Gold Standard
for the Global Goals

TEMPLATE

MONITORING REPORT

PUBLICATION DATE **14.10.2020**

VERSION **v. 1.1**

RELATED SUPPORT - **TEMPLATE GUIDE Monitoring Report v. 1.1**

This document contains the following Sections

KEY PROJECT INFORMATION

Programme of Activity Information – (delete below table if N/A)

GS ID of Programme	GS1340
Title of Programme	Efficient cookstoves in Burkina Faso (PoA)
Version of POA-DD applicable to this monitoring report	4
Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)	- GS1340 Efficient cookstoves in Burkina Faso – VPA-01 - tiipaalga F3PA cookstoves in Bam and Loroum (GS2456) - GS1340 Efficient cookstoves in Burkina Faso – VPA-02 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3516) - GS1340 Efficient cookstoves in Burkina Faso – VPA-03 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3517) - GS1340 Efficient cookstoves in Burkina Faso – VPA-04 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3518) - GS1340 Efficient cookstoves in Burkina Faso – VPA-05 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3519) - GS1340 Efficient cookstoves in Burkina Faso – VPA-06 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3520) - GS1340 Efficient cookstoves in Burkina Faso – VPA-07 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3521) - GS1340 Efficient cookstoves in Burkina Faso – VPA-08 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3522) - GS1340 Efficient cookstoves in Burkina Faso – VPA-09 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3523) - GS1340 Efficient cookstoves in Burkina Faso – VPA-10 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3524) - GS1340 Efficient cookstoves in Burkina Faso – VPA-11– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6152)

	- GS1340 Efficient cookstoves in Burkina Faso – VPA-12– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6419) - GS1340 Efficient cookstoves in Burkina Faso – VPA-13– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6420) - GS1340 Efficient cookstoves in Burkina Faso - VPA-14 – Improved cookstove F3PA project in Nahouri (GS10778) - GS1340 Efficient cookstoves in Burkina Faso - VPA-15 – Improved cookstove F3PA project in Nahouri (GS10779) - GS1340 Efficient cookstoves in Burkina Faso - VPA-16 – Improved cookstove F3PA project in Nahouri (GS10780) - GS1340 Efficient cookstoves in Burkina Faso - VPA-17 – Improved cookstove F3PA project in Nahouri (GS10781)

Key Project Information

GS ID (s) of Project (s)	GS6152 (VPA-11) GS6419 (VPA-12) GS6420 (VPA-13)
Title of the project (s) covered by monitoring report	GS1340 Efficient cookstoves in Burkina Faso – VPA-11– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6152) GS1340 Efficient cookstoves in Burkina Faso – VPA-12– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6419) GS1340 Efficient cookstoves in Burkina Faso – VPA-13– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6420)
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	GS6152 (VPA-11) : v.4 GS6419 (VPA-12) : v.4 GS6420 (VPA-13) : v.5
Version number of the monitoring report	2.0
Completion date of the monitoring report	15/07/2022

Date of project design certification	GS6152 (VPA-11): 27/09/2019 GS6419 (VPA-12): 27/09/2019 GS6420 (VPA-13): 27/09/2019
Date of Last Annual Report	N.A.
Monitoring period number	GS6152 (VPA-11): Monitoring period #3 GS6419 (VPA-12): Monitoring period #2 GS6420 (VPA-13): Monitoring period #1
Duration of this monitoring period	GS6152 (VPA-11): 01/01/2020 to 31/12/2020 GS6419 (VPA-12): 01/01/2020 to 31/12/2020 GS6420 (VPA-13): 12/01/2020 to 31/12/2020
Project Representative	Association tiipaalga CO2logic
Host Country	Burkina Faso
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	The Gold Standard Simplified Methodology for Efficient Cookstoves - Version 1
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
SDG 13	Emission reductions	VPA 11: 9,486 VPA 12: 9,752 VPA 13: 6,946 Total : 26,184	VERs
SDG 3	Proportion of households perceiving: - less often smoke levels	100% 100%	Percentage

	- incidence of coughing - incidence of respiratory illness incidence of itchy eyes	100% 100%	
SDG 4	Number of training initiatives for staff involved in the programme	1	Number
SDG 4	Number of workshops carried out for women for the group of VPA's	75	Number
SDG 5	Proportion of stove users perceiving reduced amount of time spent on fuel collection Proportion of stove users perceiving reduced amount of money spent on wood fuel purchase	100% 100%	Percentage
SDG 7	Number of F3PA efficient cookstoves disseminated for the group of VPA's	VPA-11: 10,387 VPA-12: 10,165 VPA-13: 8,629 Total: 29,181	Number

