



## **Regional Off-Grid Electrification Project (ROGEP)**

### **Report on Proceedings:**

## **Second Regional Workshop**

Fiesta Royale Hotel, Accra, Ghana ● June 26 and 27, 2018

*Project Implementation Unit, ECREEE  
with support from Victoria O. Pelumi (Intern)*

September, 2018

**ROGEP**

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## List of Acronyms

AMADER	:	Agence Malienne pour le Développement de l’Energie Domestique et l’Electrification Rurale (Malian Agency for Development of Household Energy and Rural Electrification)
BOAD	:	Banque Ouest Africaine Développement
CFI	:	Commercial Financial Institution
EBID	:	ECOWAS Bank for Investment and Development
ECOSHAM	:	ECOWAS Standards Harmonization Model
ECOWAS	:	Economic Community of West African States
ECREEE	:	ECOWAS Centre for Renewable Energy and Energy Efficiency
EPASES	:	ECOWAS Programme on Access to Sustainable Electricity Services
ESEF	:	ECOWAS Sustainable Energy Forum
ESRM	:	Environmental and Social Risks Management
EUEI PDF	:	European Union Energy Initiative’s Partnership Dialogue Facility
GCP	:	Greenmax Capital Partners
GOGLA	:	Global Off-Grid Lighting Association
IRENA	:	International Renewable Energy Agency
PIU	:	Project Implementation Unit
PODEREE	:	Programme Régional de Développement des Energies Renouvelables et de l’Efficacité Energétique
PROGRES-Lait:		Programme Energie Solaire et chain de Valeur lait
PV	:	Photovoltaic
QA	:	Quality Assurance
ROGEP	:	Regional Off-Grid Electrification Project
SHS	:	Solar Home System
SME	:	Small and Medium Enterprises
SUREF	:	Sustainable Use of Natural Resources and Energy Finance
TA	:	Technical Assistance
THC	:	Technical Harmonization Committee
ToT	:	Training of trainers
UEMOA	:	Union économique et monétaire Ouest-Africaine (same as West African Economic and Monetary Union)
UNDP	:	United Nations Development Programme
WAEMU	:	West African Economic and Monetary Union

## INTRODUCTION

The second regional workshop was held in Accra, Ghana eight months after the first in Dakar, Senegal. The theme for the event was "promoting investments in standalone off-grid systems in West Africa and the Sahel Region". Its purpose was to provide policymakers and regional leaders with opportunities to understand and appreciate the status of the preparation phase of the project, present the concept notes of project components and to seek their feedback.

A total of 165 participants were drawn from various stakeholders within and outside the ROGEP target countries. They included representatives of the ECOWAS commission, finance institutions, donors, international companies, local companies, non-governmental organizations, governmental energy agencies, regional banks, the World Bank and the media. Presentations were made by staff of the Project Implementation Unit (PIU) from the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) as well as representatives from the following organizations: West African Development Bank (English version of Banque Ouest Africaine de Développement, BOAD), ECOWAS Bank for Investment and Development (EBID) and Greenmax Capital Advisors, consultants for ROGEP market assessment task. The participants deliberated, in a candid manner and an interactive atmosphere, on the various components of the project. They sought to seek a deeper understanding of and to provide their insights on the project design. Proceedings of the workshop are presented in the subsequent sessions of this report.

## SESSIONS ON DAY ONE: JUNE 26, 2018

### Opening Address and Remarks

#### Opening Address by Mr. Mahama Kappiah, Executive Director, ECREEE

Mr. Mahama Kappiah, Executive Director of ECREEE, opened the event. He highlighted the challenges the region is facing with regard to access to electricity. He followed on with the proposition that the Regional Off-Grid Electrification Project (ROGEP) was created and designed to contribute to addressing those challenges. The Executive Director, also, indicated that access to affordable and reliable modern energy is key to human development. Therefore, it is critical to attract investments in order to establish a viable market in the region. These investments will create jobs for the population of the region. There are more than 200 million people in West Africa and the Sahel without access to grid electricity. He reminded participants about the seventh UN Sustainable Development Goal (universal access to all citizens by 2030) and said all must be guided by that goal. He assured that ECREEE will do its best to make ROGEP a milestone in the journey to universal access to sustainable electricity services.

Mr. Kappiah emphasized that ROGEP aims at establishing a regional market for off-grid products and services, with the ultimate objective of increasing electricity access. This could be achieved through the improved uptake of off-grid solar technologies and services by households and institutions in West Africa through a harmonized regional approach. He revealed that the decision to focus on standalone solar systems is because the total public investment required for universal grid connection in Africa was estimated to be \$80 billion and that, standalone systems could achieve the same results at a fraction of that cost. He maintained that off-grid renewable energy solutions offer already a reliable and cost-effective solution for millions. He was convinced that combining grid-connection with off-grid technology can achieve universal access at a faster pace and a cheaper rate. He cited the Kenya success story where, currently, nearly 30 percent of Kenyan households within the off-grid areas use solar systems, compared to an approximately two percent that used solar lanterns in 2009. He was hopeful that West Africa could exceed the Kenyan breakthrough if stakeholders took the proposed ROGEP interventions into serious consideration and gave the project full support during implementation.

#### Opening Remarks by Ms. Wendy E. Hughes, Practice Manager, Energy and Extractive Global Practice, World Bank Group

Ms. Wendy Hughes observed that the advances in off-grid technology over the past decade have been truly remarkable and that the current available wide range of products provide a real and sustainable alternative to grid electricity. She emphasized potential solutions that ROGEP could help promote across the ECOWAS, the Sahel and Central Africa by stating that in areas where the grid is slow to reach or prohibitively expensive and difficult to build, solar products can immediately and affordably electrify households and businesses to allow them to meet their basic electricity needs. A typical solar home system can now power the same services that are used by grid-connected neighbours, while larger standalone systems can power public institutions like schools and health centres, as well as productive uses like water pumping.

Ms. Hughes addressed all key players – private enterprises, financial institutions, government agencies, and donors. She invited actors across these segments to support in any of the 19 countries.

She reminded participants about the long history of regional cooperation in West Africa and was therefore optimistic that using that approach in building a large and unified off-grid solar market would increase access to solar technology in all 19 project countries. Ms. Hughes noted two things in the regional project that could attract solar companies — (i) adopting common quality standards for off-grid solar products that are uniform across the entire region and, (ii) implementing associated taxation easements in each country. She was convinced that these two actions would, in effect, create a single large market that solar companies would find appealing rather than 19 individual national markets with differing standards and rules. For this reason, she called on all the countries to work together to develop a comprehensive regional standard that will benefit each individual country and the region as a whole.

She followed this call with assurance to solar companies that ROGEP is designed to support them in setting up or expanding their businesses. She mentioned four interventions in the design that would be used to achieve this goal:

- Creation of an enabling environment within the region;
- A consumer campaign to be carried out to increase demand for, and trust in solar products;
- A market research that would be made available to companies to enable them to design appropriate business models; and
- Support mechanism of finance and capacity building for them to grow their businesses.

