

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**ANNEX AO – THE GOLD STANDARD MICRO-PROGRAMME ACTIVITY DESIGN  
DOCUMENT TEMPLATE (VPA-DD)**

**CONTENTS**

- A. General description of micro-programme activity (VPA)
- B. Eligibility of VPA and Estimation of Emission Reductions
- C. Stakeholder comments

**Annexes**

Annex 1: Contact information on entity/individual responsible for the VPA

Annex 2: Information regarding public funding

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### SECTION A. General description of micro-programme activity (VPA)

#### A.1. Title of the micro-scale VPA:

*Title:* GS2489 Efficient cookstoves in Benin and Togo – VPA2 – EcoBenin – Wanrou efficient cookstoves in Atacora/Donga region

*GS nr:* GS6008

*Date:* 28/08/2017

*Version:* 01

#### A.2. Description of the micro-scale VPA:

>> The departments of Atacora / Donga, are suffering from severe deforestation due to the rapid increase of its population and their energy needs. 91% of the households in the Atacora/Donga departments use fuelwood as main combustion fuel.<sup>1</sup> According to the document SCRP -Benin 2011-2015<sup>2</sup>, 69% of the population of this region is considered as poor. In this region, the cooking of meals is done on traditional three stones coosktoves, which have a very low energy efficiency.

The new project "Promotion of the Wanrou efficient cookstove in the region of Atacora/Donga (ProWAD)"<sup>3 4</sup> is included as VPA-2 in the program of activities (PoA) GS2489 "Efficient cookstoves in Benin and Togo" and is implemented by EcoBenin. This project extends the distribution of the Wanrou efficient cookstove to 3,700 rural households (per household the impacts are: 60% saving wood energy, 3 tons of CO<sub>2</sub> avoided per year, 2 tons of wood and 0.84 hectare of forests saved per year). The final number of households might slightly differ depending on the parameters, like usage rate. The Wanrou efficient coosktove is the same cookstove technology implemented by EcoBenin in VPA-01 of the GS2489 PoA. The boundary of the project are the municipalities of Toucountouna and Ouaké and will take into account several villages for the diffusion of Wanrou efficient cookstoves.

Since the objective of ProWAD is to reduce deforestation and land degradation by improving energy efficiency in rural households in the face of climate change in the Atacora / Donga Departments, it therefore allows the mitigation of greenhouse gas emissions. This project will increase the capacity to reduce CO<sub>2</sub> emissions by rural households through the usage of the Wanrou efficient cookstove.

The project area includes more than 10,000 households for a total population of 114,012 inhabitants (2013 Census) in the municipalities of Toucountouna and Ouaké. These are areas with a large rural population mainly using wood-energy with traditional three stones cookstoves. According to the National Human Development report of Benin 2015<sup>5</sup> both municipalities have a human development index<sup>6</sup> well below the national average: Toucountouna (0.380), Ouaké (0.398) and Benin (0.485).

<sup>1</sup> MEPA, 2007, Projet Bois de Feu Phase II – Inventaire Forestier National Rapport de mission p.22

<sup>2</sup> IMF, 2011, Benin: Poverty Reduction Strategy Paper p.6.

<sup>3</sup> ProWAD = Promotion du foyer Wanrou dans la region de l'Atacora/Donga (or in english : Promotion of the Wanrou cookstove in the region of Atacora/Donga

<sup>4</sup> Other name used to specify the project is "TEG-stove climate project"

<sup>5</sup> Rapport national sur le développement humain 2015, UNDP, p.126

<sup>6</sup> The HDI is a composite statistic of life expectancy, education, and income indices used to rank countries or regions according human development.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

The Wanrou efficient cookstove technology is the same technology as used in VPA-01 of PoA GS2489 “Efficient cookstoves in Benin and Togo”, where it didn’t encountered any socio-cultural adoption barriers when implementing the technology in villages around the National Park Pendjari in the department of Atacora. About 300 rural women will be trained and equipped as instructors or “Monitrice” for the construction of the Wanrou efficient cookstove in their villages and surroundings.

The Wanrou efficient cookstoves represent an accessible solution to improve the energy efficiency of cooking and limit the overconsumption of wood-energy, and will gradually replace the traditional three stones cookstoves. By reducing the consumption of non-renewable biomass, the Wanrou efficient cookstoves will also contribute to the reduction of greenhouse gas emissions while preserving forests, ecosystems and biodiversity. The project will claim carbon credits from emission reductions resulting from the use of more efficient cookstoves technologies. It is expected to generate per micro-scale VPA an annual average of 10,000 tCO<sub>2</sub>e and a total of 100,000 tCO<sub>2</sub>e over the 10-years project period. These efficient cookstoves are a solution currently deployed in the region by Eco-Benin to combat energy poverty and use the potential for the generation of carbon credits. The use of the Wanrou efficient cookstoves with smoke exhaust chimneys also reduces the number of cases of respiratory diseases, reduces the time spent by women and children to collect firewood, and creates local jobs through the construction of the Wanrou efficient coosktoves.

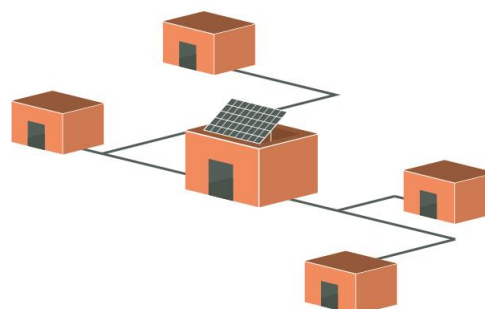


*Wanrou efficient cookstove with chimney and separated combustion chamber*

Two additional activities are foreseen within the project boundary and will improve access to clean energy services besides energy efficiency of the Wanrou efficient cookstoves: (i) installation of 8 Smart Solar Nano Grids in partnership with Solar zonder Grenzen; and (ii) installation of 100 Thermo Electric Generators in partnership with Trinity College Dublin. No carbon credits will be claimed for these activities.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

A Smart Solar Nano Grid is a solar system connected to a small number (4 to 8) of houses. Solar panels are installed on the roof of the central house and connected to neighboring houses. In addition the central house is foreseen of a closed box, including batteries, an inverter, 8 energy meters and a communication interface connected with the mobile network. A fixed cable is installed from the energy meters to the neighbouring houses. These houses will receive electricity on 220V. The customers have to pay up front by SMS for a certain amount of energy. When all the clients together have paid a total amount of money for their energy equal to the investment value the box becomes their property. Solar Zonder Grenzen remains in charge of good maintenance and replacement when needed.



In partnership with Trinity College Dublin 100 Wanrou efficient cookstoves will be foreseen with a Thermal Electric Generator which generates electricity from the heat generated during cooking. The device operates on the principles of Thermal Electrical Generation (TEG) and is intended for application in remote off-grid homes in the developing world. The TEG design has been adapted to integrate with a Wanrou efficient cookstove. First field tests have shown that the TEG-Stove system has the potential to provide adequate electrical service for low power applications such as mobile phone charging and low-power LED lighting. It is valued by the field trials that it does not seem to cross any unforeseen cultural lines, it is simple to use and it could provide highly desirable electrical energy services that villagers have either no access to or are expensive to access. Development of a prototype and subsequent medium small scale deployment of said prototype (of 100 TEG-Stove systems) in the framework of the ProWAD project is the next logical step in the technology development, where it is understood that the trajectory is aimed towards large scale rollout. The 100 TEG-Stove systems will not claim any carbon credits as the integration of the TEG-system will need some design changes of the Wanrou efficient cookstove, that has not been taken into account during the Water Boiling Tests.



### A.3. Entity/individual responsible for the micro-scale VPA:

>> The micro scale - VPA implementer is Eco-Benin, a locally officially registered association in Benin with a central office in Abomey-Calavi near Cotonou. CO2logic, a carbon consultancy company based in Brussels Belgium, will provide technical advice.



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### A.4. Technical description of the micro-scale VPA:

The project technology included in the VPA (and claiming carbon credits) is the Wanrou efficient cookstove, a mud stove with separate air and wood supply, a grate and a chimney. Wanrou means life in the local language Bambara in the North of Benin). The basic principle common to mud stoves is the shielding of the fire against draughts and the canalization of the produced heat to the pot. Cow dung mixed with mud is the most common material for shielding fires.

Mud stoves are the oldest improved stove technologies in West-Africa. Other improved stove technologies are clay-lined fired stoves and improved all-metal stoves. How appropriate a technology is, is determined by the rate at which communities take it up and continues to use it. The Wanrou efficient cookstove has been developed by EcoBenin in close collaboration with the rural community in the North of Benin and is already used in VPA-01. The art of mixing mud is still very common in this region, since the walls of most houses and granaries are smeared with mud. The main benefit of involving the community from the beginning in the development of the technology is local ownership of the technology to ensure its sustainability.

The mud used for the construction of the Wanrou efficient cookstove does not need to be fired before use. The project cookstoves will be constructed by trained monitrices and do not require special skills. The skills involved in making mud stoves like the Wanrou efficient cookstove are easy to transfer, adopt and replicate. The Wanrou efficient cookstoves are cheap since only local materials are used. The Wanrou efficient cookstove is the most appropriate technology in biomass energy use for the rural communities in the region of Atacora/Donga, as these communities are not financially endowed and the mud stoves has been adapted to their needs. The materials used to make them are easily available and the cost is minimal.

The basic features of the Wanrou efficient cookstove are:

- enclosed combustion chamber ;
- separated air and wood supply ;
- insulated walls due to the thickness of the wall (thick walls conserve heat and reduce chances of cracking) ;
- chimney to evacuate the flue gases.

The steps below explains the construction of the Wanrou efficient cookstove. More details can be found in the construction protocol<sup>7</sup>.

<sup>7</sup> See document « Manuel de construction des Foyers Wanrou 2017 »

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**Step 1 : Manufacture of bricks in banco**



**Step 2: Preparation of mixture (clay soil + straw or rice balls ± cow dung)**



**Step 3 : Measurement of dimensions of the pot, tracing and realization of the foundation**



**Step 4 : Realization of the aeration chamber with the bricks and installation of the grid**





**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**Step 5 : Construction of the combustion chamber with the mixture**



**Step 6: Construction of the supporting chamber of the pot, cutting/trimming of the cookstove**



**Step 7 : Removal of molds, realization of chimney and wood support, smoothing of stove**



**Step 8: Plastering or polishing, use and maintenance of efficient cookstoves**



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

The Wanrou efficient cookstove is a mono pot cookstove. As stove users can have different pot sizes, they may choose between the sizes 2, 4, 6, 8 and 10. At least two Wanrou efficient cookstove will be constructed per user, as they are usually used simultaneously, one for the mush preparation and the other one for the sauce. All Wanrou efficient cookstoves of sizes 2, 4, 6, 8 and 10 have a specified efficiency of at least 20%<sup>8</sup> (measured by an independent entity in the laboratory according the WBT protocol). The average measures of the Wanrou efficient cookstoves can be found in the table below.

Size of cook stove	Height of wood entrance (cm)	Width of wood entrance (cm)	Height under cooking pot (cm)	Diameter of combustion chamber (cm)	Height of combustion chamber (cm)	Total height of cookstove (cm)	Diameter of chimney (cm)	Height of chimney (m)
2	13	15	16	23	24	40	7	1.3
4	13	15	18	30	26	45	8	1.3
6	18	18	24	30	32.5	50	9	1.3
8	18	18	26	37	31	55	9	1.3
10	20	20	28	40	32	60	9	1.3

The Wanrou efficient cookstove has a life span of three years, as the women take an active role to maintain their cookstove. Training is provided by the monitrice to the women how to maintain and maintain their Wanrou efficient cookstove. The figure below shows an example of illustration material that is used during public awareness sessions concerning proper usage and maintenance of the Wanrou efficient cookstove. The EcoBenin animators will visit all Wanrou efficient cookstoves at least once a year and will also be available to assist the monitrice and Wanrou efficient cookstove users how to maintain and repair their stoves. All Wanrou efficient cookstoves will be replaced after three years of operation with a Wanrou efficient cookstove of similar efficiency.

Each project cookstove is built with assistance of the user by the monitrice, who is selected by the women in the villages, and who is trained by the animator of EcoBenin. The Wanrou efficient cookstove has a strict construction protocol<sup>9</sup> with diagrammatic presentation materials<sup>10</sup> to support the EcoBenin animator and the monitrice on the ground and ensure that the project stoves are systematically built in a similar manner.

<sup>8</sup> Laboratoire Biomasse Energie et Biocarburants de 2IE Ouagadougou Aout 2015 (size 2 and 4) / December 2015 (sizes 6, 8 and 10) Rapport sur les tests de performances énergétiques des foyers améliorés Wanrou de l'association EcoBénin

<sup>9</sup> EcoBenin, Manuel de construction des Foyers Wanrou 2017

<sup>10</sup> EcoBenin, Boite foyer Wanrou ProWAD



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

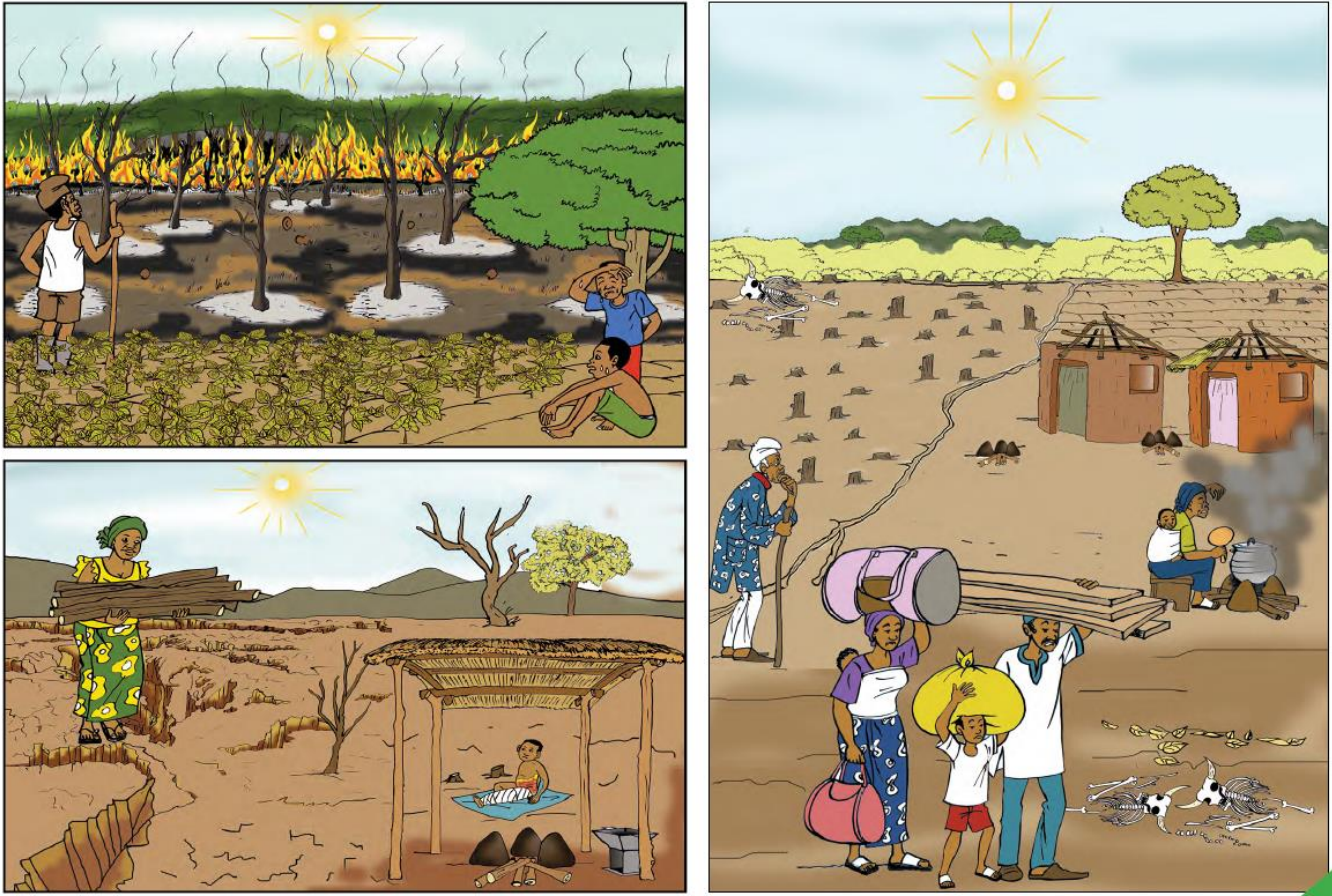


*Distribution mechanism:*

In order to have the best mobilization for the diffusion of the Wanrou efficient cookstoves in the different villages of project boundary, public awareness sessions will be organized in village markets with the help of the municipality focal point and the community focal point (which is most of the time the village chief). This allows reaching all social groups of the village community during the training phase. Most women will attend the training sessions taking place on a public location selected in accordance with the village community. After the training the community will designate 10 women as monitrices who will be responsible for the construction of the Wanrou efficient cookstoves. This diffusion mechanism will ensure qualitative and quantitative distribution of Wanrou efficient cookstoves in the households of the village according to the standards defined in the construction protocol. These monitrices, which are an essential link in the distribution chain of the Wanrou efficient cookstoves, will work in close collaboration with the animators of EcoBenin and the community. The capacity building topics used during the public awareness sessions and skills training of the monitrices are (i) impact of fuel wood consumption on the environment; (ii) the objective of the training and the mission of the monitrices within the diffusion mechanism; (iii) description of the Wanrou efficient cookstove with its specificities and necessary materials and equipment tools for its construction; (iv) supply of local materials and construction of the Wanrou efficient cookstoves; and (v) use and maintenance of the Wanrou efficient cookstove. These themes are elaborated during three days and in three phases: the theoretical phase, the practical phase and the evaluation phase. Training materials as banners, construction materials and technical support materials are provided in order to facilitate

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

the learning path of constructing a Wanrou efficient cookstove. An example of supporting material used during the training sessions is presented in the figure below.