Table 2 – Product Vintages

			Amount Achieved
No. VPA	**Start Dates**	**End Dates**	**VERs**
VPA 11	01/01/2020	31/12/2020	9,486
VPA 12	01/01/2020	31/12/2020	9,752
VPA 13	12/01/2020	31/12/2020	6,946

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

The group of micro-scale VPA 11, VPA 12 and VPA 13 projects promotes the distribution and utilization of the mud made 3 stones efficient woodstove "F3PA" in the province of Kourwéogo in the region Plateau Central in the center of Burkina Faso. Those three microscale VPA's were implemented together in the province of Kourwéogo between 2018 and 2020. The efficient F3PA cookstoves replaces the traditional stove whilst respecting the local three stone cooking culture. This is possible as the efficient F3PA cookstove, seen in the figure below, will integrate the three stones from each household inside its design. These three stones represent the pillar of the household's marital union.

The improved technology F3PA is significantly more efficient than the traditional open fire three stone cooking method. The project will thus help reduce wood consumption by more than half in each household and therefore preserve the local forests and their biodiversity. This will also help combat the ever-increasing threat of desertification in the area. The F3PA has further benefits like the reduction of harmful smoke in the local rural village households and the reduction of time spent in collecting wood. The project does not consist a fuel switch as locally available wood is still being used.

Figure 1 Locally produced F3PA cookstove

Tiipaalga, a local association in Burkina Faso, has been working on reforestation and agriculture since 2003. On the demand of the women and the urgent need to better protect woody resources, tiipaalga introduced a project of efficient cookstoves in Burkina Faso. Association tiipaalga adapted and improved an already existing efficient mud made cookstove model and attached importance to the monitoring system. This innovative distribution system is based on a tight collaboration with the women to ensure the training and monitoring in the villages.

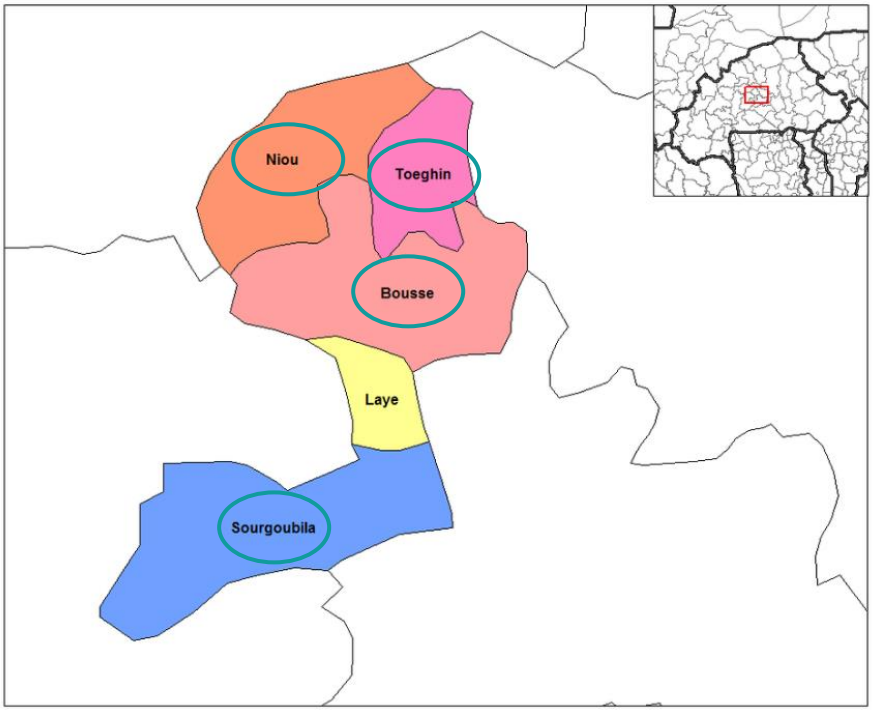
The project's approach involves training of women in the rural zones to build, use and maintain these efficient cookstoves themselves using local material. The training includes as well as education on hygienic usage and on the threat of climate change and health hazards related to the old cooking system and inform on the health and environmental benefits of using such efficient cookstoves.

The monitoring report applies to the F3PA efficient cookstove which is the primary technology disseminated and installed for households in the province Kourwéogo in the Plateau central region of Burkina Faso within VPA-11, VPA-12 and VPA-13.

During this monitoring period from 01/01/2020 to 31/12/2020, it is calculated that the group of three VPAs have generated 26,184 tonnes of CO2eq emissions reductions.

A.2. Location of project

Burkina Faso, province Kourwéogo. The project boundary of the current mirco-scale VPA are 4 out of the 5 municipalities located in the province in Kourwéogo in the Plateau Central region, which are Boussé, Niou, Toéghin and Sourgoubila.