Ms. Hughes turned to financial institutions, encouraging them to take the risks associated with entering the nascent off-grid solar energy market. She reminded them that the market is strong and could be extremely rewarding and lucrative in due course with the interventions of ROGEP. Citing the East African case, she revealed that default rates on lending for off-grid solar energy are extremely low—especially when dealing with quality-verified products. She indicated that the World Bank would support the Risk Mitigation Facility to reduce companies' exposure to financial risk as it has successfully done in East Africa.

Ms. Hughes called on governments again to guide the design of ROGEP and to benefit from it. She commended them for providing inputs during the national workshops organized by ECREEE as those inputs served to identify individual priorities to allow all stakeholders to design the project in a way that responds to reality in each country while benefiting all. She assured that each country will receive the support needed as ROGEP funds are allocated. She entreated governments to continue to support the project as well as implement enabling policy at the national level to make it a success.

#### [Remarks by Honourable Sédiko Douka, ECOWAS Commissioner for Energy and Mines](#)

The Honourable Commissioner, Mr. Sédiko Douka, described the situation of access to electricity in ECOWAS region as relatively low and unequally distributed. Indeed, only 42% of the population has access to electricity meaning that nearly 170 million people without access to date. This rate is 65% in urban areas and only 10% in rural areas. He added that the weakness and the disparity between urban and rural areas in the rate of access to electricity and echoed the relevance of the ROGEP in achieving the ECOWAS objectives for renewable energies and energy efficiency for 2020 and 2030.

According to Honourable Douka, given the predominance of fossil fuel-based energy (60%) and the unreliability of traditional energy production systems, innovative measures and sustainable solutions like the intervention proposed by ROGEP are needed to ensure universal

access to electricity by 2030. This goal, he underscored, is at the heart of ECOWAS operations because access to electricity is about social justice and equity. Mr. Douka affirmed the firm commitment of ECOWAS for regional integration and cooperation in the field of access to electricity. He welcomed the support that ROGEP intends to provide during its implementation phase, and said that it would spur on the development of a regional market for off-grid systems. He ended by hailing the actions already carried out during the preparation phase, especially, the various national and regional consultations, and the training of local solar entrepreneurs and the business-to-business on 25th June 2018 in Accra.

### Remarks by Honourable William Owuraku-Aidoo, Deputy Minister of Energy (Responsible for Power)

Honourable Aidoo presented a history of Ghana's electrification efforts and revealed a remarkable milestone of more than 84 percent of Ghanaians having access to electricity. In spite of this, there was still great difficulty as the country approached the last-mile to reach its target of 90 percent by 2020. More than 2000 communities cannot be connected to the national grid by 2020 due to their geographic locations. The government has decided, as a result, to deploy mini-grid and off-grid electrification options, including solar systems. He acknowledged that the government alone could not provide off-grid electrification and expressed its continued desire to work with the private sector and development partners. The World Bank, African Development Bank, UNDP, Governments of Spain, Switzerland, China, Japan, India and the United States have been funding the deployment of mini-grid and off-grid electrification options in Ghana.

Honourable Owuraku-Aidoo expressed the commitment of the Government of Ghana to ensure that the enabling environment was sound and attractive to private investors. He entreated governments within the region to do same. He urged the gathering to deliberate challenges that come with off-grid electrification as well as on options that could create a sustainable energy market in rural Africa. He emphasized that there is no need to reinvent the wheel but to learn from mistakes as the project is implemented and forge ahead with commitment.

## Day 1 Presentations

### Advancements made Since ROGEP Inception

The ROGEP Coordinator, Mr. Nicola Bugatti made a presentation on progress made since the preparatory phase began. He disclosed that ROGEP was created as a response to the urgent need for all stakeholders to ensure rapid progress towards toward achievement of the regional and national electricity access targets. He observed that access to finance has been emphasized as a key requirement, especially by entrepreneurs. His presentation focused on the various components of ROGEP and, progress made during the preparatory phase.

According to Mr. Bugatti, the types of solar PVs technology that would be promoted include portable solar lanterns, solar homes systems (SHS), standalone solar PV systems for productive uses and institutional services. Targeted users comprise households, public institutions, and productive end-users such as users of solar-powered irrigation pumps, solar mills, etc. He continued to provide information progress made by the region in terms of growth of the off-grid solar PV market which he described as non-existent in 2013. He cited *Semi-Annual Sales and Impact Data* from GOGLA's Global Off-Grid Solar Market Report and revealed that in 2017, sales volume in West Africa was over two million units, representing nine percent of the worldwide market. More than 500 solar companies were found in the 19 countries, of which

more than 70 were Tier3<sup>1</sup> Enterprises. The data also shows that as much as 85 percent of sales in the region were made from systems with less than 10 watts capacity. Regardless of these numbers, the region runs a risk of not achieving its energy access targets if countries do not accelerate efforts.

Turning to the ROGEP concept, Mr. Bugatti presented an overview of the components and sub-components of the project as well as the budgets for implementation as follows:

<b>Component</b>	<b>Sub-Component (Budget)</b>
Component 1: Support the Acceleration of the Regional Market(\$60M Grant)	Subcomponent 1A: The Enabling Environment(\$30M)
	Subcomponent 1B: Entrepreneurship Support(\$20M)
	Subcomponent 1C: Risk Mitigation Facility(\$10M)
Component 2: Facilitate Access to Finance (\$140M Credit)	Subcomponent 2 A: Support the supply side of the market development (Working capital)
	Subcomponent 2 B: Support the demand side of the market development (SME loans for productive use and for households)

The Project Coordinator also stressed that ROGEP “is not a summation of national activities”. In other words, ROGEP will focus on activities that are regional in nature rather than national activities. He recounted the beginning of deliberations and subsequent events that led to the launch of the project and milestones that had been achieved between the launch and the second regional workshop. Key activities that occurred between December 2015 and June 2018 included the following:

- The launch of EPASES and beginning of fundraising in December 2015;
- First conversations with the World Bank in June 2016;
- The positive outcome of WB appraisal of ECREEE and signature of Project Preparation Advance in April 2017;
- Project Launch at first Regional Workshop –ESEF in Dakar in October 2017;
- National workshops in all 19 countries; and
- The launch of market assessment and public consultation on components description in May 2018.