*Figure: supporting materials used during training sessions*

Each village will have a tool kit for the construction of the Wanrou efficient cookstoves. The tool kit consists of moulds, machete, buckets, and other equipments, and the pre-fabricated combustion grates. All equipment will be put under the responsibility of the 10 designated monitrices per village. The tool kits will be used for the construction of the Wanrou efficient cookstoves at first demand of the end-users.

Monitrices are working in pairs in order to facilitate the diffusion of the Wanrou efficient cookstoves and to enhance the skill learning. First they start with a census of households willing to acquire the Wanrou efficient cookstoves with assistance of the local animator of EcoBenin. The construction cost of two Wanrou efficient cookstoves to be paid by the end users to the monitrice is 1,500 FCFA or 2.3 € or 3 bowls of rice or grains. The Wanrou end-user is required to collect clay and to participate in constructing the Wanrou efficient cookstove by kneading the clay. In order to keep an overview of the deployed Wanrou efficient cookstoves, the census and the construction of the stoves will be realized per zone of the village in the project boundary.

The roles of the different parties involved in the diffusion of the Wanrou efficient cookstove:



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

- *Eco-Benin*: ensures the general coordination of the project with the planning of the activities and the administrative aspects of the project, the training and set-up of the diffusion mechanism in collaboration with the animators;
- *Municipality Focal point*: agent of the municipality appointed by municipal decree. He is responsible for making the link between Eco-Benin and the municipality, facilitating the administrative aspects and the link between Eco-Benin and the villages through its contacts with the village chiefs as representative of the municipality;
- *Animator*: recruited by Eco-Benin, he is responsible for field operations. It is the field manager who coordinates awareness-raising and dissemination activities based on the community relays and the committees of monitrices. He monitors daily usage and gives feedback to the project office on weekly and monthly basis.
- *Community focal point*: ensures the mobilization of women and promote the usage of the Wanrou efficient cookstove;
- *Committee of monitrices*: ensures the construction of the Wanrou efficient cookstoves in households. They are selected based on their skills to construct the Wanrou efficient cookstoves and motivation. This committee is being formed over time.
- *Cookstove users*: they are the final beneficiaries and are in charge of the preparation of the clay and the manufacture of the briquettes. They are instructed to properly use and maintain their Wanrou efficient cookstove.

**A.4.1. Identification of the micro--scale VPA:**

VPA2 – EcoBenin – Wanrou efficient cookstoves in Atacora/Donga region

**A.4.1.1. Host Party:**

1. Name of Party involved (host) indicates a host Party	2. Private and/or public entity(ies) project participants (as applicable)	3. Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Eco-Benin, Benin	Private entity	No
CO2logic, Belgium	Private entity	No

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**A.4.1.2. Geographic reference or other means of identification allowing the unique identification of the micro--scale VPA (maximum one page):**

The intervention area of the current micro-scale VPA is located in the north of Benin in the municipalities<sup>11</sup> of Toucountouna and Ouaké in the departments of Atacora/Donga :

Municipality	Latitude	Longitude
Toucountouna	10° 50'	01° 38'
Ouaké	9° 66'	01°38'



<sup>11</sup> Benin is divided into twelve departments which, in turn, are subdivided into 77 municipalities.



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**A.4.2. Duration of the micro--scale VPA:**

**A.4.2.1. Starting date of the micro--scale VPA:**

>> 8/11/2016

**A.4.2.2. Expected operational lifetime of the micro--scale VPA:**

>> 10 years

**A.4.3. Choice of the crediting period and related information:**

Fixed Crediting period

**A.4.3.1. Starting date of the crediting period:**

>> 8/11/2016

**A.4.3.2. Length of the crediting period, first crediting period if the choice is renewable**

**CP:**

>> NOTE: Please note that the duration of crediting period of any VPA shall be limited to the end date of the PoA regardless of when the VPA was added.

10 years

**A.4.4. Estimated amount of emission reductions over the chosen crediting period:**

Emission reductions during the crediting period	
Years	Annual GHG emission reductions (in tonnes of CO <sub>2</sub> e) for each year
Year 1	4,967
Year 2	9,843
Year 3	9,750
Year 4	9,656

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

Year 5	9,934
Year 6	9,843
Year 7	9,750
Year 8	9,656
Year 9	9,934
Year 10	9,843
<b>Total number of crediting years</b>	10
<b>Annual average GHG emission reductions over the crediting period</b>	93,174
<b>Total estimated reductions (tonnes of CO<sub>2</sub>e)</b>	9,317

**A.4.5. Public funding of the VPA:**

>> *Please refer to the ODA declaration form (Annex D)*

The project does not involve any public funding according to the OECD definitions for Official Development Assistance (ODA).

Attach in Appendix 2: the affirmation obtained from such Parties in accordance with applicable provisions related to official development assistance in the Project standard

**A.4.6. Confirmation that micro--scale VPA is neither registered as an individual GS project activity or with any other standard or is part of another Registered PoA:**

>> The micro-scale VPA is neither registered as an individual GS Project Activity or with any other standard, nor is it part of another Registered PoA.

**SECTION B. Eligibility of micro--scale VPA and Estimation of emissions reductions**

**B.1. Title and reference of the Registered PoA to which micro--scale VPA is added; title of baseline and monitoring methodology applicable to the VPA:**

**GS2489 Efficient cookstoves in Benin and Togo**



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

Baseline and monitoring methodology: The Gold Standard Simplified Methodology for Efficient Cookstoves - Version 01

### B.2. Justification of why the micro--scale VPA is eligible to be included in the Registered PoA:

The project activity “VPA-02 Wanrou efficient cookstoves in Atacora and Donga region” fulfills the eligibility criteria defined in the PoA-DD GS2489 Efficient cookstoves in Benin and Togo.

Nr	Eligibility Criteria		Compliance rational / Evidence
	Description	Conditions to be met	
1	Boundary and location of the VPA	The VPA is located in Benin or Togo	The geographical boundaries of the VPA are defined as the municipalities of Toucountouna and Ouaké in the departments Atacora/Donga.
2	Technological requirements	The VPA consists of the implementation or distribution of single pot or multi pot portable or in-situ wood burning cookstoves and hence appliances with a specified efficiency of at least 20%, as per Gold Standard Simplified Methodology for Efficient Cookstoves.	The VPA involves the implementation of efficient woodstoves. All the traditional three stones cookstoves for domestic use used by the different wives (if polygamous) of one household will be replaced with project stoves with an efficiency of at least 20%. The lowest efficiency of the introduced project cookstoves is 22.4% <sup>12</sup> .
3	Baseline	The baseline fuel is only firewood and the baseline stove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation, as per Gold Standard Simplified Methodology for Efficient	The baseline conditions are met: (i) wood is the primary energy source in rural areas in the North of Benin <sup>13</sup> ; and (ii) the baseline stove <sup>14</sup> is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation.

<sup>12</sup> Laboratoire Biomasse Energie et Biocarburants de ZIE Ouagadougou Aout 2015 (size 2 and 4) / December 2015 (sizes 6, 8 and 10) Rapport sur les tests de performances énergétiques des foyers améliorés Wanrou de l'association EcoBénin

<sup>13</sup> ECOBENIN, 2016, Etude de base sur la consommation du bois énergie et les impacts dans les ménages ruraux des communes de Ouaké et de Toucountouna p. 14 : The report mentions that more than 92% of the surveyed households use wood as principal combustion fuel.

<sup>14</sup> ECOBENIN, 2016, Etude de base sur la consommation du bois énergie et les impacts dans les ménages ruraux des communes de Ouaké et de Toucountouna p. 21 : The report mentions that almost all surveyed households use as baseline stove the three stone cookstove (F3P or "foyer trois pierres" in french) or the UNSO cookstove (F UNSO), which is a conventional device without a grate or a chimney, i.e. with no improved combustion air supply. Both stoves are considered as baseline stoves as per Simplified Methodology for Efficient Cookstoves of the Gold Standard.

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

		Cookstoves.	
4	Avoiding Double Counting	<p>The cookstoves counted in the proposed project activity are not included in any other voluntary market or CDM project activity (i.e. no double counting takes place).</p> <p>The project proponent must include a means of uniquely identifying (i) households using the efficient cookstoves distributed by the project; and/or (ii) distributed efficient cookstoves. Data is recorded electronically in a database. This mechanism will identify households and/or stoves as belonging to this PoA and not any other, ensuring there is no double-counting.</p>	<p>When a household is included in the VPA-02 project, all traditional cookstoves for domestic use used by the different wives (if polygamous) of one household will be replaced with project cookstoves. The VPA-02 project has set up a system whereby each wife of the household included in the VPA-02 project will receive a unique serial number referring to this micro scale – VPA:</p> <p>GS2489-VPA2-xxxx-yyyy/zz where xxxx is the ID of the village, yyyy the number of the household (1 to 9999) and zz is the number of the wife in the household. All necessary data related to the household will be included in an electronic database.</p>
5	VER ownership	<p>End users receiving efficient woodstoves under the specific VPA contractually cede their rights to claim and own emission reductions under the Gold Standard to the CME of the PoA. This must be communicated to the cookstoves producers, retailers and end users by contract or clear written assertions in the transaction paperwork.</p>	<p>Each wife of one household included in the project has signed a waiver for the transfer of credit to EcoBenin.</p>
6	Use of the baseline cookstove	<p>The use of the baseline cookstove, as a backup or auxiliary technology, in parallel with the improved cookstove introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old cookstove and there is a definitive discontinuity of its use. The PP should show that all users of the new stoves included in the VPA are sensitized to remove the old cookstove.</p>	<p>Awareness workshops for stove users are foreseen to explain the multiple advantages of Wanrou efficient cookstoves compared to traditional cookstoves. Specific sensitisation materials have been developed for this purpose<sup>15</sup>.</p> <p>The use of the baseline cookstove will be limited to exceptional events, like celebrations, in case the household don't dispose of Wanrou efficient cookstove for big cooking pot sizes. Other reason for usage of baseline</p>

<sup>15</sup> See document « Boite foyer Wanrou ProWAD »

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

		<p>The project documentation must provide a clear description of the approach chosen and the monitoring plan must provide a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology (whether the existing baseline cookstove is not surrendered at the time of the introduction of the improved technology, or whether a new baseline cookstove is acquired and put to use by targeted end users during the project crediting period). The success of the mechanism put into place must therefore be monitored, and the approach must be adjusted if proven unsuccessful. If the baseline cookstove remains in use in parallel with the project cookstove, corresponding emissions must be accounted for as part of the project emissions.</p>	<p>stove is the customary usage like preparation of traditional medicine which is very common in the rural areas.</p> <p>The monitoring plan describes how to measure the usage of the baseline technology during crediting period of the VPA through the to be monitored parameter <math>DF_{b,Stove,y}</math>.</p>
7	Micro-scale limit for VPAs	The VPA will remain under the limit of 10,000 tonnes of CO <sub>2</sub> e.	The stoves installed in VPA-02 are expected to represent an annual CO <sub>2</sub> reduction of less than 10,000 tonnes of CO <sub>2</sub> e.
8	Technology and target groups	<p>Target groups eligible under this PoA are rural and peri-urban households using woody biomass for household cooking with emphasis on low income communities. Information obtained from the new efficient cookstove users (name, location, contact details, etc) should be transferred to an electronic database.</p> <p>The promoted new efficient cookstove should be tested by an international stove testing centre and should have set specifications (single pot or multi pot portable or</p>	<p>As described in the VPA-02-DD the target groups are rural households using woody biomass for household cooking.</p> <p>The promoted project stove Wanrou has a thermal efficiency of at least 20%: the lowest efficiency of the project cookstove sizes is 22.4%<sup>16</sup>.</p> <p>The distribution mechanism of the Wanrou efficient cookstoves is direct distribution and installation.</p>

<sup>16</sup> Laboratoire Biomasse Energie et Biocarburants de 2IE Ouagadougou Aout 2015 (size 2 and 4) / December 2015 (sizes 6, 8 and 10) Rapport sur les tests de performances énergétiques des foyers améliorés Wanrou de l'association EcoBénin



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

		<p>in-situ wood burning cookstoves and hence appliances with a specified efficiency of at least 20%, size and dimensions).</p> <p>The mechanisms for distribution of efficient cookstoves under this PoA are direct distribution/installation, delivery, community sales events, direct sales or sales through commercial/retail outlets.</p>	
9	Local stakeholder consultations	Each VPA will conduct a local stakeholder consultation (LSC) in order to gain feedback from stakeholders representing the specific project areas. A single LSC meeting can be organised for several micro-scale project activities if approved by The Gold Standard Foundation.	The single Local Stakeholder Consultation meeting was held on 9/2/2017 for the concerning VPA “VPA2 – EcoBenin – Wanrou efficient cookstoves in Atacora/Donga region”. This VPA-DD includes a description of how local stakeholders were invited, a summary of the comments received and an outline of how comments were taken into account.
10	Environmental impact assessment	Each VPA will conduct an environmental impact assessment or provide by the Ministry of Environment a letter of exemption for the environmental impact assessment.	The Letter of exemption for the environmental impact assessment has been provided by the Beninese Agency for Environment. <sup>17</sup>
11	Non-Diversion of ODA	Provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance.	A declaration confirming that there is no diversion of official development assistance for this VPA is attached with the VPA-DD.
12	Avoiding Double Counting of Programme Activities	<p>Each VPA will show that it is exclusive to the PoA and not registered as another project activity or VPA under another PoA.</p> <p>Eligibility will be confirmed at VPA level through the signature of an agreement with the CME stating that the VPA will uniquely be part of the “Efficient Cookstoves in Benin and Togo” PoA.</p>	<p>It is stated in section 4.6 that this VPA is neither registered as a project activity with GS or any other standard or as a VPA of another PoA.</p> <p>The registries Gold Standard and CDM have been accessed on 28/08/2017 to confirm this.</p> <p>Signature of an agreement between the CME and VPA implementer is not necessary, as the CME implements the</p>

<sup>17</sup> ABE, Letter of EIE exemption

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

			VPA.
13	The Micro-scale-VPA-DD has been reviewed by the CME and submitted to the GS for inclusion into the PoA	The VPA implementer shall submit a Micro-scale-VPA-DD to the CME for each Micro-scale-VPA and with all underlying evidence.	N/A as the VPA implementer and CME are the same.
14	Start date of the regular VPA	The VPA shall not begin before the organization of the Local Stakeholder Consultation (LSC) as per Gold Standard requirements. Documentary evidence should be provided by way of receipts/sales/distribution records.	The LSC has been conducted on the 9 <sup>th</sup> of February 2017. The first installation has been realized on the 8/11/2016 in household GS2489-VPA-02-xxxx-yyy <sup>18</sup> , which means that the VPA will be considered as retroactive VPA.
15	Prior consideration of the carbon revenues in case of retroactive VPA	In case of retroactive VPA, it shall be demonstrated that carbon finance was a decisive factor to implement the VPA. Documentary evidence should be provided to confirm prior consideration of VER income.	The contract between EcoBenin and CO2logic <sup>19</sup> and the contract between CO2logic and investor <sup>20</sup> based on 10 years demonstrates the upfront investment in exchange for the credits produced by the VPA.
16	Sampling requirements	The monitoring plan of the VPA should adhere to the applied methodology – Microscale Methodology for efficient cookstoves	The elaborated monitoring plan in section B.6.1 adheres to the applied methodology – Microscale Methodology for efficient cookstoves.
17	Demonstration of additionality	All project activities under this micro-programme PoA will be implemented in Benin and Togo, which are both LDCs. As per Gold Standard “Micro-programme rules and procedures” the PoA and associated VPAs can be deemed additional.	The VPA is deemed additional, as the project boundary of the VPA is Benin, which is a LDC.
18	Sustainable development	All VPA’s should develop a Sustainable Development monitoring plan with at least 3 indicators	According the Sustainable Development monitoring plan the VPA has a positive impact on 5 indicators of sustainable development. <sup>21</sup>

<sup>18</sup> Contract GS2489-VPA-02-Bori-040 serves as documentary evidence for the project activity start date of 08/11/2016

<sup>19</sup> See document « 20170531\_signé\_Contrat TEG-stove au Bénin »

<sup>20</sup> See document “AGREEMENT nr 4620001423, NON-DISCLOSURE AGREEMENT & COLLABORATION PRINCIPLES\_encrypted”

<sup>21</sup> See document GS2489 - VPA-2 - Sustainability Monitoring Plan\_v1

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**B.3. Assessment and demonstration of additionality of the micro--scale VPA:**

>> *(Please complete only the section applicable to the micro-scale activity below)*

**B.3.1 Description of how the anthropogenic emissions of GHG by sources are reduced as per the eligibility criteria defined in the registered micro-programme *(when Additionality is demonstrated at the micro- programme level)*:**

>> N/A

**B.3.2 Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered micro-scale project activity *(when Additionality is demonstrated at the activity level)*:**

>> As according the Gold Standard “Micro-programme rules and procedures” the Micro-Scale PoA/VPA’s are deemed additional as the boundary for the PoA within which all micro-scale programme activities (VPAs) included in the PoA will be implemented, are Benin and Togo, which are both LDC countries:

*“Additionality does not need to be demonstrated for a micro-programme that only plans to include activities that are deemed additional as per criteria listed in the section below. This can become the inclusion criteria for future activities.*

Activity level additionality:

*Regular cycle activities that meet any one of the criteria defined below shall be deemed additional:*

*i. The project activity is located in a Least Developed Country (LDC), ...”*

**B.4. Description of the sources and gases included in the project boundary and proof that the micro--scale VPA is located within the geographical boundary of the registered PoA.**

>> As per the applied methodology, the source and gases included into the project are described in the table under:



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

Source		Gas	Included	Justification/Explanation
Baseline	GHG emissions from from consumption of non-renewable woody biomass in low-efficiency three-stone fires and traditional cook stoves	CO <sub>2</sub>	Yes	CO <sub>2</sub> is emitted during the combustion of biomass in the baseline and is one of the six greenhouse gases targeted by the IPCC <sup>22</sup> .
		CH <sub>4</sub>	Yes	CH <sub>4</sub> is emitted during the combustion of biomass in the baseline and is one of the six greenhouse gases targeted by the IPCC ( <i>ibid</i> ).
		N <sub>2</sub> O	Yes	N <sub>2</sub> O is emitted during the combustion of biomass in the baseline and is one of the six greenhouse gases targeted by the IPCC ( <i>ibid</i> ).
Project activity	GHG emissions from from consumption of non-renewable woody biomass in efficient cookstoves	CO <sub>2</sub>	Yes	CO <sub>2</sub> is emitted during the combustion of biomass in the project scenario and is one of the six greenhouse gases targeted by the IPCC ( <i>ibid</i> ).
		CH <sub>4</sub>	Yes	CH <sub>4</sub> is emitted during the combustion of biomass in the project scenario and is one of the six greenhouse gases targeted by the IPCC ( <i>ibid</i> ).
		N <sub>2</sub> O	Yes	N <sub>2</sub> O is emitted during the combustion of biomass in the project scenario and is one of the six greenhouse gases targeted by the IPCC ( <i>ibid</i> ).