Location of the province of Kourwéogo with its 5 municipalities

GS/VPA number	Province	Municipality	Latitude	Longitude
GS6152 (VPA-11)	Kourwéogo	Boussé	12° 39′ 38″ N	1° 53′ 32″ E
GS6419 (VPA-12)	Kourwéogo	Niou	12° 46′ 08″ N	1° 56′ 11″ E
GS6420 (VPA-13)	Kourwéogo	Toéghin	12° 48′ 58″ N	1° 43′ 35″ E

	Kourwéogo	Sourgoubila	12° 25’ 03” N	1° 48’ 25” E

A.3. Reference of applied methodology

“The Gold Standard Simplified Methodology for Efficient Cookstoves”, version 1

A.4. Crediting period of project

GS6152 – VPA 11: 13/01/2018 – 12/01/2025 (7 years)

GS6419 – VPA-12: 21/01/2019 – 20/01/2026 (7 years)

GS6420 – VPA-13: 12/01/2020 – 11/01/2027 (7 years)

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

The implemented project is a group of three VPA’s, ie VPA-11 (GS6152), VPA-12 (GS6419) and VPA-13 (GS6420), which were implemented within three years between 2018 and 2020 (as according the PDD). The project activities have served the following number of households with F3PA efficient cookstoves with a corresponding calculated GHG offsets generated during the third monitoring period for VPA-11, second monitoring period for VPA-12 and first monitoring period for VPA-13 :

GS/VPA number	Number of households	Dissemination calendar	Generated VER’s
GS6152 (VPA-11)	3,436	13/01/2018 – 23/07/2018	9,486
GS6419 (VPA-12)	3,330	21/01/2019 – 27/06/2019	9,752
GS6420 (VPA-13)	3,174	12/01/2020 – 08/11/2020	6,946

B.1.1 Forward Action Requests

Forward Action Request # 1: PD shall submit the proof of start date for VPA-12 and VPA-13 at the stage of first performance certification.

➔ Evidence of the project start date, hence installation of the first F3PA of the VPA can be found in the contracts (or carbon waivers) signed between the first beneficiaries and project developers.
VPA 12: see document “*Contact VPA-12 2657-01*”. The construction date in the contract is 14/01/2019, whereas the installation date (registered in project database) is 21/01/2019, which is 7 days after the construction date. The installation date is to be considered as the first date of usage of the F3PA efficient cookstove and thus start date of crediting period.

VPA 13: see document *"Niou Goabga Poédogo VPA13 1812 01"*. The construction date in the contract is 05/01/2020, whereas the installation date (registered in project database) is 12/01/2020, which is 7 days after the construction date. The installation date is to be considered as the first date of usage of the F3PA efficient cookstove and thus start date of crediting period.

B.2. Post-Design Certification changes

Not applicable.

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

Not applicable.

B.2.2. Corrections

Not applicable.

B.2.3. Changes to start date of crediting period

The start date of crediting period of VPA-13 differs from the start date in the registered PDD (v.4) of VPA-13 (01/02/2019). This start date was revised in the new version of the PDD (v.5) to 12/01/2020 due to a delay in starting up the installations of the cookstoves. Evidence of the project start date, hence installation of the first F3PA of the VPA 13 can be found in document : *"Niou Goabga Poédogo VPA13 1812 01"*.

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

No permanent changes have been made for this monitoring period.

B.2.5. Changes to project design of approved project

No changes to the project design have been made during this monitoring period.

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

Process of unique identification of stove users:

Significant part of the households in the project area are polygamous. Most of the wives within a household included in the carbon project have a cookstove set of at least two F3PA efficient cookstoves of different sizes. The project cookstoves are single pot stoves. As every cooking pot size has its specific size of cookstove, different sizes of project cookstoves have been implemented according to the cooking habits of the stove users. The sizes of the cooking pots and so the cookstoves used in the VPA's are 2, 3, 4, 5, 6, 7, 8, 10, 12 and 15 due to its frequency of utilization. The women using different cookstove sets in a polygamous household are credited as one single household.

The individual identification of the micro scale – VPA's 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 the micro scale – VPA 11, VPA 12 or VPA 13. The syntax of the unique serial number is defined as GS1340-VPA-xx-yyyy/z, where (i) GS1340 is the Gold Standard number of the PoA "Efficient cookstoves in Burkina Faso" to which the VPA belongs, (ii) VPA-xx is the number of the VPA of the PoA, (iii) yyyy is the number of the household from 1 to 9999 and (iv) z is the number of the wife in the household from 1 to 9.