Following the presentation, the floor was opened for a questions-and-answers session between the presenter and the audience. Below is a summary:

<b>Question/Suggestion/Contributions</b>	<b>Response(s)</b>
On what basis will the funding be distributed among the countries? Will there be country budget allocation? Is the model first-in, first-out type?	Funding will not be divided among the countries. The fact that ROGEP is a regional project does not mean that it is a sum of 19 initiatives. It is a single regional initiative. Distribution of funding will depend on several factors, chief among which are the countries’ expressed interest/demand, readiness, and how quick their responses are to

<sup>1</sup> In scheme of ROGEP, Tier 3 companies are those that have the following characteristics: a) more than 25 full-time employees; b) sold more than 30,000 Solar Home Systems or more than 50,000 lanterns; c) more than \$3M in annual revenues, d) credit lines at a bank and financial statements (possibly audited), and e) likely to raising equity or another outside financing.

	creating the enabling environment. Equal opportunity will be given to all countries. The possibility to establish a funding ceiling for the countries is being considered.
Why is it the first time that National Designated Authorities of the Green Climate Fund (GCF) and the climate change managers of the environment ministries have ever been associated with such a renewable energy project that is aligned with the National Designated Countries? Are there pilot phases of this project? How do you plan to involve the GCF Focal Points in the implementation of this project?	ROGEP appreciates the participation of NDAs in the meeting and apologizes for informing them late. ROGEP hopes that this meeting will be the beginning of candid deliberations and fruitful collaboration.
Will all components be implemented in parallel in January 2019 or will activities be implemented sequentially?	ROGEP is confident that it can keep up the momentum as a team to start all components in January 2019. The team is has shown commitment to achievement of results.
The budget for Phase 1 is \$200M. Why is the budget for enabling environment component (30M) more than that for the sub-component on entrepreneurship support (20M)?	Efforts will be made to raise additional funds and increase the support to entrepreneurs.
A lot seems to have been done within a short time. ROGEP is very similar to the Niger Solar Electricity Project (NESAP), which is also funded by the World Bank. In view of your roadmap, which implementation strategies involving all the actors will you put in place?	ROGEP has taken note of the comment and will collaborate with the NESAP project
Did ROGEP take into account various experiences from other projects implemented all over the region?	ROGEP builds on national, regional experiences. Ethiopia, Bangladesh, and Niger offer good examples. These are being kept in focus.

### Presentation on Sub-Component 1A-- Enabling Environment

This session was moderated by Mr. Yuri Handem, ROGEP Technical Coordinator. The panel composed of the following experts:

- Mr. Kwabena Adom-Opore, Area 2<sup>2</sup> Technical Specialist, ROGEP;
- Mr. Hamadou Tchiémogo, Area 1 Technical Specialist, ROGEP;
- Mr. Nanlee Johnson, Senior Energy Analyst, Ministry of Mines and Energy, Liberia;
- Mr. Séini Nouhou Amadou, Area 3 Technical Specialist, ROGEP;
- Mr. Rabiou Balla, Director General, Ministry of Energy, Niger;
- Mr. Edward Makua, Engineer, Renewable and Rural Power Department the Ministry of Power, Nigeria; and
- Ms. Ermelinda Tavares Lima, Gender and Social Inclusion Specialist, ROGEP.

<sup>2</sup> **Area 1** -- Burkina Faso, Cote d'Ivoire, Guinea Conakry, Mauritania, Mali and Senegal; **Area 2** -- Ghana, Liberia, the Gambia, and Sierra Leone; **Area 3** -- Benin, Cameroon, and the Central African Republic, Niger, Nigeria, Tchad and Togo; **Area 4** -- Cape Verde and Guinea Bissau

## Sub-Component 1A: Area 1--Supporting Regional Policy and Regulatory Frameworks for Off-Grids

Mr. Hamadou Tchiémogo gave a detailed explanation of actions that would be undertaken by ROGEP in supporting the regional policy and regulatory frameworks for the off-grid sector. Four sub-activities that will be covered under this support are:

- Strengthening regional energy access policy;
- Developing and adopting regional quality standards;
- Removing trade barriers and moving towards a simplified tax regime; and
- Influencing national energy access policies/strategies through regional engagement

Mr. Kwabena Adom-Opare invited Mr. Nanlee Johnson from the Ministry of Mines and Energy in Liberia to illustrate a case of how national energy access policies can be improved through regional engagement. Mr. Johnson mentioned the Liberian example of a Mini-Grid Regulation. ECREEE and the European Union Energy Initiative Partnership Dialogue Facility (EUEI PDF) organized a regional training on clean mini-grid regulation in July 2017 in Abuja for stakeholders from ECOWAS member states. Participants included Directors of Energy of Ministries, Rural electrification agencies, Regulatory agencies, and Utilities. This regional activity was followed by a technical assistance on the development of policy and regulatory frameworks of mini-grids for Liberia and Guinea.

Per the established format of the workshop, an interactive phase followed the presentations. Participants asked questions, made comments and/or suggestions, after which the ROGEP team gave responses. Issues pertaining to standards and quality assurance were discussed and they included following:

- The adoption of standards and quality assurance by the 19 beneficiary countries, which has implications for a significant investment of funds and time;
- The standards to be used for solar technologies to be deployed under ROGEP; and
- The concrete activities to be undertaken to remove trade barriers and simplified tax regimes for a harmonized regional market.

## Sub-Component 1A: Area 6--Exploring New Business Models to promote the use of Off-Grids Solar PVs in Public Institutions and Productive Use Applications

The session continued with the presentation of Mr. Séini Nouhou Amadou, on Thematic Area 6. He focused on the following aspects:

- ROGEP Pilot Projects in Niger and Nigeria. The purpose is to develop a quality assurance (QA) framework for off-grid solar electricity systems for institutional applications such as health clinics, schools, and water pumps and a new approach for the procurement, installation and long-term maintenance; and
- New Business Models and Risk Mitigation: This is meant for service-oriented standards and quality assurance framework supported through appropriate payment risk mitigation arrangements.

This sub-session was completed by the interventions of Mr. Rabiou Balla, Director General of the Ministry of Energy, Niger and, Mr. Edward Makua, Engineer from the Ministry of Power, Nigeria. They presented the number of facilities (i.e. health and education, water pumps) in their respective countries as well as activities carried out (field visits and surveys) through ROGEP ongoing pilots. In Nigeria, a survey was conducted. Thirty-one identified sites were comprised 12 health facilities, 10 schools, one e-library, seven sites for water pumping tests,

and one irrigation site. Similarly, the Niger survey identified 10 health facilities, nine water pumps, and seven educational facilities adding up to a total of 26 sites. In both countries, fieldwork was conducted to identify and assess sites for the pilot installations and to provide key insights for the QA framework.

Participants shared their experiences and contributions pertaining to the management of public facilities electrified with standalone solar PV systems.

### Sub-Component 1A: Areas 2, 3, 4 and 5<sup>3</sup>

Presentations on four other thematic areas under sub-component 1A were made by Mr. Adom-Opare. Key activities that he highlighted are as follows:

- **Thematic 2:** Supporting development of a regional ecosystem for sustainable growth of the off-grid industry through the Entrepreneurship Capacity Building Facility, promotion of inclusive supply value chain and Regional certification scheme for PV installers;
- **Thematic 3:** Sharing market intelligence and facilitating stakeholder exchange through Regional and national forums and workshops (Business-to-Business (B2B) events, Country level database management support));
- **Thematic 4:** Unlocking regional demand through consumer awareness and promotional campaigns (Training of trainers (ToT), Local language radio shows, Roadshows etc.)); and
- **Thematic 5:** Removing Supply Constraints through Capacity Building of Banks /Financial Institutions (FIs) and other Relevant Stakeholders (Meeting environmental requirements capacity development, Off-grid solar energy due diligence training, portfolio supervision, hedging etc.).