The VPA is taking place in Benin which is one of the host country specified in the PoA.

**B.5. Emission reductions:**

<sup>22</sup> [http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2\\_Volume2/V2\\_2\\_Ch2\\_Stationary\\_Combustion.pdf](http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf)

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### B.5.1. Data and parameters that are available at validation:

>> (Copy the table for each parameter)

<b>Data / Parameter:</b>	$EF_{b,fuel,CO_2}$
Data unit:	tCO <sub>2</sub> /ton of firewood
Description:	CO <sub>2</sub> emission factor arising from use of firewood in baseline scenario
Source of data used:	IPCC default values, table 1.4 of chapter 1 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied:	1.747 tCO <sub>2</sub> /ton of firewood
Justification of the choice of data or description of measurement methods and procedures actually applied:	As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves
Any comment:	

<b>Data / Parameter:</b>	$EF_{b,fuel,non\_CO_2}$
Data unit:	tCO <sub>2</sub> /ton of firewood
Description:	Non-CO <sub>2</sub> emission factor arising from use of firewood in baseline scenario
Source of data used:	IPCC default values, table 2.9 of chapter 2 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied:	0.455 tCO <sub>2</sub> /ton of firewood
Justification of the choice of data or description of measurement methods and procedures actually applied:	As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves
Any comment:	

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

<b>Data / Parameter:</b>	$\eta_b$
Data unit:	Fraction
Description:	Efficiency of the cookstove being used in the baseline scenario
Source of data used:	Gold Standard Simplified Methodology for Efficient Cookstoves
Value applied:	0.10
Justification of the choice of data or description of measurement methods and procedures actually applied:	As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves
Any comment:	

<b>Data / Parameter:</b>	$\eta_p$
Data unit:	Fraction
Description:	Efficiency of the cookstove being used in the project scenario
Source of data used:	Determined following the Water Boiling Test Protocol
Value applied:	0.224 <sup>23</sup> .
Justification of the choice of data or description of measurement methods and procedures actually applied:	As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves
Any comment:	For each wife of one household included in the VPA at least two efficient cookstoves of the sizes 2, 4, 6, 8 and 10 will be installed according the local cooking habits. Each size of project cookstove is tested according to the WBT

<sup>23</sup> Laboratoire Biomasse Energie et Biocarburants de ZIE Ouagadougou Aout 2015 (size 2 and 4) / December 2015 (sizes 6, 8 and 10) Rapport sur les tests de performances énergétiques des foyers améliorés Wanrou de l'association EcoBénin



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

	<p>protocol. To determine the project cookstove efficiency of one particular size, three sample runs has been carried out on one randomly selected project cookstove. The average of the three results is taken as the efficiency for the project cookstove of this particular size. The result of the WBT for each size are: (i) size 2: 22.4%; (ii) size 4: 23.0%; (iii) size 6: 23.3%; (iv) size 8: 23.5%; (v) size 10: 23.0%.</p> <p>The lowest value of project cookstove efficiency of the different sizes is taken as reference value for the efficiency of the cookstoves being used in the project scenario to calculate the emission reductions, which is 22.4% of size 2.</p> <p>The project cookstove efficiency in the year <math>y</math> <math>\eta_{p,y}</math> will be determined using the discount factor <math>DF_{\eta}</math> to account for efficiency loss of project cookstove per year of operation (fraction).</p>
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<b>Data / Parameter:</b>	$f_{NRB,b,y}$
Data unit:	Fractional non-renewability
Description:	Non-renewability status of wood fuel during year $y$
Source of data used:	Default NRB value proposed by the CDM executive board <sup>24</sup>
Value applied:	0.81
Justification of the choice of data or description of measurement methods and procedures actually applied:	As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves
Any comment:	<p>The project activity may choose to update the <math>f_{NRB,b,y}</math> during the crediting period.</p> <p>The DNA of Benin has not yet endorsed the default <math>f_{NRB}</math> value provided by the CDM executive board. According to the DNA the proposed value is too low. Following GS TAC rule update from June 2012 (<a href="https://www.goldstandard.org/articles/tac-rule-updates">https://www.goldstandard.org/articles/tac-rule-updates</a>) feedback has been collected by the project developer on the appropriateness of the applied NRB fraction through stakeholder consultation. There were no objections from any of the stakeholders during the stakeholder consultation held on the 9/2/2017 (see section C.2.) to use the proposed value of 0.81 in the carbon project</p>

<sup>24</sup> CDM Executive Board, EB 67 Report Annex 22

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

	activity. This value may be updated when the DNA of Benin and the EB of CDM have endorsed a new default value for the $f_{NRB,b,y}$ of Benin <sup>25</sup> , which has been validated during the national workshop organized on the 4/5/2016.
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<b>Data / Parameter:</b>	<b>B<sub>b,y</sub></b>
Data unit:	Tonnes firewood per household per year
Description:	Firewood consumption for cooking in the baseline
Source of data used:	Average household size within the project boundary (which are the municipalities of Toucountouna and Ouaké), is determined using data from the population census in 2013 of the National Institute for Statistics and Economic Analysis <sup>26</sup> . The average household size across the two municipalities of the project boundary is 8.39 <sup>27</sup> (see section B.5.2). The minimum service level or the default baseline biomass consumption according the Gold Standard Simplified Methodology for Efficient Cookstoves is set at 0.5 tonnes per capita per year. Therefore the average annual consumption of firewood per household is estimated at 4.19 tonnes/year.
Value applied:	4.19
Justification of the choice of data or description of measurement methods and procedures actually applied:	Option c of Minimum service level has been chosen to determine the firewood consumption for cooking in the baseline as detailed information per municipality on average household size is available in the “Effectifs de la population des villages et quartiers de ville du Bénin (RGPH-4 2013)
Any comment:	

<sup>25</sup> The approval of the standardised baseline PSB0040 ‘Fraction of Non Renewable Biomass of Benin’ (see [https://cdm.unfccc.int/methodologies/standard\\_base/2015/sb97.html](https://cdm.unfccc.int/methodologies/standard_base/2015/sb97.html)) is still missing. The proposed standardised baseline suggests a fNRB of 0.93.

<sup>26</sup> INSAE, République du Bénin, 2016, Effectifs de la population des villages et quartiers de ville du Bénin (RGPH-4, 2013), 85 pages.

[http://www.insae-bj.org/recensement-population.html?file=files/publications/RGPH4/Cahier\\_VillageRGPH4\\_2013.pdf](http://www.insae-bj.org/recensement-population.html?file=files/publications/RGPH4/Cahier_VillageRGPH4_2013.pdf)

<sup>27</sup> The average household size is calculated by dividing the number of person across the project boundary with the number of households.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### B.5.2. Ex-ante calculation of emission reductions:

>>

#### The baseline scenario is considered by default fixed

In the project activity, cookstoves are installed at the start of the project activity or installed progressively, the baseline is considered by-default fixed until the end of the cookstoves (introduced in the project activity) useful life or the registered crediting period, whichever occurs earlier. If the project cookstove is replaced with a cookstove of similar efficiency prior to the end of the crediting period, the original baseline shall be applicable till the end of the replaced cookstoves useful life or the registered crediting period, whichever occurs earlier.

#### Only one project scenario is considered

The project scenario is the adoption of the Wanrou efficient cookstove by end users in the municipalities of Toucountouna and Ouaké in the departments of Atacora/Donga in the North of Benin, defined as the project boundary of the VPA.

Only one type of efficient cookstove will be installed, which is the Wanrou efficient cookstove. Most households in the project boundary are composed of one husband with several wives. Each wife in a household will have at least two Wanrou efficient cookstoves according the cooking requirement of the end-user. All the traditional three stone cookstoves for domestic use used by the wives within the household in the VPA will be replaced by Wanrou efficient cookstoves. The end-user may choose between the sizes 2, 4, 6, 8 and 10 of the Wanrou efficient cookstove. The lowest thermal efficiency of the different sizes is taken as reference value for the efficiency of the cookstove being used in the project scenario to calculate the emission reductions.

The determination of quantity of fire wood consumed in the baseline is at household level. For this reason the number of households will be monitored instead of project cookstoves to determine the emissions reductions.

#### Determination of quantity of firewood consumed in the baseline ( $B_{b,y}$ ):

Section D.6.1 of the PDD of the PoA GS2489 Efficient cookstoves in Benin and Togo defines four options to estimate the average annual consumption of firewood per household as according to the Gold Standard Simplified Methodology for Efficient Cookstoves:

- a. Historical data;
- b. Survey of local usage;
- c. Minimum service level;
- d. Field performance test (e.g. kitchen performance test (KPT)).

In this VPA the option c of “Minimum service level” will be used, i.e. energy derived from the combustion of 0.5 tonnes per capita per year as the default baseline biomass consumption. The household size is determined using credible references/literature, like official data of the National Institute for Statistics and Economical Analysis. The latest census giving detailed information at the



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

municipality level has been conducted in 2013 during the fourth general census of the population of Benin<sup>28</sup>:

Municipality	Number of persons	Number of households
Toucountouna	39,779	5,381
Ouaké	74,289	8,221
<b>TOTAL:</b>	<b>114,068</b>	<b>13,602</b>

The average household size across the project boundary of the VPA is 8.39. Therefore the average annual consumption of firewood per household is estimated at 4.19 tonnes/year.

### Algorithm for the calculation of the emission reductions:

The emissions reductions are calculated as follows:

$$ER_y = \sum_{0 \text{ to } 1}^{x \text{ to } y} N_{P,y} * P_y * U_{P,y} * f_{NRB,y} * (EF_{b,fuel,CO2} + EF_{b,fuel,nonCO2}) * (1 - DF_{b,Stove,y})$$

Where:

- $N_{P,y}$  Number of project cookstoves of each age group operational in the year y
- $P_y$  Quantity of firewood that is saved in the year y (tonnes per household in year y)
- $U_{P,y}$  Usage rate for project cookstoves in year y, based on adoption rate and drop off rate revealed by usage surveys (fraction)
- $f_{NRB,b,y}$  Fraction of biomass, used in year y for baseline scenario, which can be established as non-renewable. The project proponents shall estimate project specific national/regional value<sup>29</sup> or apply the default fNRB value provided by the CDM Executive Board and endorsed by the host country DNA<sup>30</sup>.
- $EF_{b,fuel,CO2}$  CO<sub>2</sub> emission factor of firewood that is substituted or reduced. (Default value for wood fuel 1.747 tCO<sub>2</sub>/ton of wood)
- $EF_{b,fuel,non\_CO2}$  Non-CO<sub>2</sub> emission factor of firewood that is substituted or reduced. (Default value for wood fuel 0.455 tCO<sub>2</sub>/ton of wood)

<sup>28</sup> INSAE, République du Bénin, 2016, Effectifs de la population des villages et quartiers de ville du Bénin (RGPH-4, 2013), 85 pages.

[http://www.insae-bj.org/recensement-population.html?file=files/publications/RGPH4/Cahier\\_VillageRGPH4\\_2013.pdf](http://www.insae-bj.org/recensement-population.html?file=files/publications/RGPH4/Cahier_VillageRGPH4_2013.pdf)

<sup>29</sup> The procedure for determining fNRB shall be based on the latest version of the methodology "Technologies and practices to displace decentralized thermal energy consumption", available at

<http://www.cdmgoldstandard.org/project-certification/gs-methodologies>

<sup>30</sup> Default values of fraction of non-renewable biomass available at <http://cdm.unfccc.int/DNA/fNRB/index.html>

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

$DF_{b,Stove,y}$	Usage of baseline cookstove during the year y (fraction) in project scenario
X	Y -1
Y	Year of the crediting period

### Determination of quantity of biomass saved ( $P_y$ ):

Quantity of firewood that is saved ( $P_y$ ) is estimated as follows:

$$P_y = B_{b,y} * (1 - \frac{\eta_b}{\eta_{p,y}})$$

Where:

$B_{b,y}$	Quantity of firewood consumed in baseline scenario during year y (tones per household per year)
$\eta_{p,y}$	Efficiency of project cookstove in year y (fraction)
$\eta_b$	Efficiency of the baseline cookstove being replaced (fraction). A default value of 10% shall be used if the replaced cookstove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation

### Determination of quantity of fire wood consumed in the baseline ( $B_{b,y}$ ):

The firewood consumed is the estimated average annual consumption of firewood per household (tones/year), which may be derived using the options, described above.

### Determination of project cookstove efficiency ( $\eta_{p,y}$ and $\eta_p$ ):

Efficiency of project cookstove in year y ( $\eta_{p,y}$ ) is estimated as follows:

$$\eta_{p,y} = \eta_p * (DF_{\eta})^{y-1} * 0.94$$

Where:

$\eta_{p,y}$	Efficiency of project cookstove in year y (fraction)
$\eta_p$	Efficiency of project cookstove (fraction) determined at the start of the project activity. In the situation where project stove efficiency is determined using WBT, this is the value determined annually as a result of the test.
$DF_{\eta}$	Discount factor to account for efficiency loss of project cookstove per year of operation (Fraction). The default value for this parameter is 0.99 i.e. 1% efficiency loss/year.
0.94	Adjustment factor to account for uncertainty related to project cookstove efficiency test

## **TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

### Leakage

Leakage related to non-renewable biomass saved by the project activity is not considered for micro-project activities. However, for a micro-scale programme of activities (mPOA) the net emission reductions ( $ER_y$ ) shall be discounted by a factor of 0.95 to account for leakages related to non-renewable biomass saved by the project activity OR it shall be assessed and monitored following the guidelines provided in *Section 6. Leakage of Technologies and Practices to Displace Decentralized Thermal Energy Consumption Methodology* (<http://www.cdmgoldstandard.org/project-certification/gs-methodologies>).

### **Ex-ante calculations of emission reductions**

See excel sheet PoA GS2489– VPA02 – ER\_Calculation\_v1.0



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**B.5.3. Summary of the ex-ante estimation of emission reductions:**

>>

Year	Estimation of emission reductions (tCO <sub>2</sub> )	Estimation of leakage (tCO <sub>2</sub> )	Estimation of overall emission reductions (tCO <sub>2</sub> )
Year 1	5,228	261	4,967
Year 2	10,361	518	9,843
Year 3	10,263	513	9,750
Year 4	10,164	508	9,656
Year 5	10,456	523	9,934
Year 6	10,361	518	9,843
Year 7	10,263	513	9,750
Year 8	10,164	508	9,656
Year 9	10,456	523	9,934
Year 10	10,361	518	9,843
<b>Total (tCO<sub>2</sub>)</b>			<b>93,174</b>

**B.6. Application of the monitoring methodology and description of the monitoring plan:**

>> The monitoring plan is based on the applied GS methodology: The Gold Standard Simplified Methodology for Efficient Cookstoves.