The following information is 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. F3PA – size 2);
iii. GPS Coordinates of the household;
iv. Name/Address/national ID Number/Mobile Number/Picture of wife with her project cookstoves;
v. Stove installation date;

All data are stored in an electronic database using AKVO Flow software (www.akvo.org). The following files are raw data files of data stored in the cloud:

- *'DR_Tiipaalga_VPA-11_HH_20210406'* & *'DR_Tiipaalga_VPA-12_HH_20210406* & *'DR_Tiipaalga_VPA-13_HH_20210406':* distribution records (DR) of households with the following data:
    - Identifier (Unique internal ID number);
    - GS number: GS PoA-nr / VPA-nr / Household nr;
    - Location info;
    - Data on head of household.
- *'DR_Tiipaalga_VPA-11_ICS_20210406'* & *'DR_Tiipaalga_VPA-12_ICS_20210406'* & *'DR_Tiipaalga_VPA-13_ICS_20210406':* data on wives and type of stoves used per wife within the household with the following data:
    - Identifier (Unique internal ID number) which is the unique key to household info (*'DR_Tiipaalga_VPA-11_HH_20210406'* &

'DR_Tiipaalga_VPA-12_HH_20210406' & *'DR_Tiipaalga_VPA-13_HH_20210406*)';

- Identification data per wife: name, picture of wife with its stoves;
- Data on stoves used per wife: size of stoves, installation dates of each stove, location of stoves, …

The start of the crediting period of each household is considered as the latest installation date of all stoves within the cooking sets of the different wives within the household (see file *'Tiipaalga_DR_VPA-11_ICS_MP3_20210406_Recent date per HH'* & *'Tiipaalga_DR_VPA-12_ICS_MP2_20210406_Recent date per HH'* & *'Tiipaalga_DR_VPA-13_ICS_MP1_20210406_Recent date per HH').).* For each household the number of days in age group 0-1, age-group 1-2 and age-group 2-3 are calculated.

Data concerning double counting:

The project developer tiipaalga monitors any risks of double counting in this project, specifically determining whether any of the efficient cookstoves part of this project are counted in any other emission reduction project. There are other registered GHG reduction projects in Burkina Faso promoting the F3PA efficient cookstoves. Among those, one project is implemented in the north of Burkina Faso, in the provinces of Bam and Loroum, ie VPA-01 to 10 GS2456 and GS3516 to GS3524 under the same PoA GS1340. Another project under this PoA is located in the province Nahouri in the Center South region (VPA-14 to 17, GS10778 to GS10781). Those two projects are also monitored by tiipaalga, that makes sure there is no double counting. Association tiipaalga is also aware of another cookstove project[1] in Burkina Faso registered under the Gold Standard. However, this project promotes a different kind of stoves rather for non-household cooking purposes.

Association tiipaalga continues to monitor whether any other projects with same technology exist. In such cases, tiipaalga will make every effort to compare total distribution databases with the other project developer(s) to ensure that there is no overlap. In addition, the project continues to use all legal documentation outlined in the VPA-DD to ensure legal ownership over offsets, a step that further avoids double counting.

Data processing and archiving:

Distribution records are captured with Smartphones using the AKVO Flow software with necessary pictures and GPS coordinates. Monitoring data are extracted to Microsoft Excel for analyses. Records will be kept for two years after the project activity is completed.

Quality assurance and quality control measures

[1] The project (https://registry.goldstandard.org/projects/details/665) is an initiative of SNV, the Netherland Development Organization, to promote improved "dolo" stoves in the Boucle du Mouhoun Region of Burkina Faso. These stoves are used for brewing of "Dolo", a traditional local drink made from sorghum which is is consumed during any ceremony, rituals, festivities and non-special occasions.

Quality control rules were developed for the F3PA efficient cookstoves and were explained during the stove construction trainings. Quality control rules included in the construction protocol of the F3PA efficient cookstove are among others:

- It should be possible to move a hand between the wall of the cookstove and the cookpot;
- The height of the wood entrance of the cookstove is at most half the total height of the cookstove;
- The distance between the cooking pot and floor of cookstove should either not be higher than a hand or the handles of the cooking pot should be higher than the wall of the cookstove.

During monitoring surveys, the F3PA efficient cookstoves are evaluated with the following statuses:

- *Green*: the construction norms have been respected and the F3PA efficient cookstove doesn't need any maintenance action. It means that (i) the outer surface of the F3PA efficient cookstove are not washed by rain, (ii) there is no hole in the floor of the efficient stove;
- *Orange*: the construction norms have been respected, but the efficient cookstove has not well been maintained. It concerns F3PA efficient cookstoves (i) from which the outer surface has been washed by rain and that need re-polishing; (ii) that have been constructed more than two years ago and that need re-polishing of internal and outer surface; (iii) that have some cracks, but which are external and do not affect the quality of the combustion of the wood. For these cases the application of the reparation protocol will fix the cracks and repolish the surface, so that the status will turn again into green.
- *Red*: the construction norms are not respected, or the F3PA efficient cookstoves have not been well maintained or used in a proper way. If the F3PA efficient cookstove has not been well constructed, the cookstove will not be registered in the initial database. An example of poor usage is sitting before the entrance of the stove. The combustion will not happen in an appropriate way and the risk that the cookstove will crack at the level of the entrance is high. A red cookstove needs to be reconstructed.

