best practices" can be learned from the experiences of the project, and which ones could be applied by other projects and programs of the same type?
6. Which concrete suggestions to improve performance, the impact and sustainability of the project do you have?

End of interview. Thank you.

Format 2: Interviews with clients

Name and function of the interviewee (s):
Place and date of the interview:
Interviewer Name:

QUESTIONS
SECTION 1: RELEVANCE AND STRATEGY OF THE FRES COMPANIES
1. Do you know FRES company objectives? (What the company wants to achieve, achieve?)
2. What is your assessment of the services that are rendered to you by your FRES company?
3. What type of contract has been signed between you and FRES? With what terms of payment? Do you regularly pay your fees?
SECTION 2: EFFECTIVENESS
4. In your opinion, are the FRES's staff contacts with you correct and satisfactory? If not, why?
5. Does FRES company meets its contractual duties with you? If not, why?
6. Have you known or heard of cases of mismanagement by the team of your FRES company?
SECTION 3: EFFICIENCY
7. Do you have suggestions to improve the quality of services provided to clients by your FRES company? Which? *(please make at least one suggestion)*
SECTION 4: IMPACT
8. Can you explain what has changed in your life and your family with electricity at home? *(women, men, children)*
9. Do you know other people who want to have electricity at home too? Why they do not have it yet?
10. Do you know other people who have electricity at home with other systems different from your FRES company? What is the difference between other systems and FRES?
SECTION 5: SUSTAINABILITY
11. If your FRES company will stop its operations tomorrow, how are you going to continue to have electricity at home?

End of interview. Thank you.

Annex 2 Current tariffs FRES (Uganda, Mali, Guinea-Bissau)

UGANDA						
Service level	Technical specification	Package	Monthly fees		Connection fees	
			Ugandan Shillings	Euro	Ugandan Shillings	Euro
S1	80W Solar panel + 90 AH battery, (200wh per day)	3 lighting points, socket for phone charging, all wiring and regulator	23,000	5,49	218,000	52
S2	2x80W (160W) Solar panel + 90AH battery, (300wh per day)	3 lighting points, socket for phone charging, supports a 14-inch Television, accessories and regulator	34,000	8,11	268,000	64
S3	2x80W (160W) Solar panels + 150 AH battery (480wh per day),	4 lighting points, socket for phone charging, supports a 14-17-inch. Television, accessories and regulator	45,000	10,73	328,000	78
S4	3x80W (240W) Solar panels + 240AH battery, (720wh per day)	5 lighting points, socket for phone charging, supports a 14-21-inch Television, accessories and regulator	58,000	13,83	393,000	93,7
S4+	4x80W (320W) Solar panels + 300AH battery, (960wh per day)	6 lighting points, socket for phone charging, supports a 21-inch Television, accessories and regulator	69,000	16,45	445,000	106
MALI						
Service level	Technical specification	Package	Monthly fees		Connection fees	
			FCFA	Euro	FCFA	Euro
S1	80W Solar panel + 90 AH battery (200wh per day),	2 lighting points, 25-watt socket for a B&W Television (E14), all wiring and regulator	3.500	5,33	18.500	28,20
S2	80W Solar panel + 90 AH battery (200wh per day)	3 lighting points, 25-watt socket for a B&W Television (E14), 6h for the socket, wiring and regulator.	3.940	6	18.940	28,87
S3	2 X 80W (160W) Solar panels + 150AH battery (600wh per day)	5 lighting points + one 25-watt socket for a colour TV (E14), wiring and regulator	8.700	13,26	23.700	36,13
S4	3x80W (240W) solar panels + 150Ah battery)	6 lighting points, 2 sockets, wiring and regulator	13.475	20,54	28.475	43,40
Mini-grid		Unlimited, depending of monthly consumption (pre-paid or not)	250/kWh	0,381		
GUINEA-BISSAU						
S1	80W Solar panel + 90 AH battery (200wh per day),	2 lighting points, one 25-watt socket for a B&W Television (E14), all wiring and regulator	6.000	9,14	20.000	30.48
S2	2 X 80W (160W) solar panels + 150AH battery	2 lighting points, one 25-watt socket for a colour TV (E24), all wiring and regulator	12.000	18,3	30.000	60,97
S4	4X80W (320W) solar panels + 2X150Hh batteries	2 lighting points, one 25-watt socket for a colour TV (E32), all wiring and regulator	20.000	30,5	65.000	99
Mini-grid		Unlimited and prepaid, with double tariff (night/day)	400/day 700/night	0.609/day 1.06/night		