**B.6.1. Description of the monitoring plan:**

>>

**Data and parameters monitored over the crediting period:**

<b>Data / Parameter:</b>	<b>U<sub>p,y</sub></b>
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**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

Data unit:	Percentage
Description:	Usage rate in project scenario p during year y
Source of data to be used:	Annual usage survey/Monitoring survey
Value of data applied for the purpose of calculating expected emission reductions	0.80 for each age group
Monitoring frequency	Annual
Description of measurement methods and procedures to be applied:	<p>A usage survey for each cookstove age-group must be conducted to estimate the drop off rates as project cookstove may not be adopted or may be disposed of and potentially replaced again by a baseline stove.</p> <p>The survey will be conducted following simple random sampling approach and the minimum sample size will be determined as per the guidelines below:</p> <ul style="list-style-type: none"> <li>• Project target population &lt; 300: Minimum sample size 30;</li> <li>• Project target population 300 to 1000: Minimum sample size 10 % of group size;</li> <li>• Project target population &gt; 1000: Minimum sample size 100.</li> </ul>
QA/QC procedures to be applied:	Transparent data analysis and reporting
Any comment:	<p>A usage parameter is derived for each age group of project cookstove being credited. The usage survey will determine if the project cookstoves can be considered as 'in use' or 'not in use' and if the project cookstoves are in 'good condition' or 'not in good condition'.</p> <p>As mentioned in section A.4.4.1 the record keeping system of the VPA included in this PoA is at household level (with household number) for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s)<sup>31</sup>. Cookstove set(s) within a household can only be considered 'in use' if all the cookstoves in the set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are being used. Similarly, cookstove set(s) can only be considered in 'good condition' as long as all cookstoves within the cookstove set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are in a 'good condition'.</p>

<sup>31</sup> A cookstove set is a compilation of several cookstoves used by one women within a household. A polygamous household will comprise of different cookstove sets, one for each women within the household.

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

<b>Data / Parameter:</b>	<b>N<sub>p,y</sub></b>
Data unit:	Number of households included in the project (Units).
Description:	Household in the project database for project scenario p through year y for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s)
Source of data to be used:	Project database
Value of data applied for the purpose of calculating expected emission reductions	3700
Monitoring frequency	Continuous
Description of measurement methods and procedures to be applied:	In this section the project participants shall provide description of equipment used for measurement, if applicable, and its accuracy class.
QA/QC procedures to be applied:	Transparent data analysis and reporting
Any comment:	<p>Most of the households in the project area of VPA-02 are polygamous. Each wife of the household included in the carbon project must have at least two Wanrou efficient cookstoves. All the traditional three stone cookstoves for domestic use will be replaced by the Wanrou efficient cookstoves. This means that according the needs of the household an un-predetermined number of project cookstoves will be constructed and used at household level.</p> <p>As the quantity of firewood consumed in the baseline is determined at household level, the number of households will be monitored instead of project cookstoves to determine the emissions reductions.</p> <p>Women will be trained by the EcoBenin animators and monitrices to build the project cookstoves themselves using local materials according a strict construction protocol. The tight collaboration between the project coordinator, the animators and the monitrices will ensure the quality assurance of the project cookstoves according the construction protocol and the management of the project database recording all constructed project cookstoves.</p>



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

<b>Data / Parameter:</b>	<b>DF<sub>η</sub></b>
Data unit:	Fraction
Description:	Discount factor to account for efficiency loss of project stoves
Source of data to be used:	Gold Standard Simplified Methodology for Efficient Cookstoves
Value of data applied for the purpose of calculating expected emission reductions	Default value: 0.99 i.e., 1 % efficiency loss per year
Monitoring frequency	Annual
Description of measurement methods and procedures to be applied:	<p>The physical conditions of the cookstoves will be monitored during annual surveys. The minimum number of sample size will be selected according the guidelines below:</p> <ul style="list-style-type: none"> <li>• Project target population &lt; 300: Minimum sample size 30;</li> <li>• Project target population 300 to 1000: Minimum sample size 10 % of group size;</li> <li>• Project target population &gt; 1000: Minimum sample size 100.</li> </ul>
QA/QC procedures to be applied:	Transparent data analysis and reporting
Any comment:	<p>The default value of 0.99 can be used if stoves are found in good condition during annual surveys. For each year, the stoves of the age-group x-y should be physically verified. In case of progressive installations, stove of age-group 0 – 1 shall also be physically verified each year through a random sampling approach. The survey format described in the Monitoring Plan should be used to capture the required information.</p> <p>During annual surveys, if it is found that the project cookstoves are not in working conditions, the proportionate population of project cookstoves should be excluded from the project database, until these cookstoves are replaced with new cookstoves. A site visit by an Objective Observer with relevant technical background would be required at the time of first internal verification and then subsequently after every 2 years from the previous issuance. The Objective Observer shall use the guidance provided in the Monitoring Plan to carry out field studies.</p>

<b>Data / Parameter:</b>	<b>DF<sub>b, stove, y</sub></b>
Data unit:	Fraction

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

Description:	Discount factor to account for the baseline stove use in project scenario p during the year y
Source of data to be used:	Monitoring surveys
Value of data applied for the purpose of calculating expected emission reductions	0.13
Monitoring frequency	Annual
Description of measurement methods and procedures to be applied:	<p>The use of baseline stoves in the project activity will be monitored during annual surveys. The minimum number of sample size will be selected according the guidelines below:</p> <ul style="list-style-type: none"> <li>• Project target population &lt; 300: Minimum sample size 30;</li> <li>• Project target population 300 to 1000: Minimum sample size 10 % of group size;</li> <li>• Project target population &gt; 1000: Minimum sample size 100.</li> </ul>
QA/QC procedures to be applied:	Transparent data analysis and reporting
Any comment:	<p>The discount factor for baseline-stove shall be determined based on number of meals cooked using the baseline stove. The required information shall be captured through sample surveys carried out following a random sampling approach for each age-group of the project stove. The impact of seasonal variation on use of baseline stove should be considered as part of the monitoring survey. The survey format for sample question to capture this information is described in the Monitoring Plan. The impact of seasonal variation on use of baseline stove should be considered as part of the monitoring survey.</p> <p>In case of polygamous households the discount factor shall be determined for each cookstove set and the highest value of all cookstove sets within the household shall be used as representative discount factor for the household.</p>

**Initial Data Collection**

The setup of the monitoring will start with the initial data collection after the construction of the Wanrou efficient cookstoves.

## **TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

Most of the households in the project area of VPA-2 are polygamous. Each wife of the household included in the carbon project must have at least two Wanrou efficient cookstoves of size 2, 4, 6, 8 and 10.

In order to identify the households (where all wives of the household use the Wanrou efficient cookstoves) under this VPA and to avoid double-counting, a specific serial numbering protocol is put in place. The individual identification of this micro scale - VPA is ensured with the identification of each household and each wife within the household using the project cookstoves by a unique serial number referring to this micro scale – VPA.

The following information will be documented for each household of which each wife of the household (when polygamous) has replaced all traditional three stones cookstoves for domestic use with project cookstoves:

- i. Unique VPA ID number of each household and each wife within the household;
- ii. Type and size of appliance (ex. Wanrou size 2 - 5);
- iii. GPS Coordinates of the household;
- iv. Name/Address/national ID Number/Mobile Number of wife/Picture of wife;
- v. Stove Construction Date;

The data collected by EcoBenin and their team on the ground will be uploaded to a central database online. The collection of each component is briefly described below.

As there is only one project scenario the project database doesn't need to be differentiated into different sections.

### *Unique VPA ID-card number of each wife of the household*

Each wife of the household will receive a unique serial number. The syntax of the unique serial number is defined as GS2489-VPA-02-xxxx/yyyy/zz where (i) GS2489 is the Gold Standard number of the PoA "Efficient cookstoves in Benin and Togo" to which the VPA belongs; (ii) VPA-02 is the number of the VPA of the PoA; (iii) xxxx is the ID of the village; (iv) yyyy is the number of the household from 1 to 9999 and (v) zz is the number of the wife in the household from 1 to 99.

### *Type and size of appliance*

In this VPA one type of appliance will be deployed, which is the Wanrou efficient woodstove. However different sizes of cookstoves can be constructed at the level of the households depending on their cooking habits and size of household.

### *GPS*

After the construction of the project cookstoves, a EcoBenin team member will register the GPS coordinates of the stove location in front of at least two efficient stoves of each wife of the household.

### *Name/Address/national ID Number/Mobile Number of wife*

Each wife of the household participating in the project will use at least two project cookstoves, with a GPS location. The unique VPA ID-number will identify the household and the wife included in the VPA-02. To ensure further traceability personal information of the stove recipient will be recorded in

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

addition to the GPS coordinates and national ID number. Due to the fact that rural households in project locations do not have an official address, some description of the location of the household may be collected. If available the national ID number and mobile phone number of each wife of the household will be collected. EcoBenin will strive to obtain as much unique information regarding each wife of the household as possible. In addition a picture will be taken of the each wife within the household.

### *Stove Construction Date*

The construction date of each stove will be recorded by EcoBenin during the initial data collection. The construction date will be uploaded to the electronic database containing the previously described stove information.

The contract concerning the transfer of carbon rights between the user and EcoBenin will be signed by both parties after construction of at least two efficient cookstoves for each wife of the household. The contracts will be archived electronically.

A household for which all of this data has been collected for each wife of the household and uploaded to the electronic database is deemed to have completed the initial data collection. The hardcopy and virtual copy of the stove information will be stored for the crediting period and an additional two years.

### **Monitoring Plan**

In accordance with the Gold Standard Simplified Methodology for Efficient Cookstoves, the following data will be monitored over the crediting period of the project activity:

- i. Usage rate in project scenario  $p$  during year  $y$   $U_{p,y}$  (%)
- ii. Number of project cookstoves credited (units),  $N_{p,y}$
- iii. Discount factor to account for efficiency loss of project cookstoves  $DF_n$
- iv. Discount factor to account for the baseline stove use in project scenario  $p$  during the year  $y$ ,  $DF_p$ , stove  $y$

Monitoring consists of checking of a representative sample for each age-group of project cookstoves installed for each wife of a household included in the VPA, once every year (annually) to ensure that project cookstoves are still operating by carrying out the usage survey. The form in appendix will be used to perform the usage survey.

A usage survey will be conducted to estimate the drop off rates at household level as the project cookstove of one of the wives of the household may not be adopted or may be disposed of and potentially replaced again by a baseline stove. Prior to the verification, a usage survey for each cookstove age-group is required. For example, if only cookstoves in the first year of use (age 0-1) are being credited, a usage parameter must be established for age-group 0-1, through a usage survey for cookstove age 0-1. If cookstoves of age 0-1 and age 1-2 are being credited (as part of first request of issuance), usage parameters must be established for age-group 0-1 and 1-2, respectively through a usage survey. If cookstoves of age-group 0-1 and age-group 1-2 are being credited (as part of second request for issuance), usage parameter must be established for age-group 1-2 only through a usage survey as the usage rate for cookstoves of age group 0-1 can be applied from the previous issuance.

*Usage rate in project scenario  $p$  during year  $y$   $U_{p,y}$  (%)*



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

From the monitoring survey, a usage rate parameter (%) is derived from each age group of project cookstove installed for each wife of a household included in the VPA.

During the survey the project cookstove will be checked if it is in useable condition. If the project cookstove is not in useable condition, the household to which the project cookstove belongs will be excluded from the project database for the whole crediting year and subsequent years. The household will be included again after repairing or replacing it with new cookstove with similar efficiency. Guidance provided in Annex B of the methodology 'The Gold Standard Simplified Methodology for Efficient Cookstoves' will be followed to evaluate the condition of the cookstoves.

Cookstove set(s) within a household can only be considered 'in use' if all the cookstoves in the set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are being used. Similarly, cookstove set(s) can only be considered in 'good condition' as long as all cookstoves within the cookstove set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are in a 'useable condition'.

*Number of households credited (units),  $N_{p,y}$*

This is the number of household from the project database.

*Discount factor to account for efficiency loss of project cookstoves  $DF_n$*

The default value of 1% efficiency loss per year can be used if the stove is found in good condition during annual survey.

For each year, the stoves of the age-group x-y should be physically verified. In the case of progressive installations, stove of age-group 0-1 shall also be physically verified each year through a random sampling approach. To do so, the survey format (Annex 5) will be used in order to capture the information.

During annual surveys, if it is found that the project cookstoves of some households are not in working conditions, the proportionate population of households should be excluded from the project database, until these cookstoves are repaired or replaced with new cookstoves. A site visit by an Objective Observer with relevant technical background would be required at the time of first internal verification and then subsequently after every year from the previous issuance.

*Discount factor to account for the baseline stove use in project scenario p during the year y,  $DF_p$ , stove y*

This parameter can be determined based on number of meals cooked using the baseline stove. The required information shall be captured through sample surveys carried out following a random sampling approach for each age-group of the project stove.

In case of polygamous households the discount factor shall be determined for each cookstove set and the highest value of all cookstove sets within the household shall be used as representative discount factor for the household.

### Database records

Electronic database(s) will be operated and maintained by EcoBenin and CO2logic to ensure completeness and accuracy of monitoring information.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

Project database<sup>32</sup>:

- Unique VPA ID-card number of each wife of the household;
- Type and size of appliance (Wanrou – size 2, 4, 6, 8 and/or 10);
- GPS Coordinates of the household;
- Name/Address/national ID Number/Mobile Number of wife/Picture of wife;
- Stove Construction Date;
- Status of stoves owned by the wife: used, unused, destroyed or replaced

The information in this database will be updated continuously.

Sample database:

- Unique ID-number of the household
- Household profile
- Fuel consumption pattern post project implementation per wife of the household with unique VPA-ID-number: :
  - Cooking device
  - Place for cooking
  - Type of fuel and fuel consumption

The information in this database will be updated for every monitoring period. Data will be collected with Smart phones and transferred to the electronic database.

### Sampling methodology

The number of households of which each wife of the household (when polygamous) has replaced all traditional three stones cookstoves for domestic use with project cookstoves, is recorded in the project database. Only the households recorded in the database will be part of the project activity.

To successfully conduct a usage survey, the minimum household sample size of each age-group should be in line with the following guidelines (according the Gold Standard Simplified Methodology for Efficient Cookstoves):

- Project target population < 300: Minimum sample size 30;
- Project target population 300 to 1000: Minimum sample size 10 % of group size;
- Project target population > 1000: Minimum sample size 100.

The method of selecting households for the sample list for the monitoring survey will be random. All random selections will be stored for the crediting period and an additional two years, which allow traceability of the selection.

For all parameters that are monitored via sampling it is understood that only the age of the project cookstove has an influence. Therefore, no geographic representativeness is deemed necessary for the selection of users participating in the sample groups.

<sup>32</sup> The record keeping system should collect as many information as necessary to facilitate the verification of the VERs. At the current point of time the list of information seems ideal but may be extended or condensed. The collection of all the items is therefore not mandatory and additional information may be collected as well.

## **TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

The periodical checks will be performed by user interviews. Only persons older than 18 years will be interviewed.

### **Monitoring Report**

A monitoring report will be written for the VPA at the end of every verification period and submitted to the Gold Standard Foundation. The report will indicate how the monitoring data has been collected and show detailed, conservative calculations of the emissions reductions for the verification period and project in question.

The initial and monitoring data for each verification period stored in the electronic database will serve as the backbone of the monitoring report. The report will contain extensive tables comparing the initial data collected during project implementation with the monitoring data. This allows for quick confirmation that the project cookstoves of each wife of the household in question are still operational.

Along with any other information required for project verification, the monitoring report will list any households deemed to have unoperational project cookstoves along with information regarding the repair or replacement of the project cookstove in question. For replaced project stoves, the initial data collection process will be repeated and uploaded to the electronic database.

### **Diagram of Responsibilities**

As there are several entities involved in initial data collection and project monitoring it is important to clearly designate the relationships between and responsibilities of entities. EcoBenin with technical assistance of CO2logic will act as the managing entity of the project and be responsible for communication with the Gold Standard Foundation and the Objective Observer. A diagram of responsibilities is shown here below.

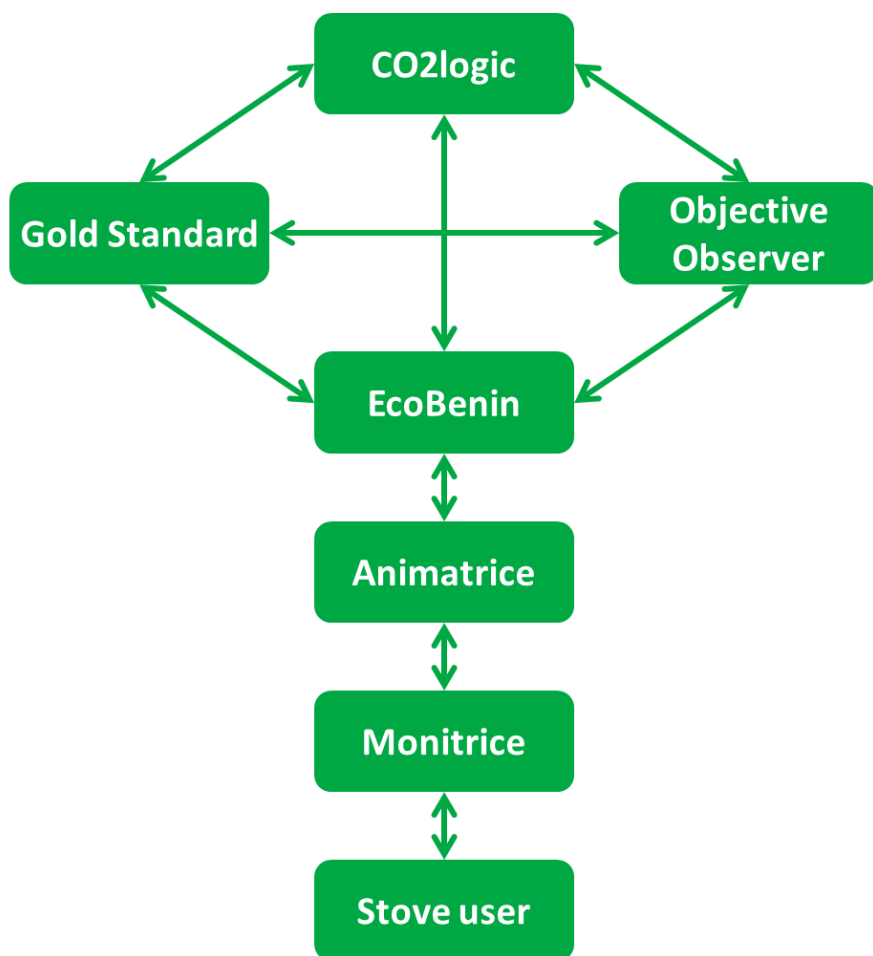
EcoBenin employees train monitrices who are selected by the community, in the construction, the use and maintenance of Wanrou efficient woodstoves. These monitrices conduct the same training sessions with the women in their villages and help them to build the cookstoves. EcoBenin employees with in collaboration with the monitrices will perform quality checks and collect the initial stove data described earlier.