Orange cookstoves will be monitored, so that the maintenance activities of these stoves bring them again in green status. If these maintenance activities do not take place, they probably will in the short term, get into the red status. Orange F3PA efficient cookstoves are considered to have the same efficiency as the green F3PA efficient cookstoves of the same age group. The red F3PA efficient cookstoves will be monitored, as long as the cookstove has not been reconstructed. After reconstruction, the status of the F3PA efficient cookstove will turn to green. Red F3PA efficient cookstoves do not have the targeted efficiency of the F3PA efficient cookstove anymore, and so are not considered in the emission reduction calculations as long as they are not reconstructed.

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. Association tiipaalga will act as the managing entity of the project and be responsible for communication with the Gold Standard Foundation and the Objective Observer. CO2logic provides technical support in the initial data collection, data quality assurance, monitoring, drafting of the verification report. A diagram of responsibilities is shown here below.

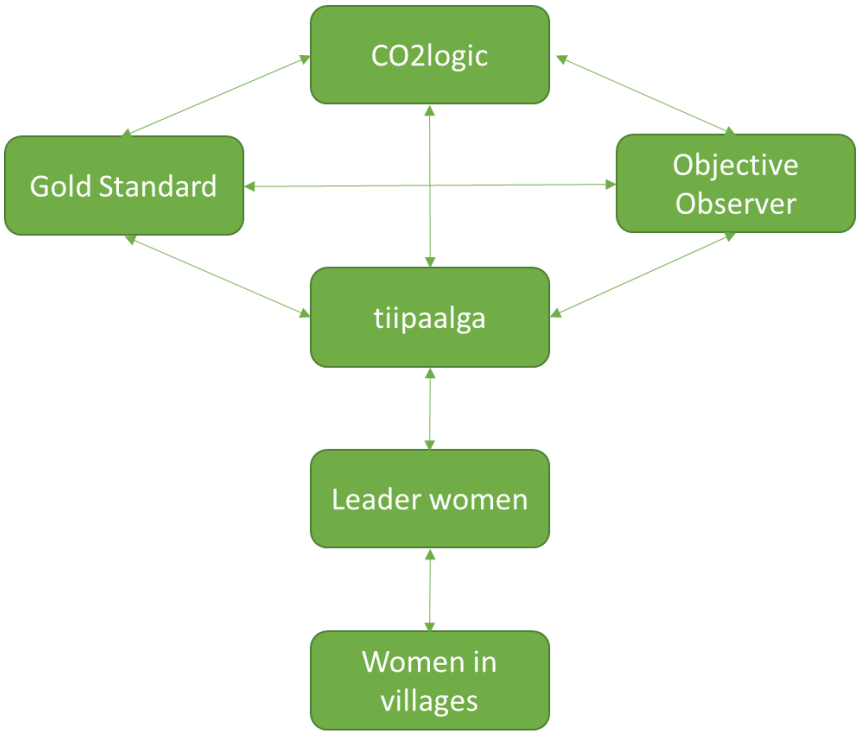


Figure 2 Diagram of responsibilities

Employees from Association tiipaalga train leader women, who are selected by the women in the villages, for the construction, the use and maintenance of mud made 3 stones efficient woodstoves. These leader women conduct the same training sessions with the women in their villages and help them to build the cookstoves. tiipaalga employees in collaboration with the leader women, will perform quality checks and collect the initial stove data.

End user information is collected by tiipaalga agents with mobile smartphone, and is consolidated into an electronic database in the cloud from which project monitoring can be conducted. The central electronic database is accessible by tiipaalga and CO2logic. Data can be made available through data extraction. CO2logic performs quality checks. Monitoring tasks such as monitoring surveys are managed by tiipaalga and realized by the tiipaalga surveyors. They are the most capable of collecting these data because of extensive knowledge of the technology and end-users. The tiipaalga surveyors are trained and retrained prior conducting surveys during a 5-days training session conducted from 30/3/2021 till 03/04/2021[2]. CO2logic assists tiipaalga in cross-checking

[2] Report of the training session, see document: 'Compte rendu de formation des enqueteurs verification An3_with comments'.

the integrity of data with other variables to ensure consistency and accuracy, and to avoid mistakes.