Ermelinda Tavares Lima continued the session with a presentation on how gender would be mainstreamed under Sub-Component 1A. After defining gender mainstreaming and highlighting the regional context, she gave details of activities to be taken into account. The main goal of these activities is to raise awareness among women to facilitate their entry into the renewable energy market.

In the ensuing deliberations, major questions asked, and/or comments made by the audience included the following:

Question/Suggestion/Contribution	Response(s)
How do you move from adopting standards at the regional level to implement it at the national level? Do you really have the capacity for that? Adoption is one thing and the application is another. Experiences in East Africa suggest that countries require provision of careful support or guidance.	The adoption of the regional standards on plug-and-play solar homes systems (up to 350W) by the members States, will be done according to the ECOWAS Standards Harmonization Model (ECOSHAM) procedures described as follows: 1. Technical review by the regional Standards and Labelling Technical Committee;

<sup>3</sup> The Sub-Components are as follows:

1a2--Supporting Development of Regional Ecosystem for Sustainable Growth of Off-grid Industry;

1a3--Sharing Market Intelligence and Facilitating Stakeholder Exchange;

1a4--Unlocking Regional Demand through Consumer Awareness and Promotional Campaigns; and

1a5--Removing Supply Constraints through Capacity Building of Banks /FIs and other Relevant Stakeholders.

	<p>2. ECOSHAM review by ECOSHAM Technical Harmonization Committee on Electrotechnical (THC 5);</p> <p>3. Adoption by ECOSHAM technical management committee;</p> <p>4. Political regional adoption by ECOWAS Council of Ministers or Heads of State</p> <p>5. Introduction at the national level by the development or adaptation of national regulations;</p> <p>For the four non-ECOWAS countries, the adoption is at country level depending on the regional and national policy, and regulatory frameworks;</p> <p>ROGEP will review existing standards at the national, regional and international levels. A study will be conducted after which regional standards will be developed.</p> <p>Concerns raised have been duly noted.</p>
<p>What will be the standards for solar equipment that will be deployed?</p>	<p>The study on the regional standards will provide the existing local and international standards. Already, there are two quality standards (for Pico Solar and Plug-And-Play Solar Home System (SHS)) developed by Lighting Global and adopted by several solar companies in the region.</p>
<p>What is the coordination strategy at the national level?</p>	<p>The partnership is an integral part of ROGEP operations. In line with this, during the various national consultative workshops, ROGEP specifically requested the Ministries in charge of Energy to present their on-going initiatives, projects or programs in the countries for possible synergies with ROGEP.</p> <p>Further, the Project Implementation Unit (PIU) is in the process of setting up multi-stakeholders task forces in all countries, with one of the objectives being the harmonization of activities between the various interventions in the field of off-grid solar systems.</p> <p>The PIU has been reaching out to all stakeholders-governments, donors, the private sector, civil society etc. Actors have appreciated this move since it goes a long way to avoid duplication of efforts.</p>

<p>What is your strategy for targeting beneficiaries in project intervention zones?</p>	<p>The on-going regional off-grid market assessment will provide a mapping of the current and expected (potentially in 5 years, 10 years and above) grid electricity coverage and power generations in individual countries. Planned or expected grid expansion and mini-grids development will be considered. Therefore, ROGEP will target areas that will not be covered in the short term period.</p>
<p>What support will ECOWAS give to Standards Bureaus in countries to increase their capacity to determine standards?</p>	<p>Technical assistance to key stakeholders (Governmental agencies, the private sector, and financial institutions) will be provided in response to identified needs. However, ROGEP will not provide support in the area of procurement of equipment.</p>
<p>What move is ECOWAS making to remove policy barriers in the movement of solar commodities between ECOWAS countries?</p>	<p>ECOWAS needs information on different tariffs' alternatives and impact of different levels of import duties. In view of this, ROGEP will generate knowledge on the various decision-making options on Common External Tariff and adjusted Harmonized System codes.</p>
<p><i>Suggestion</i>  Lessons could be drawn from the problems that emerged during the electrification of public facilities via off-grid solar systems in Ghana.</p> <p>In Ghana, everything worked well until eight years later, when problems of battery replacement arose. All the systems failed, because of this problem. Therefore, replacement of system components is a crucial issue that is worth considering now.</p>	<p>Suggestion well taken.</p>
<p>In the management of public institutions, it is necessary to involve local actors and local authorities. In the case of street lighting, it would be expedient to learn from the West African Economic and Monetary Union (UEMOA) Project (PODERE) implemented in eight countries for sharing the experience</p>	<p>In all countries, local actors, particularly management committees, have been involved.</p> <p>ROGEP is aware of the UEMOA street lighting project.</p>
<p><i>Sharing of Experience from Benin</i></p> <p>In Benin, various modes of community management have been successfully tested and ROGEP must take into account these advances already made.</p> <p>Combine the experiences of other countries with the on-going pilots in Niger and Nigeria to provide a solid basis for implementing ROGEP.</p>	<p>Recommendations made have been duly noted.</p>
<p><i>Recommendation: Combine equipment sale with supporting income-generating activities</i></p>	<p>Recommendations made have been duly noted.</p>

<p>Combine the sale of equipment for households with supporting income-generating activities that allow these households to have additional income for the purchase of the service or equipment.</p> <p><i>Access to electricity for the development of income generating activities in rural areas.</i></p> <p>Turn away from focusing on access to electricity for lighting, but rather on activities that make it possible for people to have income and to be able to buy the proposed equipment. In Sénégal, Progress-Lait<sup>4</sup> (Programme Energie Solaire et Chain de Valeur lait) provides an example. Under that project, solar milk collection and storage platforms with mini standalone solar PV systems and mini-grids are installed. This has boosted the local milk market as milk producers are able to increase revenues and pay for the electricity provided by the systems.</p>	
<p>Systematic steps need to be put in place for women to adopt or adapt a technology transfer programme. This implies gender sensitization, support, and delivery of technology, follow-up, solving of problems and final acceptance. Does ROGEP have such plans in place to encourage women to come on board?</p>	<p>The Gender and Social Inclusion Expert elaborated a gender strategic plan that seeks to address these concerns.</p>
<p>The adoption of technologies requires creating significant awareness among women. How does ROGEP plan to involve women in its awareness campaigns?</p>	<p>One of the activities that will be implemented directly in countries is consumer awareness and promotional campaigns. ROGEP will use approaches such as training of trainers, radio shows in local languages, roadshows etc. All stakeholders, including women groups, will be involved.</p>

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<sup>4</sup> Progress-lait is a project launched in 2014 in Senegal and Mauritania by NGOs Ecodev and ENDA with European funding. The initial objective was an installation of a hundred solar mini-platforms to cool the milk of 2000 producers and 20 solar dairies able to pasteurize this milk and deliver it to processing companies in the region.