The collected data will be transferred electronically from the project site to the EcoBenin office. At the EcoBenin office the initial project data will be processed and uploaded to the central electronic database accessible to EcoBenin, CO2logic and the Gold Standard Foundation. CO2logic will perform quality checks.

For project monitoring the EcoBenin in collaboration with the monitrices will revisit the project site to monitor a representative sample of the project activity. Monitoring data will be collected and processed in the way the initial data was collected and processed.

EcoBenin with technical assistance of CO2logic will provide training to parties involved in the monitoring plan to assure accuracy and completeness of data recorded. The trainings will be conducted at the time when it is most appropriate during the project implementation phase.

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**



**SECTION C. Stakeholders' comments**

>> Please note that the blind scoring exercise during stakeholder consultation need not be carried out.

**C.1. Brief description how comments by local stakeholders have been invited and compiled:**

>> Please describe the agenda of physical meeting, Non-technical summary, Invitation tracking table, Text of invitations sent, any other consultation method used

The local stakeholder consultation was organized on the 9<sup>th</sup> of February 2017 at 10.00 in hotel Tata Somba in Natitingou.

**i. Agenda of the local consultation meeting**

- Introduction
- Project Context and Presentation
- Questions and Answers on the project



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

- Discussion on follow-up/monitoring of sustainable development
- Discussion on continuous grievance mechanism
- Discussion on fraction of non renewable biomass
- Other questions and Conclusion

### ii. Non-technical summary

#### Non-technical summary of the project

##### *Promotion of the Wanrou efficient cookstove in the region of Atacora/Donga (ProWAD)*

In the department of Atacora / Donga, the alarming rate of forest biomass collection and consumption constitutes a factor of deforestation and desertification. According to the document SCRP<sup>33</sup>-Benin 2011-2015, 69% of the population of this region is considered as poor. In this region, where fuelwood is the most important energy source used in rural areas, the cooking of meals is done on traditional three stones cookstoves, which have a very low energy efficiency.

As part of the program of activities (PoA) "Efficient cookstoves in Benin and Togo" EcoBenin aims to implement the new project "Promotion of the Wanrou efficient cookstove in the region of Atacora/Donga (ProWAD)". This project extends the distribution of the Wanrou efficient cookstove to 3,500 rural households (per household the impacts are: 60% saving wood energy, 3 tons of CO<sub>2</sub> avoided per year, 2 tons of wood and 0.84 hectare of forests saved per year). The boundary of the project are the municipalities of Toucountouna and Ouaké and will take into account several villages for the diffusion of Wanrou efficient cookstoves. The objective is to register this project as a voluntary project activity VPA under PoA GS2489 "Efficient cookstoves in Benin and Togo"<sup>34</sup>.

Since the objective of ProWAD is to reduce deforestation and land degradation by improving energy efficiency in rural households in the face of climate change in the Atacora / Donga Departments, it therefore allows the mitigation of greenhouse gas emissions. This project will increase the capacity to reduce CO<sub>2</sub> emissions by rural households through the usage of the Wanrou efficient cookstove.

The project area includes more than 10,000 households for a total population of 114,012 inhabitants (2013 Census) in the municipalities of Toucountouna and Ouaké. These are areas with a large rural population mainly using wood-energy with traditional three stones cookstoves.

More than 3,500 households will have the Wanrou efficient cookstoves, since this type of efficient cookstove has not encountered any socio-cultural adoption barriers in previous experiments in 58 villages in the department of Atacora. About 300 rural women will be trained and equipped as instructors for the construction of the Wanrou efficient cookstove in their villages and surroundings.

The Wanrou efficient cookstoves represent an accessible solution to improve the energy efficiency of cooking and limit the overconsumption of wood-energy, and will gradually replace the traditional three

<sup>33</sup> Stratégie de Croissance pour la Réduction de la Pauvreté 2011 – 2015 or Growth Strategy for Poverty Reduction 2011 - 2015

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

stones cookstoves. By reducing the consumption of non-renewable biomass, the Wanrou efficient cookstoves will also contribute to the reduction of greenhouse gas emissions while preserving forests, ecosystems and biodiversity. These efficient cookstoves are a solution currently deployed in the region by Eco-Benin to combat energy poverty and use the potential for the generation of carbon credits. The use of the Wanrou efficient cookstoves with smoke exhaust chimneys also reduces the number of cases of respiratory diseases, reduces the time spent by women and children to collect firewood, and creates local jobs through the construction of the Wanrou efficient cookstoves.

### iii. Invitation tracking-table

Category	Organization	Name of invitee	Means of invitation	Date of invitation	Confirmation of Reception Y/N
A	End user Wanrou Toucatouna		Oral invitation	1/2/2017	Y
A	Monitrice / End user Wanrou Toucantouna		Oral invitation	1/2/2017	Y
A	End user Wanrou Ouaké		Oral invitation	1/2/2017	Y
A	Monitrice / End user Wanrou Ouaké		Oral invitation	1/2/2017	Y
B	Prefecture Atacora	Prefect	Letter	25/01/2017	Y
B	Prefecture Donga	BIAO AININ S. Eliassou	Letter	25/01/2017	Y
B	Municipality of Ouaké Head of Department Domain and Environmental Affairs (C/SADE)	ISSOTINA Zakaringou	Letter	25/01/2017	Y
B	Municipality of Toucountouna Head of Department Local development and planification (C/SDLP)	Romain YOKOSIPE	Oral	5/2/2017	Y
B	Departmental Directorate of Environment Living conditions and Sustainable Development (DDECVDD) Atacora/Donga	KOUNKOUAGA Magloire	Letter	25/01/2017	Y
B	Departmental Directorate of Energy (DDE ) Atacora/Donga	SAMA Joachim	Letter	25/01/2017	Y
B	Regional centers for rural	TOKO WOROU	Letter	25/01/2017	Y

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

	development (CARDER – Atacora/Donga)	Abdel-Kader			
B	Medical chief Toucantouna	OKE Servane Nabila	Letter	25/01/2017	Y
B	Medical chief Ouaké		Letter	25/01/2017	Y
B	Association of the Municipalities of Atacora/Donga (ACAD)	SAHGUI Paul Maire de Tanguiéta	Letter	25/01/2017	Y
B	Central Imam of Toucountouna		Letter	25/01/2017	Y
B	Parish priest Toucountouna		Letter	25/01/2017	Y
B	Central Imam of Ouaké	BIAO MamamTacha	Letter	25/01/2017	Y
B	Parish priest Ouaké		Letter	25/01/2017	Y
B	Beninese Agency for Environement (ABE)	GNANCADJA Léopold Simplicie	Letter	31/01/2017	Y
C	DNA	Ibila DJIBRIL	Mail	25/01/2017	?
D	Network for development of natural community reserves (REDERC)	Maurice GNANADO	Letter	25/01/2017	Y
D	Association of Portable Ceramic Improved Cookstoves Producers (AFFACP)	SAMGATE Salmata	Letter	25/01/2017	Y
D	Association of Portable Metallic Improved Cookstoves Producers (AFFAMP)	SANI A.A. Samadou	Letter	25/01/2017	Y
D	Jura-Afrique Bénin	Maliki AGNORO	Oral	8/2/2017	Y
D	Alpha & Omega	GNAGNA Paul	Letter	25/01/2017	Y
D	Environmental Police	TAMOOU Chabi Sero	Letter	25/01/2017	Y
D	Young Initiatives (JIVES)	Modeste LAWSON	Letter	25/01/2017	Y
D	German Cooperation GIZ	NYIRANSABIMANA Berthilde	Letter	25/01/2017	Y
D	Caritas	Père Abraham GHANABA	Letter	25/01/2017	Y
D	Care Benin	GNINOOU Jérémy	Mail	31/01/2017	N
D	AWAC	Heidi DE PREZ	Mail	25/01/2017	N
D	GERES	Raymond AZOKPOTA	Mail	25/01/2017	N
D	UNDP	Constant HOUNDENOU	Mail	25/01/2017	N

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

D	Regional Collaboration Centre, Lomé CDM	Pape Demba NDIAYE	Mail	30/01/2017	N
D	JVE – Bénin	HOUNTONDI K. Maurisé	Letter	30/01/2017	Y
D	Local press Ouaké	TCHALEDDJI Abdoul Madjidou	Letter	25/01/2017	Y
D	Local Press Radio Nanto FM	YADOU Z. Ganiou	Letter	25/01/2017	Y
D	National Press Canal 3 Bénin et Fraternité	TAMPEGOU Benjamin	Letter	25/01/2017	Y
D	National Press La Nation	KOFFI Jacqueline	Letter	25/01/2017	Y
D	Plan Benin	DOSSOUVI Mireille	Letter	31/01/2017	Y
E	Gold Standard	Pinar Ozturk	Mail	25/1/2017	N
F	Care International	Kit (Christopher) VAUGHAN	Mail	25/1/2017	N
F	HELIO International	Helene O'CONNOR –LAJAMBE	Mail	25/1/2017	N
F	Mercy Corps	David NICHOLSON	Mail	25/1/2017	N
F	REEEP	Katrin HARVEY	Mail	25/1/2017	N
F	World Vision Australia	Dean THOMSON	Mail	25/1/2017	N
F	WWF International	Bella ROSCHER	Mail	25/1/2017	N

**iv. Text of invitation sent**

The invitation were made in French, the English translation is given below.

Natitingou, 31<sup>th</sup> January 2017

Réf. : N° \_\_\_\_/01/2017/ECO-BENIN/ AR-AD/CP/CN\_

To

Sir \_\_\_\_\_

\_\_\_\_\_  
Republic of Benin

**Concern: Stakeholders Consultation**

Madam, Sir

Eco-Benin in partnership with CO2logic are pleased to invite you to the stakeholders consultation of the project « **Promotion of Wanrou Efficient cookstoves** in the region of Atacora/Donga (ProWAD) ». This project is part of the framework program of activities « Efficient Cook Stoves in Bénin and Togo ».



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

The consultation will take place on Tuesday February 9<sup>th</sup>, 2017 at 10.00 am at Tata Somba Hotel in Natitingou.

Here below the agenda of the meeting:

- Introduction
- Project context and Presentation
- Questions and answers on the project
- Discussion on follow-up/monitoring of sustainable development
- Discussion on continuous grievance mechanism
- Discussion on non-renewable fraction of biomass
- Other questions and conclusion

Please find in annex the non-technical summary of the ProWAD project.

Your physical presence will be highly appreciated and all suggestions and comments are welcomed and expected.

**Eco-Benin National Coordinator**

**Gautier K. AMOUSSOU**

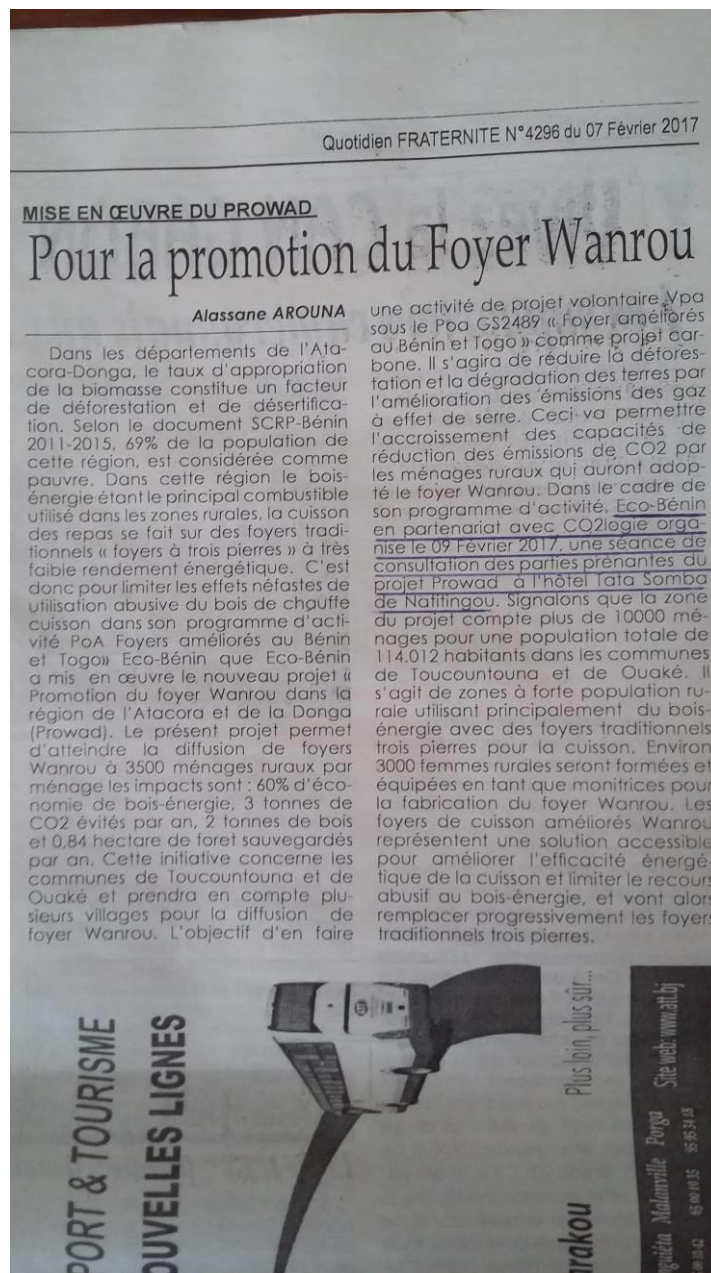
**Attachment** : Non-technical summary of ProWAD

Some examples of invitations sent can be found in annex 3.

**v. Newspaper**

An article has been published in the daily newspaper “Fraternité” nr° 4296 of 7<sup>th</sup> of February 2017 explaining the project and mentioning the invitation to the local stakeholder consultation of the project on the 9<sup>th</sup> of February 2017 in Hotel Tata Somba.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo



### vi. Radio announcements

The local stakeholder consultation has been announced on the local radio “Radio Communautaire Nanto FM”. The invoice for these announcements can be found in annex 4.

### vii. Description of other methods used

Individuals, who couldn’t attend the local stakeholder consultation meeting, were able to comment the non-technical summary of the program via mail, email or telephone. The stakeholders who didn’t reply to the invitation were reminded on the meeting via telephone.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

A National Workshop has been held on the discussion of fNRB value for Benin on the 4<sup>th</sup> of May 2016 in Cotonou, Benin<sup>35</sup>. The objective of the National Workshop was to validate the methodology and data used for the calculation of the national fNRB value (in place of the default value of 81% proposed by UNFCCC<sup>36</sup>) for submission to CDM/EB. The following stakeholders were invited to give their feedback:

- General Directorate of Climate Change;
- General Directorate for the Environment;
- General Directorate for Forests and Natural Resources;
- General Directorate of Energy;
- Designated National Authority of the CDM in Benin;
- National Committee on Climate Change,
- National Commission for Sustainable Development,
- Regional Cooperation Center of the UNFCCC,
- Project proponents of energy projects in Benin;
- Consultant mandated to carry out the study (ENEA).

Following the recommendations formulated during the workshop the proposed value of fraction of non-renewable biomass for Benin has been calculated to be 93%.

