



GSDI Small Grants Program 2017

Final Report

Project:

Developing a SDI to support sustainable energy planning in West Africa

January 2018



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1. Project Description

The ECOWAS member states have set targets to increase rural electrification under the framework of different national policies and international programs. Off-grid technologies are being used to electrify communities situated far away from the transmission grid. Moreover, renewable energy technologies are also being deployed to produce power for these communities thanks to the existence of abundant renewable energy resources among other reasons.

The aim of this project is to map the operational Clean Energy Mini-Grid (CEMGs) projects in ECOWAS region and publish them on the ECOWREX SDI platform, thus contributing to offer open spatial data on operational CEMGs that proves to be of high interest for project developers on rural electrification in West Africa.

Since 90% of these projects are located in 2 ECOWAS countries: Senegal and Mali, this project focuses on these two countries. To achieve the objective of the project, ECREEE will collaborate with identified actors from the Ministries of Energy and Rural Electrification Agencies from these countries.

New spatial datasets with reliable information and key data for rural electrification planning will be produced and published on the ECOWREX SDI. These maps produced will also be disseminated via a proper communication channel to the member states.

The project strengthens the data collection strategy of ECREEE for the ECOWREX SDI by actively engaging key actors in each of the countries. Moreover, it contributes to increase usage of the platform by the ECOWAS member states and supports the capacity building component of the ECOWREX program to increase the use of the ECOWREX SDI and GIS for energy planning in West Africa.

More specifically the project:

- Will produce a document with all necessary information and technical specifications on existing and operational CEMGs in Mali and Senegal that will fulfil the expectations of the project developers in the region;
- Will elaborate specific spatial datasets with the information and technical specifications on existing CEMGs in Mali and Senegal to be published on the ECOWREX SDI;
- Will elaborate and publish specific maps and metadata;
- Will disseminate results and benefits.

2 Project progress

PHASE 1 – DATA COLLECTION AND VALIDATION			
Planned task	Responsible	Description	Status
Contracting consultants/experts in Mali and Senegal	ECREEE	Communicated officially to ASER (Senegalese Agency for Rural Electrification) and AMADER (Malian Rural Electrification Agency) about the granted project and sent official nomination letters to both institutions to officially designate the expert.	Completed

		Prepared service contracts for the designated experts and organized the signature of the contracts previous to the start of the project.	
Preparation of the excel template to be filled with the information on planned and existing CEMGs in the country	ECREEE	Excel templated prepared containing all specifications needed to be collected from each operational and planned CEMGs	Completed
Fill the excel template with the information on planned and existing CEMGs in the country	Contracted experts	The contracted experts completed the excel templates in collaboration with the rural electrification agencies (AMADER and ASER). A continuous communication process was established with ECREEE in order to address different questions	Completed
Validate the excel template with the information on planned and existing CEMGs in the country	ECREEE and consultants	Validated the excel templates provided by the consultants. It included: <ul style="list-style-type: none"> - Validation of operational and planned plants; - Validation of the technical specifications; - Validation of the location 	Completed
PHASE 2 – DATA PUBLICATION ON ECOWREX SDI			
Preparation of the metadata template for the GIS layer	ECREEE	Prepared a metadata template in a text document according to ISO 19115	Completed
Filling the metadata template	ECREEE and Consultant	Filled the metadata template for the data collected in Senegal and Mali	Completed
Produce the GIS layer “CEMGs operational and planned in Mali and Senegal”	ECREEE	Produced a shapefile by using the excel templates. Converted the excel file into shapefile	Completed
Publication of the shapefile on ECOWREX SDI	ECREEE	<ul style="list-style-type: none"> - Publication of the shapefile in the PostgreSQL database and Geoserver. - Definition of the styles - Publication of the metadata 	Completed
Phase 3 – MAPS AND COMMUNICATION CAMPAIGN			

Preparation of maps for both countries with information on location of operational CEMGs plants and other key planning information such as transmission and distribution lines, population distribution, etc.	ECREEE	<ul style="list-style-type: none"> - Prepare maps in PDF and Image format for each country - Publication of maps on ECOWREX 	Not completed (this activity will be completed by the ECREEE GIS expert as requested by official stakeholders and users of the SDI)
Communication campaign	ECREEE	<ul style="list-style-type: none"> - Prepare news and contents created on ECOWREX.org for publication and dissemination of the data 	Completed

3. Period of performance of the project & challenges and successes

Starting date of the project: 28/08/2017		
Project phase	Period	Status
Data collection and validation	From 04/09/2017 to 16/10/2017	Completed
Data publication on ECOWREX SDI	From 16/10/2017 to 06/11/2017	Completed on the 30/01/2018
Maps production and communication campaign	From 06/11/2017 to 30/11/2017	Completed on the 30/01/2018

Challenges encountered according to the initial schedule:

The second and third phase of the project have been conditioned by the busy schedule with the implementation of the annual ECREEE work plan. The work plan agreed of three months represented a tentative schedule which could be conditioned by the other activities that the project staff from ECREEE has to complete before the end of the year.