## Presentation of the Preliminary Findings of the Regional Market Assessment Study

The last session of the first day was a presentation made by Mr. Albert Butare, from GreenMax Capital Advisors-- the consulting firm contracted to conduct the Regional Market Assessment study. Mr. Butare gave an overview of progress made, challenges and preliminary findings under various tasks of the assessment. He summarized progress made and challenges as follows:

<b>Task</b>	<b>Milestones Achieved</b>	<b>Challenges</b>
<p><b>Task1</b> Conduct assessments of the current state of access and the enabling market environment for each country, including the review of trade conditions for renewable energy equipment at regional and national level</p>	<ul style="list-style-type: none"> <li>• Macroeconomic, social, and geographic data needed to feed into Task 1 analysis collected from all 19 countries.</li> <li>• 75% of the Task 1 report writing has been completed.</li> <li>• GIS Analysis in all 19 countries underway</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of new and updated information in various countries.</li> <li>• Bureaucratic procedures in gathering information</li> </ul>
<p><b>Task2</b> Describe and quantify demand and supply for solar lanterns, off-grid solar systems for households, private enterprises and public bodies for each country</p>	<ul style="list-style-type: none"> <li>• Data collection training for 19 countries successfully conducted;</li> <li>• Focus Group Discussions have been planned and participants invited to 16/19 countries;</li> <li>• Focus Group Discussions have already been held in Sierra Leone, Liberia, Gambia, Guinea-Bissau, Cape Verde, Cote d'Ivoire, Guinea, Mauritania, and Burkina Faso;</li> <li>• Gender analysis Ongoing in 19 countries; and</li> <li>• Market sizing calculation tool has been developed.</li> </ul>	<ul style="list-style-type: none"> <li>• Low participation during Ramadhan. Low participation in afternoons during World Cup;</li> <li>• Deviations from discussion objectives in some FGDs;</li> <li>• In some countries, a lack of willingness of FGD invitees to participate without compensation.</li> </ul>
<p><b>Task3</b> Assess the level, capability, and willingness of existing financial institutions to provide financing to private off-grid solar companies for each country</p>	<ul style="list-style-type: none"> <li>• Financial sector desk research analysis has commenced in 19 countries and preparations of financial sector summaries;</li> <li>• Financial institution interview successfully completed;</li> <li>• Invitations for interviews sent to financial institutions in 19 countries; and</li> <li>• Scheduled interviews with financial institutions have commenced in various French and English speaking countries.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of access to current Financial Institution contact databases,</li> <li>• Low responsiveness from a few FIs given that interviews are being conducted remotely.</li> </ul>

<p>Task4 Based on Task1, Task2, and Task3 suggest mechanisms on how to incentivize the private sector and financial institutions to enter or expand off-grid solar in all 19 target countries</p>	<ul style="list-style-type: none"> <li>• Desk research on lessons learned as well as successful attributes of other off-grid programs and related multilateral initiatives throughout Africa has commenced;</li> <li>• Evaluation criteria for ROGEP financial and technical support facility are being defined</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of information about recent initiatives in some countries.</li> </ul>
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Questions asked, and comments and suggestions made at the end of the presentation table below:

<b>Question/Suggestion/Contributions /Comments</b>	<b>Responses/Contributions</b>
Why is Nigeria not among the countries with focus groups?	Only countries where Focus Group Discussion have already been conducted were listed. These were: Sierra Leone, Liberia, Gambia, Guinea-Bissau, Cape Verde, Cote d'Ivoire, Guinea, Mauritania, and Burkina Faso.
Were relevant stakeholders engaged in the market assessments in various countries, for example, Bureau of statistics, rural Electrification Agencies etc.?	Greenmax Capital Partners (GCP) have local representatives in all countries who have been introduced to key stakeholders by ROGEP Area Technical Specialists. ECREEE also has Focal Points in Ministries in charge of energy in all the Countries who will facilitate GCP's outreach to other stakeholders.
<p>Concerns raised by some participants included the following:</p> <ul style="list-style-type: none"> <li>• The brevity of the presentation (as it appeared not comprehensive); and</li> <li>• The methodology adopted i.e. sampling method, type sampling used, assumptions made and data analysis approach.</li> </ul>	

## SESSIONS ON DAY TWO: JUNE 27, 2018

### Day 2 Presentations

#### Presentation on Sub-Component 1B: Entrepreneurship Support Facility

A two-member panel comprising Mr. Siré Abdoul Diallo, Private Sector Coordinator and Ms. Ermelinda Tavares Lima, Gender, and Social Inclusion Specialist made the presentation focusing on the technical assistance and financial interventions of the Facility and the gender considerations pertaining to this subcomponent.

According to Mr. Diallo, the Technical Assistance (TA) and financing schemes to be provided to local entrepreneurs categorized into three Tiers: Tier 1 (Startup), Tier 2 (Early Stage) and Tier 3 (Maturity and Growth Stage). He informed the audience that the technical assistance intervention mainly consisted of the following:

- Entrepreneurship and Business Training for Tiers 1 and 2 entrepreneurs, broken down into:
  - Training (to about 25 businesses per training partner per year);
  - Business Incubation through a network of entrepreneurship training service providers;
  - The annual regional competition organized as part of the ECOWAS Sustainable Energy Forum (ESEF); and
  - Business-to-Business (B2B) networking opportunities.
- Customized Business Acceleration Support for Tier 2 businesses, consisting of:
  - Refining of business strategies and business model;
  - Mentoring from seasoned entrepreneurs and investors;
  - Transaction advice and investment facilitation.
- Facilitation of Entry to the Solar Industry (Non-solar companies in the Tier-3 category)
  - Awareness raising; and
  - Specialized TA to encourage successful companies with a strong distribution chain in other sectors to expand to solar.

Mr. Diallo paused and invited three entrepreneurs who had participated in training on Pay-As-You-Go Technology and Business Models<sup>5</sup>, to give their opinions about ROGEP support. Boxes 1, 2 and 3 illustrate the views expressed by the respective beneficiaries.

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<sup>5</sup> This training was held during the week preceding from 20 – 23 June the regional workshop at Paloma Hotel in Accra, Ghana.

**Box 1: Views of Léonide Michael Sinsin  
CEO & Co-Founder, ARESSS Sarl**

« "The training of local sub-regional companies on the new activities related to the mobile and energy economy, such as the innovative concept of Pay-As-You-Go has allowed more than twenty actors to meet and interact on different mechanisms to improve the rate of access to electricity in ECOWAS countries. Such a South-South partnership, under the auspices of ECREEE, strengthens regional energy integration, federates initiatives and reinforces future collaboration among entrepreneurs.