### C.2. Summary of the comments received:

>> *Please describe the outcome of the meeting, assessment of stakeholders comment, list of participants.*

#### Participation list

Participants list				
Date and time: Thursday 9 <sup>th</sup> February of 2017, 9:00 am				
Location: Hotel Tata Somba in Natitingou				
Category Code	Name of participant, job/ position in the community	Male/ Female	Organisation (if relevant)	Contact
D	YADOU Z. Ganiou	M	Journalist Radio	+229 97540376
A	MOUDACHIROU Fati	F	End-user Ouaké /Badjoudè	+229 96275278
A	ADAMOU Zénabou	F	Monitrice / End-user Ouaké /Badjoudè	

<sup>35</sup> ENEA Consulting, May 2016, Calcul de la fNRB du Bénin

<sup>36</sup> [https://cdm.unfccc.int/methodologies/standard\\_base/2015/sb97.html](https://cdm.unfccc.int/methodologies/standard_base/2015/sb97.html)

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

A	TATEMA Moudachirou	F	Monitrice / End-user Ouaké /Badjoudè	
A	MATEMA Aimé	F	Monitrice / End-user Ouaké /Badjoudè	
B	BIAO MamamTacha	M	Imam Ouaké	+229 96527217
A	ETCHEOU Aawa	F	End-user Ouaké /Badjoudè	+229 67329106
D	KOUNKPAGA Lucencia	F	Animator JAB	+229 64704894
A	ADJOLOU Zénabou	F	Monitrice / End-user Ouaké/Konde	+229 61013759
A	HEKLE Nadège	F	Monitrice / End-user Ouaké/ Alitokoum	
A	WANTO Juliète	F	Monitrice / End-user Toucountouna / Boribansifa	
A	DOKO Soumatori	F	End-user Toucountouna / Tchakalakou	+229 96041571
A	SAMOUGATE Salimata	F	End-user Djougou	+229 66191482
A	TANTOUGOUTE Pauline	F	Monitrice / End-user Toucountouna/ Wansokou	
A	N'TCHELISSIMA Marceline	F	End-user Toucountouna / Tantaga 2	
D	SOGAN Monique	F	Assistant Association of the Municipalities of Atacora/Donga	+229 66189265
B	YOKOSIPE Romain	M	Focal point of the municipality of Toucountouna for the ProWAD project	+229 96673663
B	AMADOU Abdou Salami	M	ABE (Beninese Agency for the Environment)	+229 66361753
D	ATONDE Carin Karl	M	JVE Benin (Young Volunteers for the Environment)	+229 96095940
D	N'TCHA N. André	M	Director Caritas	+229 96676339



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

D	DJESSOUHO Roscelyn	M	Representative of Departmental Directorate for Energy (DDE)	+229 94580600
D	AGOMDANOU Imelda	F	Responsible ANAF (National Association of Agricultural Women)	+229 97170288
D	N'DAH Paulin	M	Representative NGO Alpha-Omega	+229 97350105
D	LAWSON Modeste	M	Director NGO JIVES Benin (Young Initiatives)	+229 96328368
B	ISSOTINA Zakariyao	M	Focal point of the municipality of Ouaké for the ProWAD project	+229 97627038
D	Bassaou OHOROU Rafon	M	Representative Regional centers for rural development CARDER Atacora-Donga	+229 97435843
B	KOUNKOUAGA Magloire	M	Departmental Directorate for Living Conditions and Sustainable Development of Atacora/Donga (DDCVDD/AD)	+229 97136532
B	NATTA Justin	M	General Directorate of Environment and Climate Change of the Ministry for Living Conditions and Sustainable Development (DGEC/MCVDD)	+229 97697858
D	NOUMONVI Afiwa Sylvie	F	Supervisor of ProWAD project for Eco-Benin	+229 96901554
D	BIAO.GMAO.B.T. Audrey	F	Accountant Eco-Benin	+229 96901554
D	SANI A. Samadou	M	Association of Portable Metallic Improved Cookstoves Producers (AFFAMP)	+229 97775714
D	AGOLIGAN M. Romaric	M	General Director of the	+229 66681905

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

			Regional centers for rural development CARDER Atacora-Donga	
D	KANRI SAKI W. Sévérin	M	Collaborator of Head of Department for Domanial and Environmental Affairs (C/SADE)	+229 96249222
D	TAMOU Chabi Séro	M	Chief Environmental Police Officer (S/SPE)	+229 96063640
D	BIAO AÏNIN. S. Eliassou	M	Prefect Donga	+229 97872893
D	SAÏDOU Gnanando	M	Network for development of natural community reserves (REDERC)	+229 97531676
A	SANDJOUGOUMA Paul	M	End-user Toucountouna / Tampegre	+229 97964740
A	N'TCHA Débora	F	Monitrice / End-user Toucountouna / Tampegre	+229 95596400
D	KASSIM S. Barikiddou	F	Nurse	+229 64413741
D	AGBOHOUTO Alexis	M	National Press Canal 3 Bénin et Fraternité	+229 97222380
D	HEVIEFO Adrien	M	Technical Consultant Eco-Benin	+229 66002894
D	NOPPEN Herman	M	Project Director CO2logic	+32 497053136
D	LANDJOHOU Jules	M	Project Coordinator ProWAD Eco-Benin	+229 61943058

### Outcome of the meeting

The main points discussed during the local stakeholder consultation held on the 9<sup>th</sup> of February 2017 in Hotel Tata Somba in Natitingou are presented below. The presentation used during the LSC can be found in a separate document<sup>37</sup>. Translation for the beneficiaries (end-users / monitrice) was foreseen to the local languages Lokpa and Waama.

#### *Official opening of the meeting*

The opening ceremony was marked by two interventions. The representative of the Non-Government Organization (NGO) Eco-Benin in charge of the ProWAD, Madame NOUMONVI Sylvie, thanked all the

<sup>37</sup> See document "Presentation LSC PROWAD Natitingou - 20170209 final"

## TITLE OF THE MICRO-PROGRAMME: **GS2489 Efficient cookstoves in Benin and Togo**

participants for attending the workshop. She set the scene by reminding that the project ProWAD aims to reduce deforestation and soil degradation through the promotion of the Wanrou efficient cookstove in the municipalities of Toucountouna and Ouaké in the Atacora/Donga region. The project ProWAD follows the ProFAEB project which corresponds to VPA-1 under the PoA GS2489 Efficient cookstoves in Benin and Togo. She also added the objective to register the project ProWAD as VPA-2 under the PoA GS2489 Efficient cookstoves in Benin and Togo. In addition she reminded that the objective of the local stakeholder consultation is to discuss the project design and its potential environmental and social impacts with relevant (local) stakeholders and actively seek their comments.

The prefect of Donga, BIAO AÏNIN S. Eliassou, reminded the participants that Benin was undergoing more and more visible illustration of climate change. He noted that municipalities in or close to the project area of ProWAD were undergoing a significant decrease of annual average rainfall. He also added that the National Adaptation Program for Actions (NAPA) of Benin identified, among other problems, the vulnerability of Beninese domestic energy systems regarding the supply and the consumption in households' biomass use. One of the priority actions identified in the NAPA is the massive dissemination of the efficient cookstoves. According to him, ProWAD (following the ProFAEB) does integrate within Beninese sectorial politics regarding mitigation where the first objective is to improve the efficient use of energy wood. For this reason, he encourages all private initiatives such as ProWAD which makes a huge contribution to the common goal. He concluded by inviting all participants to have an open and constructive discussion to ensure a genuine commitment to work for the acceptance of a new VPA under PoA "Efficient cookstoves in Benin and Togo" will come out of it.

### *Presentation of the project activity*

The main objective of the ProWAD project is the reduction of afforestation and lands degradation through improved energy efficiency of rural households in the Atacora/Donga region of North Benin. Specifically, ProWAD aims at promoting the Wanrou efficient cookstove in order to reduce the use of wood fuel. It is foreseen that 3,800 households will benefit from this stove. The ProWAD project will be registered as VPA-2 under the PoA "GS2489 Efficient cookstoves in Benin and Togo". The implemented technology Wanrou efficient cookstove will be the same as VPA-1 under PoA GS2489. The utilization of this stove enables fuel wood savings of up to 50%. The VPA-2 will allow to reduce the fuel wood consumption with 6,000 tons per year and the greenhouse gas emissions with 10,000 tons CO<sub>2</sub>e per year.

The project boundary are the municipalities Toucountouna and Ouaké in the departments Atacora/Donga in the North of Benin. The selected villages of the project boundary are located areas where the physical and financial access to the stoves promoted in the past was difficult. Awareness raising activities are a very important component of the project activities as multiple information sessions on topics like fuel wood or climate change will be held in the villages, schools and colleges.

Additional sub-activities are foreseen in the project in order to improve rural access to energy. In collaboration with Trinity College of Dublin (Ireland) the Thermal Electrical Generator (TEG) technology will be tested and adapted to the Wanrou stove. This will allow the stove user to charge mobiles and LED lamps while using its Wanrou stove. The TEG technology will be implemented in 100 Wanrou cookstoves and these Wanrou stoves with a TEG will not generate credits. Furthermore 8 smart solar kiosks will be installed in collaboration with Solar without Borders (Belgium) to provide electricity to

## **TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

maximum 8 households neighbouring the smart solar kiosk. Consumed electricity will be paid through mobile payment. The Smart solar kiosks will not generate carbon.

### *Comments received the VPA*

Overview of the comments received can be found in section C.3

### *Discussion on sustainable development*

Different aspects of sustainable development have been discussed. The stakeholders affirmed that the use of the Wanrou stoves will decrease air pollution and respiratory diseases caused by flue gases. The introduction of the Wanrou woodstoves will also facilitate soils protection as the saved trees will reduce soil erosion. It will also have a positive impact on biodiversity too. Concerning job quality, they will lead to a reduction of the arduousness of wood collection for women. Therefore, women will be able to focus on other activities that will generate incomes.

### *Discussion on the continuous input mechanism*

See section C.4.

### *Discussion on the fraction of non-renewable biomass*

A discussion has been held on the fraction of non-renewable biomass (fNRB). This value is important for the calculation of the CO<sub>2</sub>e reduction realized through the implementation of this project activity. A value of 81 % has been proposed by the Secretariat of UNFCCC in May 2012, but it has not been validated yet by the DNA of Benin. The DNA considers this fNRB value too low, considering the values of the neighboring countries Togo (97%) and Burkina Faso (90%). To this end, the DNA of Benin submitted to CDM secretariat in Bonn a standardized baseline for the fNRB of Benin with a value of 93%. This validation process of the standardized baseline is still on-going. In this regard, participants of the local stakeholder's consultation were asked whether the ProWAD project could use the value 81% while waiting for the final validation of 93%. Dr. Justin Natta, representative of the minister of environment, living conditions and sustainable development, as other participants, considered the fNRB value of 81% for Benin as conservative and suggested its use in the framework of the project activity.

### *Closing of the local stakeholder consultation*

Stakeholders meeting ended by a simple closing ceremony led by Donga department prefect. Taking the stage, he, once again, thanked all the present stakeholders for participating as well as the debates quality which had been very frank and interesting. He finished with a special thanks to EcoBenin and CO<sub>2</sub>logic for this initiative, helping sustainable development. The Project Coordinator of ProWAD of Eco-Benin invited afterwards all the stakeholders to fill in the evaluation form. Stakeholders that cannot read nor write were helped by the Eco-Benin animators. This way, everyone could express itself about its general feeling and what he liked or did not like about the project. The synthesis of all the forms leads to the results summarized in the table below.



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### Evaluation forms

1. What is your general impression about the local stakeholder consultation of the ProWAD project?	2. What do you like the most in the project?	3. What do you dislike in the project?
My overall impression regarding the local stakeholder consultation of the project is that the project makes our daily life better and protect us from diseases.	What I like about the project is that their stoves are really good.	Nothing. May God help us.
My overall impression regarding the local stakeholder consultation of the project is that the project makes our daily life better and protect us from diseases.	Very good stoves.	Nothing. May God help us.
I am happy about the local stakeholder consultation (LSC) of ProWAD project and the exchanges between the different actors.	The fact that it reduces CO2 and wood consumption.	The fact that the project is only limited to some villages.
An overall good impression of the LSC because it helped us to further understand the project.	The effective involvement of the different actors (municipality, communities)	It does not promote the creation of firewood plantations.
The relevance and the quality of the debates.	It reduces the smoke and uses less wood.	Nothing. Might the project continue.
The quality of information and debates.	Stoves quality, smoke reduction. Less problems and diseases.	Nothing. Might the project continue.
Awareness creation about the cutting of trees.	Reduces wood consumption, produces less smoke.	Nothing. Might the project continue.
Very good initiative. Reduce poverty.	Reduces the cutting of trees. Seasons probable return. Easy access.	Nothing. Might the project continue.
Smoke reduction. Good initiative.	Reduces the cutting of trees. Wildlife regeneration.	The fear that the project will come to an end.
I am happy regarding the LSC of the ProWAD project and the exchanges between the actors.	Wanrou stove quality.	Limited to some villages and communities.
I appreciated the conference.	Difference between Wanrou stoves and three stones stoves regarding wood consumption.	Monitors despondency, lack of materials and follow up.
I am happy with the consultation workshop because I think this conference will help the ProWAD project.	Reducing wood consumption with the use of Wanrou stoves. Participate in reforestation, follow-up and activities.	The discouragement of the monitrices, the lack of equipment and the lack of follow-up.
My overall impression regarding the LSC of ProWAD project is good and I think that it will help us achieving the project's objectives.	I particularly appreciated the consultation workshop because I think it helps to understand how to better promote the Wanrou stove.	I would not like for us not to be able to reach households numbers needed because of a lack of materials and financial means.
I am proud of the LSC because it helped us clarify all the activities the project intends to do.	The difference between Wanrou stove and three stones stove where one emits less CO2 and the other more. If possible reforestation in villages.	Lack of equipments and follow up.
I am very impressed by the conference because it allows to set forces for the project's good evolution.	It is the difference between the two Wanrou stoves and three stones stove. Reforestation problem.	People's carelessness, monitors, benefits. Lack of materials and follow-up.
I am proud of the LSC because it will shed light on things we did not have enough knowledge or information about.	I like the stove construction thanks to less wood consumption. Reforestation is highly important too.	We do not want to use the three stones stoves.
Great initiative to encourage.	The follow-up objective by the project is very commendable et we hope it will happen.	That it is not extended to all communities.
Great initiative to put all stakeholders at the same level regarding the ProWAD project, its objectives and expecting results.	In this project, what is very interesting is the wood consumption reduction through the Wanrou stoves diffusion.	The non-inclusion of reforestation in the project.
It allows to further understand the project	Firewood consumption reduction,	The non-inclusion of reforestation. The

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

and its different components and do a mid-term assessment	reduction of smoke-related diseases but mainly reduction of CO2 emissions.	project does not take into account the need to raise awareness regarding the necessary end of charcoal production.
Great impression.	The communities, which were selected because of their closeness from Natitingou city, supply in wood and the socio ecological rupture in Ouaké community. Solutions: deforestation issues, land degradation and climate changes attenuation.	Limitation to some villages because of budget restriction.
The seriousness and awareness of the stakeholders during the conference really impressed me. The targeted group of the project consists of women using the three stones stoves.	Long-term project objectives will have a slowing effect regarding men' control of our forests, which are endangered. The project will help maintaining forests protection, wildlife habitat (which will then be preserved).	Limitation of the project to two communities. There is need to extend the project to communities with forest (for instance BASSILA, where charcoal is still massively extracted).
Great project that addresses completely nature preservation concerns.	The strategy being implemented in the field.	Communities' solution.
Stakeholders' conference regarding ProWAD project had been a great opportunity for all actors to be informed of ProWAD activities.	ProWAD objectives, ProWAD targets, Prospective (A short-term: obtaining carbon credit); presence of focal points in beneficiary communities.	The conference could have been organised earlier; the amount of targeted villages (1500).
Very helpful and rewarding conference regarding carbon mitigation project. The inclusive part (all the actors and participants invited) gives a very good image of the adopted participative approach.	The fact that there is a will to use it as a carbon reduction project. Also, the added value brought to the project by adding technology (such as TEG – to develop and promote).	The given trajectory to the project regarding the privileges for rural areas which, given their lower demography are consuming less fuelwood than urban areas. Another negative aspect of the targeted objectives is the total exclusion of reforestation actions.
Great impression. I think organising this conference was very worthy.	The specific objectives and different planned activities.	Nothing.
Very good impressions. Great interventions from all the parties.	The social aspect, the environmental aspect, association of communities, departments directors, prefects.	For now, nothing.
Great initiative.	Interesting environmental impact, the stoves are using local material.	Financial modes of the project: there is no need for carbon finance, the government can take discouraging measures regarding the use of three stones stoves (which will allow women to use improved stoves).
My overall impression is good. I find the project objective to be highly relevant.	The will to reduce cost and burden of woodfire used by women, GHGs. Will to ensure our endangered forests protection.	I am not convinced that selling carbon credits will reduce emissions here in Benin and reselling those credits appears to me to be quite a paradox since the environment does not seem to be protected. I would like to think about other ways to refinance or other financing means to keep the benefits.
Highly important opportunity for the project to collect all actors' opinions. My overall impressions are good given the communications quality as well as the provided answers to the concerns.	Open-mindedness of workshops organizers and practical organisation.	Nothing.
The high presence of women in the LSC is very good.	To have plenty of partners to fund us.	The end of ProWAD project, succeed with the production.
The LSC is highly important for exchanges and explanations.	The organizational chart and stoves production which are used as follow-up from the start until the end. Tools production.	Never to stop the localities follow-up.
Gathering all the stakeholders is a great initiative to discuss the project'	Promotion and diffusion of improved stoves that allow the environment	It is a good project.