Second and third phase have been finally completed in January 2018.

The data collection and validation phase of the project was the most critical part and has been completed with success. The bureaucratic task with ASER and AMADER was completed faster than expected and the designation of the experts and signature of contracts did not delay the start of the project. The consultants performed their tasks according to their contract and the data was validated and delivered. Moreover, this activity serves as a pilot experience for ECREEE in order to organize spatial data collection from public administrations in the ECOWAS member states. Phase 1 of the project has been a successful example of collaboration from public administration on sustaining the ECOWREX SDI.

4. Implementation of the budget

The budget has been used for the subcontracting of the following tasks:

1. Data collection on existing CEMGs

To fill the excel document prepared by ECREEE with the information on all existing and operational CEMGs. This would also include identifying and segregating those off grid hybrid system that have storage system and include the necessary information to locate the projects and develop the spatial datasets.

2. Data validation on existing CEMGs

To validate the information filled in the excel document with the ECREEE and GIZ experts.

3. Support for data publication on ECOWREX SDI

To fill the metadata template prepared by the GIS specialist at ECREEE and validate it.

These activities were defined in the service contracts prepared and signed with the selected experts from AMADER in Mali and ASER in Senegal.

Budget Details:

Start of the contract	4/9/2017			
End of the contract	27/10/2017			
Project phase	Timeframe (subcontracting period)	Number of days	Rate/day	Total
Phase 1 - data collection and validation	4/9/2017 - 12/10/2017	20	\$50.00	\$1,000.00
Phase 2 - data publication on ECOWREX SDI	16/10/2017 - 27/10/2017	5	\$50.00	\$250.00
TOTAL ONE EXPERT		25		\$1,250.00
TOTAL FOR 2 EXPERTS (*)		50		\$2,500.00

* Expenses are detailed for two experts, one expert from Senegal and one expert from Mali.

This approved budget has been spent according to the service contracts signed by the consultants. To process the payment ECREEE received the respective invoices from the consultants. Last payment was proceed after the revision and approval of the final report sent by the consultants (see annex 1 and 2).

5. Project staff and deliverables

Name	Country/Institution	Activities implemented	Deliverables
Adama Berthé	Mali, AMADER (consultant)	<ul style="list-style-type: none"> - Contacted AMADER and CEMGs operator to collect data on operational CEMGs - Worked with AMADER to complete data on planned CEMGs - Filled the template - Located each plant providing geographic 	<p>Excel template with the information on operational and planned CEMGs</p> <p>Final report of</p>

		coordinates - Validated the revision of the template done by ECREEE - Supported with the filling of the metadata template	activities implemented
Ousmane Fall	Senegal, ASER	- Contacted AMADER and CEMGs operator to collect data on operational CEMGs - Worked with AMADER to complete data on planned CEMGs - Filled the template - Located each plant providing geographic coordinates - Validated the revision of the template done by ECREEE - Supported with the filling of the metadata template	Excel template with the information on operational and planned CEMGs Final report of activities implemented
Mohamed Youba Sokona	Cabo Verde, GIZ/ECREEE	- Prepared the excel template - Participated actively in communication exchange with the consultants - Validated the information provided by the consultants	Excel template with the information on operational and planned CEMGs
Daniel Paco	Cabo Verde, ECREEE	- Coordinated the administrative tasks to contract the consultants - Supported in the preparation of the excel template - Led the continuous communication exchange with the consultants - Validated the location of the projects - Supported the validation of the excel templates - Coordinated the validation of the data with ECREEE colleagues - Filled the metadata templates - Produced the shapefile	-Excel template with the information on operational and planned CEMGs. -Shapefile with information on operational and planned CEMGs created and uploaded. -Metadata record created and uploaded. -Content news created on ECOWREX

6. Annexes

- Annex 1: Report of activities of Adama Berthé
- Annex 2: Report of activities of Ousmane Fall