Through ROGEP, it is more important than ever to allow African private actors to be essential links in the promotion of off-grid electrification by removing essential barriers such as access to financing and the structuring of business models for the provision of electricity. »

**Box 2: Views of Eric Nyanteh,  
CEO, Translight Solar Limited**

« I had the chance to participate to training under the ECOWAS Renewable Energy Entrepreneurship Support Facility in Abuja from 14 to 18 August 2017. This training funded by IRENA, World Bank and ECREEE was essentially on "Business Plan Development, Project Proposal Development, Marketing Strategies and Access to Finance for ECOWAS Solar Energy Companies". I feel empowered to write project proposals and compete to calls for project proposals.

The training on PAYGO and Last mile distribution and the B2B forum, organized by ROGEP from 20<sup>th</sup> to 23<sup>rd</sup> June 2018 here in Accra were successful and fruitful. Informed about what is being done in East Africa especially in Kenya and give an opportunity to understand this business model. The B2B forum of the 25<sup>th</sup> June 2018, helped us to create relationships and build a network which will be used to implicate all other local companies »

**Box 3: Views of Twumasi Sakeena,  
CEO, Atlas Business, and Energy Systems Limited**

« I discovered that under ROGEP, opportunities are open to all. Usually, available funding for entrepreneurs come with a huge burden. We have been dealing with policy regulation issues, sourcing products from the international market and making sure funds are utilized wisely. ROGEP offers a unique opportunity because all stakeholders from all ECOWAS countries are being involved in the project design process. All are seeking to understand the issues at stake. ROGEP's Business-to-Business program, under which all entrepreneurs had the opportunity to meet one-on-one with high-grade manufacturing companies, enabled us to find out what it takes to select good quality products without challenges. Throughout the training, the Executive Director of ECREEE was present to ensure that what needs to be done was carefully executed by the trainers. We appreciate ROGEP staffs' humility in the way they approach us to help. This is a good example of leadership. This act of leadership is quite unusual. It means he will be able to sell our issues to those who influence decisions on our behalf. Some agencies prefer to work with consultants only and end up not having adequate practical knowledge about the solar industry and working with inactive entrepreneurs»

Mr. Diallo continued his presentation by illustrating three types of grants that will be provided to businesses under ROGEP, namely:

- Matching grant for Tier 1 entrepreneurs to support the development of ideas into a viable business, test new market/products/approaches, etc.;
- Repayable grant for Tier 2 entrepreneurs (i.e. market product, operation expansion, and transaction assistance); and
- Co-investment for Tier 2 entrepreneurs (businesses expansion, etc.);

The gender aspects of the entrepreneurship support facility were explained by Ermelinda Tavares Lima. The main goal, she revealed, is the increased participation of women entrepreneurs. Therefore, ROGEP will ensure that:

- Women entrepreneurs and other under-represented stakeholders have the equal opportunity to benefit from relevant capacity-building activities and financial support under this sub-component;
- Entrepreneurs who receive support, mainstream gender into their business models; and

- All calls for applications encourage the participation of women and other vulnerable groups.

The panelists responded to concerns, questions, and comments raised by the audience. Below is a summary:

Question/Suggestion/Contributions	Responses
Can you clarify or elaborate on the co-investment concept? Who is co-investor to the entrepreneur? Is it ROGEP or another investor?	The co-investments would help the companies fill the gap and give confidence to investors to fund a company. Grants would also allow entrepreneurs to close transactions so they can access finance. ROGEP will conduct due diligence just as any commercial bank would do. But in the case of co-investment grants, the investor should do the due diligence.
My understanding so far is that ROGEP is assisting entrepreneurs to build their technical capacities and will support them to access finance. What support does ROGEP have for the customers who are in the poor remote rural areas?	Apart from the support from Component 1A (i.e. enabling environment), financing (in the form of credit) will be made available to households to purchase products through Component 2. Also, a strong focus is placed on PAYGO technology which in essence, is consumer finance.
Do we have a model? What is the guarantee that the government will not intervene?	There are risks associated with this. The Finance Expert's presentation on Risk Mitigation will explain how that works. ROGEP will seek to address those issues that do not promote market development. They will either be removed or prevented from happening. There is adequate provision to revise the concept to make sure that it is market-oriented. ROGEP is not intended to be an agent of market distortion.
How high is the interest rate on repayable grants?  ROGEP's definition of start-up seems narrow. What is the reason?	There is no interest applied to the framework of the Entrepreneurship Facility as it will provide grants. Though, we have conducted a survey among Tier 3 entrepreneurs in the region to assess their specific needs. This gave us only some indications that companies are looking for single-digit interest rates. However, the interest rates have not been discussed nor determined yet. The Finance Expert will expand on that during the session on Access to Finance.  The definition will not remain so throughout the life of the project. The examples given are not exhaustive.
Several efforts have been made over the 20 past years to follow an entrepreneurship approach in energy service delivery. Is ROGEP utilizing any of the lessons learned from those earlier efforts, thereby building on best/proven practices instead of re-inventing the wheels?	We have a diverse team on the project implementation unit—our staff come from the public sector, private sector, international NGOs, International Development Organizations. We have consulted with various actors as well in order to have a good baseline and understanding of the market. The World Bank has also done its background study. To facilitate public discussion and review,

	we have uploaded the concept notes unto the ECREEE website and welcome any of you to provide feedback.
How are you linking the facilities to the production of components of solar equipment? For example, my company runs a factory that produces solar panels.	At the moment, our focus is on distribution to the last mile. We are focusing on that side of the value chain. If we are able to facilitate an increase in demand, manufacturing will automatically follow and the market would then be established. We are looking to sustaining the market where there is added-value for the region. So, for now, it is on distribution.
What are the provisions that ROGEP has to promote access to solar homes systems among rural women and to make them benefit from the ROGEP program?  Is there support for the most vulnerable? For example, what solutions will be provided to isolated communities?	ROGEP is focused on off-grid electrification as the name indicates. Therefore, vulnerable groups such as women and poor people are at the heart of the intervention.  Various schemes will be put in place to support the most vulnerable. For instance, the PAYGO technology itself is a technology that promotes socio-economic inclusiveness. Entrepreneurs will be supported to reach remote markets.
Gender budgeting must be considered at the planning stage to ensure nothing is found wanting during the implementation stage. Gender mainstreaming involves costs which must be factored into the budget equation.	One of the most important observations that stakeholders made during the launch of the project in October 2017 was that PIU lacked Gender Expert. This led to the recruitment of a Gender Specialist. Implementation of the gender action plan will be budgeted for as part of the process of developing the Project Implementation Plan.

### Presentation on Component 2 (Access to Finance) and Sub-Component 1C (Risk Mitigation Facility)

The moderator of this session was Ms. Nadjo Karen Cinthia Rosette Cica from, BOAD. The panel was constituted by the following experts from BOAD, EBID, and ECREEE.