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

issues/questions.	protection.	
My overall impression of the LSC of the ProWAD project is very good.	What I like about ProWAD project: the project contributes in reducing CO2 emissions through fuelwood consumption reduction, jobs creation, interesting debates.	What I don't like about the project: ProWAD project activities are not noticeable enough on the territory where they take place (ATACORA & DONGA) as well the limitation of the project to two municipalities only.
Good impressions. The LSC helped us to shed light on climate changes.	Communications, workshop surroundings and debates.	Activities started with a delay.
I am very happy with the LSC of ProWAD because all organisations were represented by good exchanges.	Jobs creation, setting up of 1500 to 38000 households and a 10-years follow-up of the use and renewal of Wanrou stoves as well as phones charging.	ProWAD project is only limited to municipalities of the departments Atacora/Donga.
Very Good. It helped us to further understand the different components of ProWAD. The diversity of the participants allowed to have fruitful debates.	Great project objectives as well as in line with climate change reduction targets.	ProWAD did not pinpoint other doable actions to reduce GHGs such as reforestation and soil fertility improvement.
My overall impression is that I am bit concerned of the ability for the project to reach its goal given the amount of things to do and the short time left.	What I like about the project: it helps women and reduce deforestation.	What I don't like: the whole CO2 stuff and oxygen. Also the limited number of households included in the project.

Some examples of filled evaluation forms can be found in Annex 6. All evaluation forms can be found in separate documents<sup>38</sup>.

<sup>38</sup> See documents Evaluations\_LSC\_ProWAD\_1, Evaluations\_LSC\_ProWAD\_2, Evaluations\_LSC\_ProWAD\_3 and Evaluations\_LSC\_ProWAD\_4



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### Pictures of the meeting





## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### C.3. Report on how due account was taken of any comments received and on measures taken to address concerns raised:

>> Please discuss how the stakeholder's comments have been addressed and include the changes to the design of the programme based on their feedback.

#### List of comments received

Stakeholder comment	Was comment taken into account (Yes/No)?	Explanation (Why? How?)
<p><i>ADAMOOU Zénabou</i></p> <p><i>Monitrice / End-user Ouaké /Badjoudè</i></p> <p>The cookstove is good for us. The difficulty we currently face is the shortfall of construction kits and equipment materials. We would like to have some more for every village so that we can have a few construction teams.</p>	Yes	There is a limitation on construction kits and equipment materials due to budget restriction. Nevertheless we are thinking of a solution by transferring equipment materials from one village to another when it's not used for a while.
<p><i>ISSOTINAN Zakariyao</i></p> <p><i>Focal point of the municipality of Ouaké for the ProWAD project</i></p> <p>Women sent me to tell you that they need to go faster in the building process. Indeed, after April, the raining season could start. They need construction kits so that they can have different teams.</p>	Yes	All villages will have their construction kits and equipment materials. It's possible that there will be not enough in some villages, but the considered solution is to transfer equipment materials from one village to another when it's not used for a while.
<p><i>BIAO AÏNIN S. Eliassou</i></p> <p><i>Donga prefect</i></p> <p>The prefect explained again the relation between the three stones cookstoves use and the Wanrou efficient cookstoves as well as CO2 emissions in order to help beneficiaries and workshop' participants to better understand what is CO2 and climate change. He requested to expand the project implementation area to</p>	No	<p>The project has a restricted budget and therefor limited the project boundary to the municipalities of Toucountouna and Ouaké. Nevertheless Bassila might be considered in another project with the promotion of the Wanrou efficient cookstove.</p> <p>Dr. Justin Natta, representative of the minister of environment, living conditions and sustainable development, added that other actors promoting efficient cookstoves might covering other localities, like Bassila. Indeed, the Government of Benin has formulate the ambition in the National Adaptation Program for Actions to replace all three stone cookstoves with efficient cookstoves</p>

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

<p>Bassila another municipality of Ouaké.</p>		
<p><i>KOUNKOUAGA Magloire</i></p> <p><i>Departmental Directorate for Living Conditions and Sustainable Development of Atacora/Donga (DDCVDD/AD)</i></p> <p>a) The efforts of the project are mainly being focused in rural areas while energy is also highly used in urban areas. Would it not be necessary to also include urban areas in the project?</p> <p>b) It would be good to think about reforestation in vulnerable areas such as Ouaké as a complementary project to improved cookstoves diffusion.</p>	<p>Y</p>	<p>a) Wanrou efficient cookstoves can only be used with wood fuel. As wood is mainly used in rural areas, these villages are targeted. It must be said that research work has been conducted in close collaboration with the local rural communities on how to adapt the improved mud stove to the local context in order to reduce the cost and facilitate its adoption by local rural communities. For urban areas, there are other forms of improved cookstoves such as GIZ stoves and cookstoves promoted by CARITAS.</p> <p>b) Yes, it has been considered in the project, but due to limited budget it is not included.</p>
<p><i>AGONDANOU Imelda</i></p> <p><i>Responsible ANAF (National Association of Agricultural Women)</i></p> <p>a) What is the scope of CO2 logic?</p> <p>b) Why did you choose the promotion of efficient cookstoves rather than reforestation?</p> <p>c) Has TEG been previously tested elsewhere than Benin? Have studies been conducted to measure potential health impacts? Is it harmless for our health?</p> <p>d) Was there a feedback system from users of ProFAEB cookstove?</p> <p>e) Does the contract for transfert of ownership of credits foresee a compensation mechanism for the women signing that contract?</p>	<p>Y</p>	<p>a) CO2 logic is carbon consulting company based in Brussels proposing different type of services: carbon footprint, reduction measures, and climate projects (mainly in Africa).</p> <p>b) The promotion of efficient cookstoves helps to limit excessive trees cutting in order to preserve forests. The introduction of efficient cookstoves should be considered as a preventive measure and is complementary to reforestation.</p> <p>c) The TEG technology has been used in other countries such as Malawi. The technology had been developed by Trinity College of Dublin (Ireland) by introducing TEG in a rocket stove. Trinity college will now adapt the TEG technology for the Wanrou stove. In addition Dr. Natta (representative of the minister of environment, living conditions and sustainable development) mentioned that cookstoves including the TEG technology already exist in Europe and there is no health risk. M. DJESSOUHO Roscelyn, representative of Departmental Directorate for Energy, commented that the TEG technology is actually an old technology used in developed countries in various life ranges: health, lighting and others.</p> <p>d) A continuous grievance mechanism has been put in place for the project ProFAEB in order to collect feedback from the Wanrou efficient cookstove users. The same will be done for the ProWAD project.</p> <p>e) There is no compensation mechanism foreseen for the women in exchange for the transfert of credits. The women will by signing the contract benefit from the advantages of the Wanrou efficient cookstoves which are improved air quality and reduced time spent to collect wood. In addition</p>

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

<p>f) How will the project provide feedback to the communities involved in the project?</p> <p>g) Is it relevant to buy carbon credits to mitigate or reduce GHGs emissions? Would it not be better that European countries think about reducing their emissions?</p>		<p>the project will generate jobs and women will benefit from different related activities that will bring extra incomes.</p> <p>f) The project includes a local follow-up committee, headed by a member external to EcoBenin. This committee is also composed of different representative members: beneficiaries or local public services. Additionally, EcoBenin remains in permanent contact with the community and is in charge of a regular follow-up.</p> <p>g) Off-settings or buying carbon credit is used for residual emissions, after the implementation of ambitious reduction plan. So offsets are complementary to reduction measures.</p>
<p><i>LAWSON Modeste</i></p> <p><i>Director NGO JIVES Benin</i></p> <p>a) Is the available equipment for the construction of the Wanrou efficient cookstoves for beneficiary women well managed?</p> <p>b) Are the school classes for environmental clubs selected in conjunction with the intervention villages? Which classes are taken into account?</p>	<p>Y</p>	<p>a) The construction equipments remain the community's property. The village chief or somebody designated by the monitrice of the village is responsible for it.</p> <p>b) All school classes of the villages in the project boundary are taken into account. However, if one environment club is already part of the program, it is just reinforced.</p>
<p><i>N'DAH Paulin</i></p> <p><i>Representative NGO Alpha-Omega</i></p> <p>a) What tonnage of CO2 is actually reduced by ProFAEB?</p> <p>b) How much money does this tonnage represent?</p> <p>c) How will be used the money made by the selling of credits?</p> <p>d) Does CO2 logic have previous experience in managing carbon projects?</p> <p>e) Is it possible to have some documents for other carbon projects?</p>		<p>a) The number of tons reduced per household is 3t/CO2 per year. ProFAEB is in registration phase and is expected to generate its first carbon credits end of 2017.</p> <p>b) It depends on the selling prices. Given that credits are not available yet, the price negotiations are still ongoing.</p> <p>c) Carbon finance will be used to scale up the project to 3800 households, to finance 10 years monitoring regarding the use and renewal of Wanrou cookstove, the provision of TEG and smart solar kiosk, jobs creation, bearing of costs for project realization.</p> <p>d) CO2logic supports different structures in valorising their project in regards to the generation of carbon credits in Benin (EcoBenin), Brukina Faso (tiipaalga, AGED and REACH Italia), in DRC (WWF) and Liberia.</p> <p>e) During the stakeholder feedback round information like the project design document will be made available for consultation. Documentation of other carbon projects are publically available on the Markit registry, but they are all in English.</p>

## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

<p><i>AMADOU Abdou Salami</i></p> <p><i>ABE (Beninese Agency for the Environment)</i></p> <p>Would it be possible to reach 2300 more households before the end of the project? Do the resources make is feasible?</p>	Y	Yes. Carbon finance allows the necessary budget to finance to extension of the project.
<p><i>HEKLE Nadège</i></p> <p><i>Monitrice / End-user Ouaké/ Alitokoum</i></p> <p>What needs to be done if after 6 to 12 months the stove grate breaks?</p>	Y	It is quite easy to replace the GRILLE. Usually, when the stove is well maintained, it can last up to 3 years. After 3 years, the stove will need to be replaced.
<p><i>WANTO Juliète</i></p> <p><i>Monitrice / End-user Toucountouna / Boribansifa</i></p> <p>What do I need to do if my pot falls into the stove?</p>	Y	If the pot falls into the stove, it simply means it is not the the appropriate cookstove size for the pot. The Wanrou cookstove is a mono pot stove. During the stove construction, the pot's size is calculated for the stove to perfectly fit. Normally, the stove can take up to two pots of similar size.
<p><i>DOKO Soumatori</i></p> <p><i>End-user Toucountouna / Tchakalakou</i></p> <p>When will we have stoves for drinks?</p>	N	Current priority goes to domestic cooking. However, ongoing research focus on rice processing and local drinks production. The big issue is the grate as it needs to be a metallic one. But metal is expensive at the moment and so is the stove cost.
<p><i>TATEMA Moudachirou</i></p> <p><i>Monitrice / End-user Ouaké /Badjoudè</i></p> <p>Is it possible to use charcoal for the Wanrou stove?</p>	N	The Wanrou efficient cookstove is exclusively designed to function with wood. Charcoal is not a good fuel regarding energy. Charcoal production results in energy loss. It is therefore not advised to use charcoal.



**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**C.4. Report on the Continuous input mechanism selection:**

>>

*Discuss the Continuous input / grievance mechanism expression method and details, as discussed with local stakeholders.*

	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)	Justification
Continuous Input / Grievance Expression Process Book	Input and/or grievances are written on-site in an expression book, available at the programme office of Eco-Benin in Natitingou, Benin.	The book gives access to a large number and wide range of stakeholders. Those ones who do not have access to the book, can provide their comments or other queries through telephone or Email (see below).
Telephone access	<p>Jules LANDJOHOU Project officer at ECO-BENIN + (229) 96881782</p> <p>Adrien HEVIEFO Technical Consultant at ECO-BENIN + (229) 66002897</p> <p>Gautier AMOUSSOU Coordinator ECO-BENIN + (229) 95795224</p> <p>Gold Standard: +41 22 788 70 80</p>	<p>Stakeholders can call during business hours either Jules Landjohou (project officer Eco-Benin), Adrien Heviefo (technical consultant Eco-Benin) or Gautier Amoussou (coordinator Eco-Benin).</p> <p>Stakeholders may also directly call the Gold Standard Foundation.</p>
Internet/email access	<p>Jules LANDJOHOU Project officer at ECO-BENIN <a href="mailto:landiostajus@gmail.com">landiostajus@gmail.com</a></p> <p>Adrien HEVIEFO Technical Consultant at ECO-BENIN <a href="mailto:heviefoadrien@gmail.com">heviefoadrien@gmail.com</a></p> <p>Gautier AMOUSSOU Coordinator ECO-BENIN <a href="mailto:ecobenin@yahoo.fr">ecobenin@yahoo.fr</a></p>	<p>Stakeholders can email at any time either Jules Landjohou (project officer Eco-Benin), Adrien Heviefo (technical consultant Eco-Benin) or Gautier Amoussou (coordinator Eco-Benin).</p> <p>Stakeholders may also directly email the Gold Standard Foundation.</p>

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

	Gold Standard <a href="mailto:ga@goldstandard.org">ga@goldstandard.org</a>	
Nominated Independent Mediator (optional)	Not used	NA

*All issues identified during the crediting period through any of the Methods shall have a mitigation measure in place that should be added to the monitoring plan.*

**C.5. Report on stakeholder consultation feedback round:**

>>

The LSC report along with the PDD and GS passport will be sent to all participants and invitees by email or by letter. To enable the stakeholders a better understanding, the meeting minutes together with the analysis of the comments and the presentation showed during the local stakeholder consultation will be provided in French.

The Local Stakeholder Consultation report along with PDD will be published on the website of Eco-Benin and a few hard copies will be made available at Eco-Benin office in Natitingou and Cotonou. It will be ensured that stakeholders have at least two months to provide their comments.

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**Annex 1**

**CONTACT INFORMATION ON ENTITY/INDIVIDUAL RESPONSIBLE FOR THE MICRO--SCALE VPA**

Organization:	Eco-Benin
Street/P.O.Box:	03 BP 1667
Building:	
City:	Cotonou
State/Region:	Littoral
Postfix/ZIP:	
Country:	Benin
Telephone:	+229 95795224
FAX:	
E-Mail:	<a href="mailto:ecobenin@yahoo.fr">ecobenin@yahoo.fr</a>
URL:	<a href="http://www.ecobenin.org">www.ecobenin.org</a>
Represented by:	Mr Gautier Koffi AMOUSSOU
Title:	Project Director
Salutation:	Mr.
Last Name:	AMOUSSOU
Middle Name:	
First Name:	Gautier Koffi
Department:	
Mobile:	+229 95795224
Direct FAX:	
Direct tel:	
Personal E-Mail:	<a href="mailto:agautier@ecobenin.org">agautier@ecobenin.org</a>

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**


Organization:	CO2logic NV/SA
Street/P.O.Box:	Rue des Tanneurs 60A
Building:	
City:	Brussels
State/Region:	Brussels
Postfix/ZIP:	1000
Country:	Belgium
Telephone:	+32 497053136
FAX:	+32 2 548 70 10
E-Mail:	<a href="mailto:info@co2logic.com">info@co2logic.com</a>
URL:	<a href="http://www.co2logic.com">www.co2logic.com</a>
Represented by:	Herman Noppen
Title:	Project Director
Salutation:	Mr.
Last Name:	Noppen
Middle Name:	
First Name:	Herman
Department:	
Mobile:	
Direct FAX:	
Direct tel:	+32 497053136
Personal E-Mail:	<a href="mailto:herman@co2logic.com">herman@co2logic.com</a>



## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### Annex 2:

#### INFORMATION REGARDING PUBLIC FUNDING

 The Gold Standard®  
Premium quality carbon credits

### ANNEX D - OFFICIAL DEVELOPMENT ASSISTANCE DECLARATION

Date: 28/08/2017

The Gold Standard Foundation  
79 Avenue Louis Casai  
Geneva Cointrin, CH-1216  
Switzerland

RE: Declaration of Non-Use of Official Development Assistance by Project Owner of GS6008  
Eco-Benin

As Project Owner of the above-referenced project, and acting on behalf of all Project Participants, I now make the following representations:

Gautier AMOUSSOU

I hereby declare that I am duly and fully authorized by the Project Owner of the above-referenced project to act on behalf of all Project Participants and make the following representations:


**I. The Gold Standard Documentation**

I am familiar with the provisions of The Gold Standard Documentation relevant to Official Development Assistance (ODA). I understand that the above-referenced project is not eligible for Gold Standard registration if the project receives or benefits from Official Development Assistance with the condition that some, or all, of the carbon credits (CERs, ERUs, or VERs) coming out of the project are transferred to the ODA donor country. I hereby expressly declare that no financing provided in connection with the above-referenced project has come from or will come from ODA that has been or will be provided under the condition, whether express or implied, that any or all of the carbon credits issued as a result of the project's operation will be transferred directly or indirectly to the country of origin of the ODA.


**II. Duty to Notify Upon Discovery**

If I learn or if I am given any reason to believe at any stage of project design or implementation that ODA has been used to support the development or implementation of the project, or that an entity providing ODA to the host country may at some point in the future benefit directly or indirectly from the carbon credits generated from the project as a condition of investment, I will notify The Gold Standard immediately using the Amended ODA Declaration Form provided below.

**III. Investigation**

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www.edmgoldstandard.org

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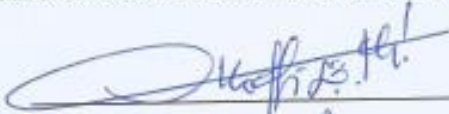
 The Gold Standard®  
Premium quality carbon credits

The Gold Standard reserves the right to conduct an investigation into any project it reasonably believes may be receiving ODA with the condition that some or all of the carbon credits from the project will be transferred to the ODA donor country.