SECTION D. DATA AND PARAMETERS

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter:	**$EF_{b,fuel,CO2}$**
Unit	tCO2/ton of firewood
Description	CO2 emission factor arising from use of firewood in baseline scenario
Source of data	IPCC default value, table 1.4 of chapter 1 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value(s) applied)	1.747 tCO2/ton of firewood
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves
Purpose of data	Calculation of emission reductions
Additional comments	N/A

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter:	**$EF_{b,fuel,non\_CO2}$**
Unit	tCO2/ton of firewood
Description	Non-CO2 emission factor arising from use of firewood in baseline scenario
Source of data	IPCC default value, table 2.9 of chapter 2 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value(s) applied)	0.530 tCO2/ton of firewood
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves
Purpose of data	Calculation of emission reductions
Additional comments	N/A

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter:	**η_b**
Unit	Fraction

Description	Efficiency of the cookstove being used in the baseline scenario
Source of data	Gold Standard Simplified Methodology for Efficient Cookstoves
Value(s) applied)	0.10
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves
Purpose of data	Calculation of emission reductions
Additional comments	N/A

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter:	η_p
Unit	Fraction
Description	Efficiency of the cookstove being used in the project scenario
Source of data	Determined following the Water Boiling Test Protocol
Value(s) applied)	0.234[3]
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves
Purpose of data	Calculation of emission reductions
Additional comments	For each wife of one household included in the VPA, at least two efficient cookstoves of the defined project sizes 2, 3, 4, 5, 6, 7, 8, 10, 12 and 15 will be installed according the local cooking habits. Each size of project cookstove is tested according to the WBT protocol. To determine the project cookstove efficiency of one particular size, three sample runs have 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 lowest value of project cookstove efficiency of the various sizes is taken as reference value for the efficiency

[3] Rapport sur les tests de performances énergétiques des Foyers trois pierres améliorés (F3PA) de l'association Tiipaalga, Laboratoire Biomasse Energie et Biocarburant de 2IE, Ouagadougou, July 2015 (see document « tiipaalga_Rapport de tests de performance énergétiques_F3PA_24_07_2015_VF.pdf » or in English : « tiipaalga_Report WBT thermal efficiency_F3PA_24_07_2015_VF_EN »)

	of the cookstoves being used in the project scenario to calculate the emission reductions. The project cookstove efficiency in the year y $\eta_{p,y}$ will be determined using the discount factor DF_{η} to account for efficiency loss of project cookstove per year of operation (fraction).

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter:	**$f_{NRB,b,y}$**
Unit	Fractional non-renewability
Description	Non-renewability status of wood fuel during year y
Source of data	Default NRB value provided by the CDM executive board and endorsed by the host country DNA (http://cdm.unfccc.int/DNA/fNRB/docs/burkina.pdf)
Value(s) applied)	0.90
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves
Purpose of data	Calculation of emission reductions
Additional comments	The project activity may choose to update the $f_{NRB,b,y}$ during the crediting period

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter:	**$B_{b,y}$**
Unit	Tonnes firewood per household per year
Description	Firewood consumption for cooking in the baseline
Source of data	Average household size within the project boundary is determined using data from the latest population census in 2006 in the National institute for Statistics and Demography[4]. 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.
Value(s) applied)	Ex ante: • 3.32 for the whole project boundary Ex post:

[4] INSD, recensement général de la population et de l'habitation de 2006, juillet 2008, Ministère de l'Economie et des Finances, p49 (tableau 15), 52 pages : (Document « *Resultats_definitifs_RGPH_2006_with EN translation* »)

	• 3.24 for the municipality of Boussé • 3.27 for the municipality of Niou • 3.45 for the municipality of Sourgoubila • 3.33 for the municipality of Toeghin
Choice of data or measurement methods and procedures	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 "Recensement général de la population et l'habitation (RGPH) de 2006 du Burkina Faso" or the general census of the population and habitat of Burkina Faso, table 15. Other sources show that the population in Burkina Faso is growing each year . This means that the used value can be considered as conservative to calculate the CO2 reduction emissions.
Purpose of data	Calculation of emission reductions
Additional comments	The average household size across the four municipalities of the project boundary is 6.65, whereas for the municipalities Boussé 6.49, Niou 6.53, Sourgoubila 6.91 and Toeghin 6.67: **Municipality** | **# HH** | **#persons** | **#pers/HH** | **$B_{b,y}$** Boussé | 6,682 | 43,352 | 6.49 | 3.25 Niou | 4,133 | 26,998 | 6.53 | 3.27 Sourgoubila | 5,654 | 39,044 | 6.91 | 3.46 Toeghin | 2,475 | 16,500 | 6.67 | 3.34 Total | 18,944 | 125,894 | 6.65 | 3.32 Based on the minimum service level of 0.5 tonnes per capita per year the average annual consumption of firewood per household is estimated at 3.32 tonnes/year for the total project boundary and more specifically for the municipality of Boussé 3.25 tonnes/year, for Niou 3.27 tonnes/year, for Sourgoubila 3.46 tonnes/year and for Toeghin 3.34 tonnes/year.