- Toussaint Badolo - Deputy Director of Enterprises and Financial Institutions - BOAD;
- Dr. Apollinaire Ibrahim Tini – Head of Modern Infrastructure and Service Division, EBID,
- Festus Amoyaw - Finance Expert, ROGEP PIU, and
- Ermelinda Tavares Lima, Gender and Social Inclusion Expert, ROGEP PIU.

The presentation on Component 2 made by Mr. Amoyaw was touched on the following:

- Sub-Components under Component 2;
- Targeted categories (solar equipment suppliers, households and productive end-users and energy service companies electrifying public institution);
- Debt channels through EBID and BOAD;
- Debt fund channels with capital market funding; and
- Results of a survey conducted with Tier3 companies on types of external financial supports needed amount requested, preferred average interest rate, preferred tenure, preferred source, and Currency.

In respect of the risk mitigation facility, Mr. Amoyaw's presentation covered the following areas:

- Commercial Finance Institutions (CFIs) Channel;
- Debt Fund Channel with Capital market funding; and
- Principles of the risk mitigation facility.

Ermelinda Tavares Lima followed up Festus' presentation with a description of three key approaches to gender considerations under Component 2:

- Ensuring that women entrepreneurs and other under-represented stakeholders in the energy sector have equal access to finance from commercial banks, MFIs, and other funding institutions;
- CFIs providing lines of credit to women engaged in energy businesses that aim to improve women's income; and
- Including women-led business in the communication and outreach actions about the credit line.

### **Presentation by BOAD**

Taking his turn, Mr. Toussaint Badolo from BOAD made the following key points about the regional bank:

- It has nine regional shareholders and eight non-regional shareholders;
- Its interventions include the financing of energy projects representing 14% of investment and the financing of SMEs including 21 microfinance institutions and 120 leasing institutions; and
- Its participation in partnership networking, including among the World Bank Group.

He concluded his presentation by the affirming that:

- ROGEP could contribute to "energy inclusion" of unserved populations;
- ROGEP is consistent with BOAD's development and poverty alleviation mission. This is part of its 2015-2019 strategic plan that aims that providing support for inclusive growth and sustainable development;
- BOAD has the expertise to support the ROGEP; and
- BOAD confirms its interest and commitment to successful implementation of ROGEP.

### **Presentation on Refinancing of Solar Kits through *Titrisation***

The presentation was made by Mr. Christian Agossa, Director General of BOAD. According to him, the corporate purpose of BOAD *Titrisation* is to manage the Titrisation of Common Funds for Receivables. He defined "Titrisation" as a financing and refinancing technique that transforms illiquid rights, loans or receivables into assets that can be mobilized. He also described types of Titrisation and the operations performed.

Regarding the standalone solar PV sector, he gave an example of the *Tritisation* of trade receivables associated with sales of solar kits.

## Presentation by EBID

In a similar format, Dr. Apollinaire Ibrahim gave an overview of the operations of EBID, giving snapshots of the following aspects:

- Areas of intervention;
- The operations (market sector and non-market sector);
- Products and services (equity, debt, advice, and guarantees);
- Finance (banking sub-sector, sub-sector of financial and non-banking institutions and other subsectors of the finance sector);
- Financing and promotion of SME financing instruments;
- Instruction of Line of credit (eligibility to the line of credit, amount of the line of credit, Security to require from the beneficiary, Ceilings of interventions, Average rate of retrocession; Guarantee);
- Documentations to communicate and
- The condition of intervention (Rates, Commissions, Refunds).

Below are questions, comments and/or suggestions from the audience as well as panelists' responses:

Question/Suggestion/Contributions	Response(s)
How involved are the financial institutions in ROGEP? Are you building their capacity?	The project has envisaged there will be gaps in the capacities of the commercial financial institutions and some cases the private businesses. The project will provide Capacity Building and Technical Assistance to these institutions.
What is the reason for the strong focus on Commercial Banks? What is the alternative plan? As lending from commercial banks to households tends to be more difficult, it might be expedient to rather work with micro-finance institutions	The project defines CFIs to include commercial banks; microfinance institutions, leasing companies etc. As ROGEP works with CFIs, gaps are being identified and they will be duly addressed
Commercial Banks interest rates are very high. They are usually not interested in medium to long-term loans. They are usually interested in short-term turn over loans and making profits through the sale of forex and purchase of treasuries bills. For entrepreneurs of the ROGEP project, the MFIs are the way to go.  Is it possible to have rates close to those of other partners (i.e. below 8%) to be competitive? In other words, will the rates be like concessional rates?	ROGEP has conducted a survey among the Growth/Mature Companies (Tier 3) entrepreneurs in the region to understand their specific needs. There are some indications as to what they desire. The interest rates have not yet been discussed.  The nature and origin of the resources are known. EBID and BOAD will focus on this reality to get commercial banks to agree to an acceptable rate. The rate to be charged by CFIs depends on the rate that the World Bank offers. Nonetheless, the interest rate will not be zero percent. We are fully aware that a zero percent rate would distort the market.
Involvement of commercial banks could be a constraint to the achievement of project objectives in comparison with an initiative like	ROGEP has taken note of the caution and will factor it into its planning process.

SUNREF <sup>6</sup> program. Moreover, the multiplication of intermediaries increases the exchanges and this could lead to long delays.	
To whom will the multilateral institution give the guarantees?	The guarantees will be targeting the Commercial Financial Institutions and Energy Service Companies.
Has a simulation been done to have service cost scales in order to appreciate them?	No simulation has been done yet but the market assessment will be a good source of information to help place things in better perspective.
What is the average time for a company to access the fund?	A period of 2 to 3 months is a good time to issue.
Which coordinating body would manage the relationships between the banks and governments of participating countries?	The banks and governments are part of the stakeholders. All of them will be brought together at every opportunity and during such gatherings discuss issues.
What risks are the regional banks taking in managing the fund? In other words, can they contribute some equity in addition to what the World Bank is bringing?	The risks are mainly expected to be borne by the commercial financial institutions. EBID or BOAD will not participate ROGEP with the intention of making profit. WB or BOAD will not deal directly with clients. The two banks will ensure that targeted beneficiaries are able to access solar products.
I did not see countries outside ECOWAS being considered for assistance. What is the access scheme for the four non-ECOWAS countries to get access to finance?	ROGEP covers 19 countries. None of these countries will be left behind. The PIU is in collaboration with EBID and BOAD to ensure that all four countries outside ECOWAS access the resources when the implementation begins. There will be funded activities in the four non-ECOWAS countries. UEMOA countries will be accessing the finance through EBID and BOAD and these two regional banks cover all the countries.
Can BOAD Tritisation intervene in the four non-ECOWAS countries?	The intervention depends on the local regulator. BOAD can proceed from the role of the arranger to the role of the issuer. It could be done on a case-by-case basis.
We have the impression that governments do not play an important role. What is the role of Governments in project funding and access to finance?	ROGEP has, so far, received support from and cooperation of the Governments of the targeted countries. The PIU will continue to engage with them.
End users should be insulated from the high cost of the equipment through subsidies.	Product subsidization is typically government led. However, in the past, subsidies have not been effective in reducing the energy deficit.
<u>Suggestion</u> Since Governments are developing and/or promoting off-grid solar PVs as better alternatives to household electrification, it would appear inconsiderate on their part to increase the taxes on standalone solar products.	The suggestion is well noted.