**IV. Sanctions**

I am fully aware that the sanctions identified in The Gold Standard Terms and Conditions may be applied to me or the above-referenced project in the event that any of the information provided above is false or I fail to notify The Gold Standard of any changes to ODA in a timely manner.

I swear that all of the statements contained herein are true to the best of my knowledge.


Signed: 

Name: Gaubier Amoussou

Title: National coordinator

On behalf of: Benin Ecotourism Concern (EcoBenin)

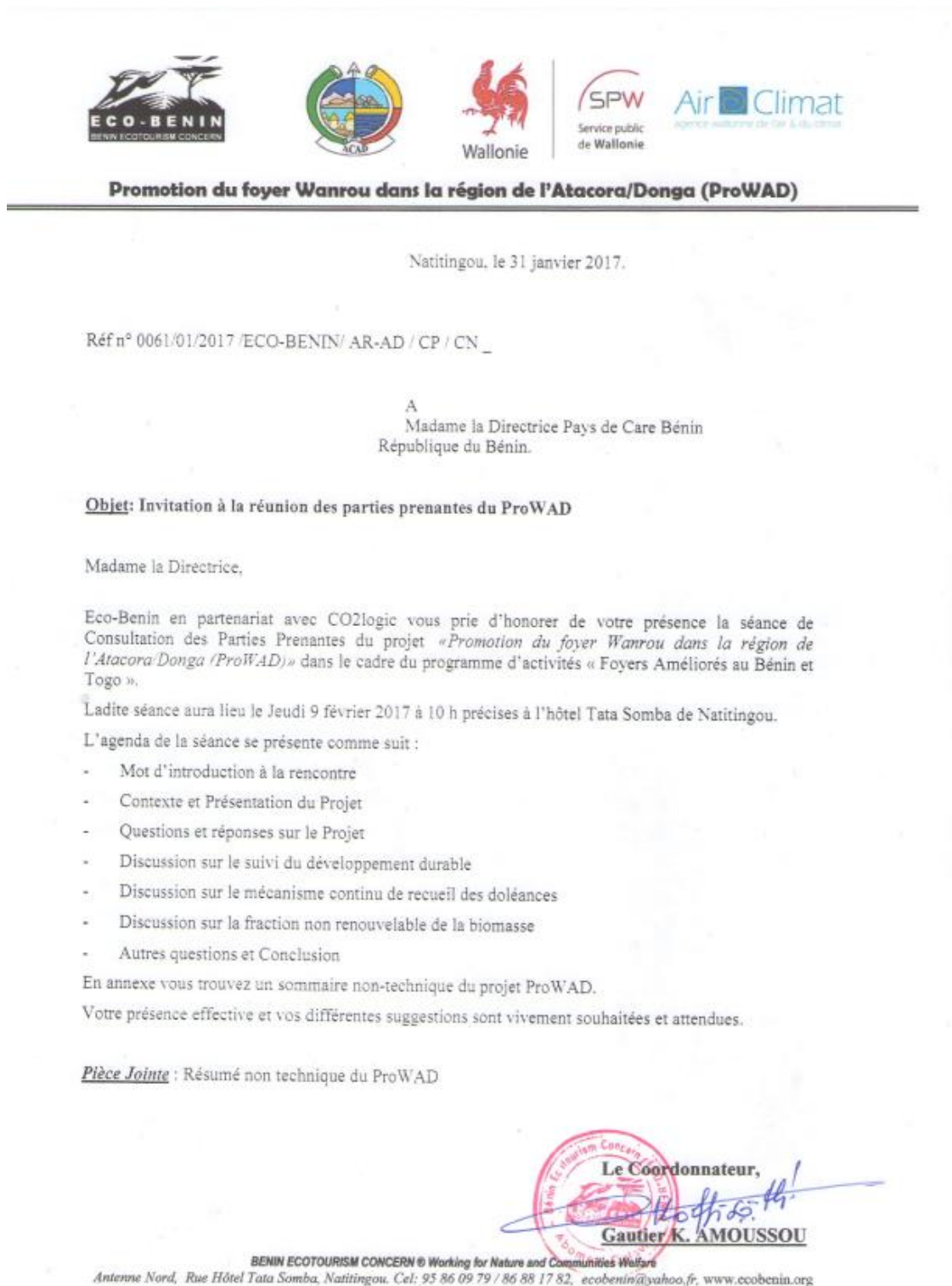
Place: Cotonou, Benin



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## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo

### Annex 3: examples of invitations sent





## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo




Mon 30/01/2017 21:27

Benin Ecotourism Concern

Invitation à la réunion des parties prenantes du ProWAD

To  NDIAYE Pape Demba;  rclome@unfccc.int

Cc  Benin Ecotourism Concern

Message  Sommaire non technique du projet ProWAD\_vfi\_fr\_en.pdf

Monsieur NDIAYE  
RCC Lomé

Cotonou Bénin

**Objet:** Invitation à la réunion des parties prenantes du ProWAD

Monsieur NDIAYE,

Eco-Benin en partenariat avec CO2logic vous prie d'honorer de votre présence la séance de Consultation des Parties Prenantes du projet «Promotion du foyer Wanrou dans la région de l'Atacora/Donga (ProWAD)» dans le cadre du programme d'activités « Foyers Améliorés au Bénin et Togo ».

Ladite séance aura lieu le Jeudi 9 février 2017 à 10 h précises à l'hôtel Tata Somba de Natitingou.

L'agenda de la séance se présente comme suit :

- Mot d'introduction à la rencontre
- Contexte et Présentation du Projet
- Questions et réponses sur le Projet
- Discussion sur le suivi du développement durable
- Discussion sur le mécanisme continu de recueil des doléances
- Discussion sur la fraction non renouvelable de la biomasse
- Autres questions et Conclusion

En annexe vous trouvez un sommaire non-technique du projet ProWAD.

Votre présence effective et vos différentes suggestions sont vivement souhaitées et attendues.

**Pièce Jointe** : Résumé non technique du ProWAD

Le Coordonnateur National

**Gautier K. AMOUSSOU**

Benin Ecotourism Concern (Eco-Benin)  
Zogbadjè, Rue fin clôture UAC, Calavi  
03 BP 1667 Jénicho, Bénin  
Mob: (229) 95795224  
[ecobenin@yahoo.fr](mailto:ecobenin@yahoo.fr) / [www.ecobenin.org](http://www.ecobenin.org)  
Skype: [gautier.amoussou](#)

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68

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## TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo




Wed 25/01/2017 16:02

**Benin Ecotourism Concern**

**Invitation to the stakeholders consultation of the project « Promotion of the Wanrou efficient cookstove in the region of Atacora/Donga (ProWAD) »**

To  pinar.ozturk@goldstandard.org

Cc  kvaughan@careclimatechange.org;  helio@helio-international.org;  dnicholson@dc.mercycorps.org;  katrin.harvey@reeep.org;  Dean.Thomson@worldvision.com.au;  Bella.Roscher@wwf.ch;  Benin Ecotourism Concern

Message  Sommaire non technique du projet ProWAD\_vfi\_fr\_en.pdf

Dear Gold Standard NGO supporters and local experts,

Eco-Benin in partnership with CO2logic is pleased to invite you to the stakeholders consultation of the project « Promotion of the Wanrou efficient cookstove in the region of Atacora/Donga (ProWAD) ». This project is part of the framework program of activities GS2489 « Efficient Cook Stoves in Bénin and Togo ».  
The consultation will take place on Thursday February 7<sup>th</sup>, 2013 at 10.00 am at Tata Somba Hotel in Natitingou, Benin.

Here below the agenda of the meeting:

- Introduction
- Project Context and Presentation
- Questions and Answers on the project
- Discussion on follow-up/monitoring of sustainable development
- Discussion on continuous grievance mechanism
- Discussion on fraction of non renewable biomass
- Other questions and Conclusion

Please find in annex the non-technical summary of project.

We can of course help you with logistical issues like local transportation and lodging.

**Eco-Benin National Coordinator**  
**Gautier K. AMOUSSOU**

**Benin Ecotourism Concern (Eco-Benin)**  
Zogbadjè, Rue fin clôture UAC, Calavi  
03 BP 1667 Jéricho, Bénin  
Mob: (229) 95795224  
[ecobenin@yahoo.fr](mailto:ecobenin@yahoo.fr) / [www.ecobenin.org](http://www.ecobenin.org)  
Skype: [gautier.amoussou](https://www.skype.com/fr/contacts/gautier.amoussou)

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69

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**Annex 4: invoice for the announcement of the LSC on local radio**



République du Bénin  
Commune de Natitingou  
Radio Communautaire Nanto FM  
IFU : 6201300615806

BP : 07 Natitingou Tel : 23 82 01 63 CELL : 66 64 74 74 / 96 01 94 78 / 64 17 58 44

**Facture N° 13/17/NFM/DS/SAC/S-C**

**Client: ECO-BENIN PROWAD.**

N°	Désignation	Quantité	Prix Unitaire	Total
01	Diffusion de communiqués sur l'invitation à l'atelier des parties prenantes	05	2.000	10.000
<b>TOTAL</b>				<b>10.000</b>

Arrêtée la présente facture à la somme de : **Dix mille (10.000) Francs CFA.**

**PAYE**

Fait à Natitingou, le 08/02/2017

*pour acquies Natitingou, le  
08/02/2017*

Le comptable,









**KOUAGOU Jean Baptiste**

**RADIO COMMUNAUTAIRE NANTO FM : Compte N° 0120121110263501 Ecobank  
Radio NANTO FM , la radio du développement par tous et pour tous.**

**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**Annex 5: Presence list of the LSC held on 9<sup>th</sup> of February 2017**

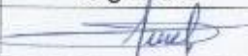




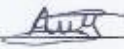
**Promotion du foyer Wanrou dans la région de l'Atacora/Donga (ProWAD)**

---

**3.5. Réunion des parties prenantes pour le lancement du processus d'élaboration du projet carbone**

**Lieu :** Hôtel Tata Somba **Date :** 09 / 02 / 2017

Liste de présence des participants

N°	Nom & Prénom (s)	Sexe	Provenance	Qualité	Contact	Signature
1.	YADOU Z- Granidou	M	Ovake'	Journa liste locale	97 54 0376	
2.	MOUDACHIROU Fati	F	Ovake' / Badjoudé	Bénéficiaire	96 275 278	
3.	ADAMOU Zénabou	F	Ovake' / Badjoudé	Comitaise		
4.	TATEMA Moudadzinou	M	ovake' / Badjoudé	Bénéficiaire	66 48 97 59	
5.	Yilagnima Adjetou	F	ovake' / Badjoudé	Comitaise		
6.	MATEMA AIME	F	ovake' / Badjoudé	Comitaise		

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Antenne Régionale Nord, Rue de l' Hôtel Tata Somba, Natitingou, Cel: 95 86 09 79 / 96 88 17 82 / 67 21 33 45 Adresse mail: ecobenin@yakoo.fr / Site web : www.ecobenin.org

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7.	BIAO Hamantaba	M	ouake/centre	Imama	96527217	<del>Projet</del>
8.	EHEKOU Hawa	F	ouake/Badgudi	Animatrice	67329106	<del>Projet</del>
9.	KOUNKPAGA Audencia	F	Tanguieta	JAR	64704294	<del>Projet</del>
10.	Adjolou Zenabou	F	Komde Adjede	Komitaice Menagere	61013759	<del>Projet</del>
11.	BEKLE Nadège	F	Adjoum Adjoum (ouake)	Komitaice		<del>Projet</del>
12.	WANTO Suliata	F	BOROBASSIFA	Komitaice Kamgere		<del>Projet</del>
13.	DOKO soumatori	F	tchabalabou	Bénéficiaire	96041571	<del>Projet</del>
14.	SAMOUSATE Salimata	F	Djougou	Bénéficiaire	66191482	<del>Projet</del>
15.	TANTOUGOUTE Pauline	F	WARIDOU GOU	B. Komitaice		<del>Projet</del>
16.	N'Chelinsima Nasekine	F	TANTANAN	Bénéficiaire		<del>Projet</del>
17.	SOGAN Monique	F	Natitingou	Assistante a ACAD	66182265	<del>Projet</del>
18.	YOKOSIPE Romain	M	Toucoumtouna	Point-Focal PROVAD	96673663	<del>Projet</del>
19.	AMASSOU Abdou Salami	M	COTONOU	DISE/ABE	66361753 94339558	<del>Projet</del>
20.	ATONDE Carin Karl	M	Cotonou	JU.E BENIN Change Clean Energy for Africa	96095940	<del>Projet</del>
21.	N'ICHA N. Andre	M	Natitingou	Représentant Caucas	96676339 90541634	<del>Projet</del>
22.	DJESSOUHO Roxelyn	M	Natitingou	Représentant directeur département de l'énergie	54580600	<del>Projet</del>
23.	AGONDANOU Imelda	F	Bahicon	Coopérative suivi évaluation ADEP	97170288	<del>Projet</del>

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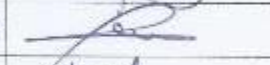
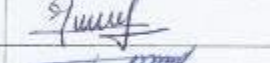






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72



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24.	N'BAH Paulin	M	Ouhé	Représentant DEP. et CLONG	97350105	
25.	LAWSON Modeste	M	Natitingou	Directeur E. JIVES BENIN ONG	96328968	
26.	ISSOTINA Zakarizao	M	Ouhé	Point focal Projet WANROU	97627038	
27.	BASSAOU OUYOU Léon	M	Natitingou	DG CARDEP AB (Représentant)	97425843	
28.	KOUINKOUAGA Magloire	M	Natitingou	DG MCVAS	97138532	
29.	NATA Justin	M	Colonou	DGEC/MCVAS	97697858	
30.	NOUMONVIAFINA Sylvie	F	Colonou	Superviseur EOD Pro WAD Benin	95387293	
31.	BIGBO GHAD. S.T. Audrey	F	Colonou	Secrétaire comp. PROJETS/ELB-BENIN	96901554	
32.	SAINT A. Samadon	M	DJOU GOU	Producteur cylindres et maulo	97775714	
33.	AGOLIGAN M. Romane	M	Natitingou	DG-CARDEP-AD	66681305 35934092	
34.	KANRI SAKI W. Séverin	M	Natitingou	collaborateur C/SADE Nati	06.24-92-22 64 72 76 65	
35.	TAMOU chéri Séra	M	Natitingou	CISPE	96063640 94592224	
36.	BIAD AININ S. Elissou	M	Djougon	Refet/Ange	97872893	
37.	SAI'DOU Gnanan do	M	MOUANDE	BEDERC-ONG	97531670	
38.	SANDOUGOUMA Paul	M	Tamègre'	Bénéficiaire	97-96-47-40	
39.	NTCHA Debara	F	Tamègre'	Membre	0539-6400	
40.	MASSIH S. Barakimou	F	Toucourouba	Informatrice	04418411	

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Antenne Régionale Nord, Rue de l' Hôtel Tata Somba, Natitingou. Tel: 95 86 09 79 / 96 88 17 82 / 67 21 33 45 Adresse mail: ecobenin@yahoo.fr / Site web: www.ecobenin.org

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**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

41.	AGBOHOU TO Alexis	M.	Natitingou	Cadreux/Consultant	97 22 23 80	Agbohou Alexis
42.	HEUETO Adrian	M	Natitingou	Consultant Formateur	26 002 897	Heueto Adrian
43.	NOPPEN Herman	MP	Burkina Faso	Consultant	+32 <del>20 20 20 20</del> 09705316	Noppen Herman
44.	LANDJOHOU Jules	M	Natitingou	Chargé de projet	81 94 30 58 landjohou@gmail.com	Landjohou Jules
45.						
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**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**Annex 6: Examples of evaluations of the LSC held on 9<sup>th</sup> of February 2017**

FORMULAIRE D'EVALUATION

Consultation locale des parties prenantes du Projet ProWAD « Promotion du foyer Wanrou dans la région de l'Atacora/Donga »  
 Jeudi, 9 Février 2017  
 Lieu: Hôtel Tata Somba à Natitingou

Nom:	MOU DACHIROU Fati
Organisation:	Bénéficiaire
Quelle est votre impression générale sur la réunion des parties prenantes du projet ProWAD ?	- je suis content de la réunion des parties prenantes du projet pour les échanges entre les acteurs -
Qu'est-ce qu'il vous plaît dans le projet ProWAD ?	- la qualité de Foyer Wanrou
Qu'est-ce que vous n'aimez pas dans le projet ProWAD ?	- le fait de limiter les communes et les villages.

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**TITLE OF THE MICRO-PROGRAMME: GS2489 Efficient cookstoves in Benin and Togo**

**FORMULAIRE D'EVALUATION**

Consultation locale des parties prenantes du Projet ProWAD « Promotion du foyer Wanrou dans la région de l'Atacora/Donga »  
 Jeudi, 9 Février 2017  
 Lieu: Hôtel Tata Somba à Natitingou

Nom:	MADENA Aimée
Organisation:	Groupeement "Dahèssa" Kadolami
Quelle est votre impression générale sur la réunion des parties prenantes du projet ProWAD ?	→ La qualité d'information et des débats.
Qu'est-ce qu'il vous plaît dans le projet ProWAD ?	<ul style="list-style-type: none"> <li>- La qualité des foyers,</li> <li>- Réduction des fumées</li> <li>- Moins de problèmes et de maladie.</li> </ul>
Qu'est-ce que vous n'aimez pas dans le projet ProWAD ?	→ Que le projet continue

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