<sup>6</sup> The objective of the SUNREF (Sustainable Use of Natural Resources and Energy Finance) initiative developed by Agence Française de Développement (AFD) is to support financial institutions and their clients in order to boost financing for projects for sustainable natural resources management, with a focus on clean energy. SUNREF provides an affordable line of credit together with project development technical assistance to help develop energy investments. Source: <https://www.gogla.org/sustainable-use-of-natural-resources-and-energy-finance-sunref>

## Presentation on Environmental and Social Risks Mitigation

The last session for the second day and final for the entire workshop was moderated by Karen Nadjo from BOAD. The panelists included Principal Environmentalist from BOAD, Solange Yayi Allechi and, two consultants of the PIU -- Festus Amoyaw, Financial Expert and Ermelinda Tavares Lima, Gender and Social Inclusion Expert.

Taking their turns, the panelists presented and explained in detail the following points:

- Environment and Social Risks in Off-Grid Solar;
- Importance of the risks management by all stakeholders;
- Principles of Environmental and Social Risks Management(ESRM) Design for ROGEP;
- Operational E&S Due Diligence;
- ROGEP ESRM Strategy; and
- ROGEP Gender Action Plans.

Following these presentations, there was a question-and-answer session during which the panel members and the audience interacted. Below are the main points of discussion.

Question/Suggestion/Contributions	Responses
Given that the use of standalone solar systems has increased over the past 10-20 years, and that ROGEP intends to accelerate the process of access of electricity, the clear implication that use of solar batteries is going to be on the rise. Is ROGEP going to develop a protocol to safely dispose of solar batteries?	Companies will be evaluated and BOAD /EBID will monitor compliance with safety protocols. ROGEP will make sure that companies have adequate strategies in place for the disposal of batteries. ROGEP will involve civil society organization
<p><b>Suggestion:</b> Prioritize key risks and use the limited resources that you are going to have to mitigate these key risks. This is the first time that I am hearing about the consideration of land use/acquisition as a risk in a standalone solar system project. This should not be the case. Waste management is the key risk and I would imagine that properly laying out the recycling policies for batteries and solar panels should be the key mitigation action the project should be focusing on. Of course, occupational health and safety are also important and should be mitigated.</p>	The contributions are acknowledged and will be considered.
What mechanisms is ROGEP putting in place to protect vulnerable groups like households and the farmers from being taken advantage of by commercial financial institutions?	CFI's will be reporting on the amount of funds dispensed, the recipients and the rates of interest. Therefore, they will not be able to take undue advantage of any recipient of credits.
Why are risks associated with land use being considered? Is the project not mainly about smaller solar systems?	The land issue was considered because of anticipated projects for government institutions. There may be instances where, due to the size of the project, additional land may be required. However, we believe the likelihood of this scenario occurring is very minimal and we are going to review this issue.

## **APPENDICES**

**Appendix 1: Speeches (Attached separately in a zipped folder)**

**Appendix 2: Presentations (Attached separately in a zipped folder)**

### Appendix 3: List of Participants

No	Name	Function	Institution	Country	Geographic Bloc	Telephone	Email
1	Mr. Assan Todéman Flinso	Directeur des Energies Nouvelles et Renouvelables	Ministry of Energy, Mining Research, Oil, Water and Renewable Energy Development	Benin	West Africa	(229) 97958973	<a href="mailto:odeman.assan@gmail.com">odeman.assan@gmail.com</a>
2	DO Rego Madjidi		l'Agence Béninoise d'Electrification Rurale et de Maitrise de l'Energie (ABREME)	Benin	West Africa	(229) 97007575	<a href="mailto:madjiroch@gmail.com">madjiroch@gmail.com</a>
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4	Camara Yacouba	Directeur Général de l'ABER	Agence Burkinabè d'Electrification Rurale	Burkina Faso	West Africa	0026 25374311	<a href="mailto:cam_yac@yahoo.fr">cam_yac@yahoo.fr</a>
5	Lois Beatitude Mandack	Sous-Directeur des Energies Renouvelables et de la Maitrise de l'Energie DERME		Cameroun	Central Africa	+237 699890220	<a href="mailto:massomabille@yahoo.fr">massomabille@yahoo.fr</a>
6	Mr. Ndjom Samuel	Directeur l'Agence électrification Rurale (AER)		Cameroun	Central Africa	+237 2221238 42	<a href="mailto:infos@aer.com">infos@aer.com</a>
7	Ariel Cruz Assunção	Senior Technician	Directorate of the Energy and industry	Cabo Verde	West Africa		
8	Luis Manuel Barbosa Santos Teixeira	PCA   CEO	Cermi - Renewable Energy Center And Industrial Maintenance CERMI	Cabo Verde	West Africa	(+238) 262 7410	<a href="mailto:luis.s.teixeira@cermi.gov.cv">luis.s.teixeira@cermi.gov.cv</a>
9	Moussa Ousman	Direction General de l'Energie		Central African Republic	Central Africa	23677345727	<a href="mailto:oumous2003@hotmail.com">oumous2003@hotmail.com</a>

No	Name	Function	Institution	Country	Geographic Bloc	Telephone	Email
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11	N'goran Konan Norbert	Directeur	Ministère de l'énergie et des énergies renouvelables	Cote d'Ivoire	West Africa		
12	N'cho N'guessan Pacôme	Directeur	Electrification Rurale	Cote d'Ivoire	West Africa	00225 20206145	<a href="mailto:guesnchopac@yahoo.fr">guesnchopac@yahoo.fr</a>
13	Samba Sowe	Director of Energy	Ministry of Energy	Gambia	West Africa		
14	Emmanuel Correa	Energy Officer	Ministry of Energy	Gambia	West Africa		
15	Doumbouya Mamby	Directeur National, Adjoint de l'Energie		Guinea	West Africa	00224 622270778	<a href="mailto:doumamby@yahoo.fr">doumamby@yahoo.fr</a>
16	Kaloko Aboubacar	Directeur General	ADER	Guinea	West Africa	00224 662316831 & 620394486	<a href="mailto:kalokoaboubacar@gmail.com">kalokoaboubacar@gmail.com</a>
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18	Julio Antonio Raul	Director	Servicos das Energias & Renovaveis	Guinea Bissau	West Africa		<a href="mailto:antoniobolo2005@gmail.com">antoniobolo2005@gmail.com</a>
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**Appendix 4: Feedback from Participants (Attached Separately as a PDF file)**