D.2 Data and parameters monitored

Relevant SDG Indicator	**SDG 3, Good health and well-being**
Data/ Parameter	**Smoke level reduction** **Incidence of coughing reduction** **Incidence of respiratory illness reduction** **Incidence of itchy eyes reduction**
Unit	Fraction
Description	Proportion of households perceiving less often smoke levels, incidence of coughing, incidence of respiratory illness, incidence of itchy eyes since the implementation of F3PA efficient cookstoves

Source of data	Monitoring surveys. See document *'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*
Value(s) applied	Smoke level reduction: 100% Incidence of coughing reduction: 100% Incidence of respiratory illness reduction: 100% Incidence of itchy eyes reduction: 100%
Measurement methods and procedure	The measurement of the parameter is based on qualitative information collected during Monitoring surveys. The end users are asked whether, since they have the F3PA efficient cookstoves, smoke level occurs for each more often, less often among the family members or the situation has not changed. The same is asked for coughing, respiratory illnesses and itchy eyes.
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the monitoring report and raw data of the Monitoring surveys is made available for review.
Purpose of data	Calculation of the parameter "Proportion of households perceiving less often smoke levels, incidence of coughing, incidence of respiratory illness, incidence of itchy eyes"
Additional comment	See Document *'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*

Relevant SDG Indicator	**SDG 4, Quality Education**
Data/ Parameter	**Number of trainings initiatives for staff involved in the programme**
Unit	Number
Description	Number of trainings initiatives for staff involved in the programme in order to increase their performance in the programme
Source of data	Reports regarding the training initiatives See document *'Compte rendu de formation des enqueteurs verification An3_with comments'*.
Value(s) applied	1
Measurement methods and procedure	The list of training initiatives during the corresponding monitoring period
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the reports regarding the training initiatives, which is made available for review
Purpose of data	Calculation of the parameter "Number of trainings initiatives for staff involved in the programme"
Additional comment	Starting from the Tuesday 30th of March, six surveyors received a 5-day training under the supervision of two members of Association tiipaalga. The purpose of the training was to teach the fundamentals of the usage survey with a theoretical and practical phase and to familiarize with the used tools (Akvo software). The surveyors were

	ultimately able to collect quality data from the households on the field for the purpose of the monitoring survey. More details regarding the training and the participants list can be found in document: *'Compte rendu de formation des enqueteurs verification An3_with comments'*.

Relevant SDG Indicator	**SDG 4, Quality Education**
Data/ Parameter	**Number of workshops carried out for women**
Unit	Number
Description	Number of workshops carried out for women in order to increase their empowerment
Source of data	Reports regarding the workshops carried out for women. See document *'Bilan AGV-AS-formations VPA 111213_2021 - with comments'.*
Value(s) applied	75
Measurement methods and procedure	The list of workshops carried out for women during the corresponding monitoring period
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the reports regarding the workshops carried out for women, which is made available for review
Purpose of data	Calculation of the parameter "Number of workshops carried out for women"
Additional comment	Two types of workshops were organized: i) sensitization workshops; and ii) (re-)training workshops of leader women for the construction of F3PA efficient cookstoves. During the sensibilization sessions stove users are informed about the advantages of the project cookstoves for the climate and desertification of the project area, tiipaalga's activities, on how the banco or mud should be prepared for the construction of the cookstoves etc. During training or retraining sessions leader women are trained on how the F3PA efficient cookstoves should be constructed. In total, 2,171 participants were present during the workshops. A complete summary of the different sessions can be found in document : *'Bilan AGV-AS-formations VPA 111213_2021 - with comments'*. The following table gives an overview of the number of sessions and number of participants:

Municipality	**Sensitization sessions**		**Training workshops of leader women**		**Total**	
	# sessions	**# participants**	**# sessions**	**# participants**	**# sessions**	**# Participants**
Toèghin	11	361	2	47	13	408
Niou	15	428	10	169	25	597
Boussé	12	499	1	42	13	541

Sougoubila	10	381	14	244	24	625
Total	**48**	**1,669**	**27**	**502**	**75**	**2,171**

Evidences of the sensitisation sessions can be found in following documents:

- *'CR animation sensibilisation sur utilisation F3PA Boussé Kinana.pdf'*
- *'CR entretien des F3PA Boussé Goulmidou.pdf'*
- *'CR entretien des F3PA Boussé Kindpalga.pdf'*
- *'CR entretien des F3PA Boussé Sao.pdf'*
- *'CR entretien des F3PA Toéghin Bendogo.pdf'*
- *'CR entretien des F3PA Toéghin Sandogo.pdf'*
- *'CR maintien des F3PA à état vert Sourgoubila Salsé.pdf'*
- *'CR maintien des F3PA à état vert Sourgoubila Songnaba.pdf'*
- *'CR maintien des F3PA Toéghin Douré.pdf'*
- *'CR maintien des F3PA Toéghin Goalla.pdf'*
- *'CR maintien des F3PA Toéghin Im Kouka.pdf'*
- *'CR prise de contact avec les utilisatrices F3PA Boussé Kinana.pdf'*
- *'CR prise de contact et sensibilisation sur les F3PA Boussé Sao.pdf'*
- *'CR Réparation des F3PA Boussé Goalla.pdf'*
- *'CR réparation des F3PA Toéghin Doanghin.pdf'*
- *'CR réparation des F3PA Toéghin Moetenga.pdf'*
- *'CR reprise des activités de construction des F3PA Sourgoubila sect1.pdf'*
- *'CR Sensibilisation sur F3PA Toéghin Toussoutenga Toussoutenga.pdf'*
- *'CR Sensibilisation sur les F3PA Boussé Kourian.pdf'*
- *'CR Sensibilisation sur les F3PA Boussé Secteur 2.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Garga.pdf'*
- *'CR Sensibilisation sur les F3PA Niou koukin.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Mouni.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Nabzigma.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Natenga.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Niapa.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Raongo.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Sakouli.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Sondogotenga.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Sourou.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Tanghin.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Tangsèghin.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Wa.pdf'*
- *'CR Sensibilisation sur les F3PA Niou Yarcé.pdf'*
- *'CR Sensibilisation sur les F3PA Toéghin Sotenga Sotenga.pdf'*
- *'CR Sensibilisation sur les F3PA Toéghin Youbga.pdf'*
- *'CR sensibilisation sur utilisation des F3PA Niou Gasgo.pdf'*
- *'CR sensibilisation sur utilisation des F3PA Toéghin Gogse.pdf'*
- *'CR spécifique comme nouveau village Sourgoubila Sanon.pdf'*
- *'CR utilisation et entretien des F3PA Boussé Gasma.pdf'*

	• *'CR utilisation et entretien des F3PA Boussé Goundrin.pdf'* • *'CR utilisation et entretien des F3PA Sourgoubila Bouanga.pdf'* • *'CR utilisation et entretien des F3PA Sourgoubila Diguila.pdf'* • *'CR utilisation et entretien des F3PA Sourgoubila Koala.pdf'* • *'CR utilisation et entretien des F3PA Sourgoubila Lao.pdf'* • *'CR utilisation et entretien des F3PA Sourgoubila Sandogo.pdf'* • *'CR utilisation et entretien des F3PA Sourgoubila Zoundri.pdf'* • *'CR utilisation et entretien des F3PA Toéghin Nahartenga.pdf'* Evidences of the (re-)training sessions can be found in following documents: • *'CR construction Sourgoubila Guella Souka.pdf'* • *'CR Formation ME construction Sourgoubila Sanon.pdf'* • *'CR Formation ME melange banco Sourgoubila Sanon.pdf'* • *'CR melange de banco Sourgoubila Diguila.pdf'* • *'CR Melange de banco Sourgoubila Guella Souka.pdf'* • *'CR melange de banco Sourgoubila Sandogo Bagayiri.pdf'* • *'CR Melange de banco Sourgoubila sect1.pdf'* • *'CR pour recyclage Construction Niou Soudogotenga.pdf'* • *'CR pour recyclage Construction Sourgoubila Lao Sanogo.pdf'* • *'CR pour recyclage Construction Sourgoubila Nakamtenga.pdf'* • *'CR pour recyclage Construction Sourgoubila Sandogo Bagayiri.pdf'* • *'CR pour recyclage Construction Sourgoubila Sourgoubila sect1.pdf'* • *'CR pour recyclage des ME de Niou Tangèghin.pdf'* • *'CR pour recyclage ME de Boussé Kinana.pdf'* • *'CR pour recyclage ME de Niou Gargo.pdf'* • *'CR pour recyclage ME de Niou Koukin.pdf'* • *'CR pour recyclage ME de Niou Mouni.pdf'* • *'CR pour recyclage ME de Niou Niapa.pdf'* • *'CR pour recyclage ME de Niou Raongo.pdf'* • *'CR pour recyclage ME de Niou Sakouli.pdf'* • *'CR pour recyclage ME de Niou Wa.pdf'* • *'CR pour recyclage ME de Toéghin Listenga.pdf'* • *'CR pour recyclage ME de Toéghin Nahartenga.pdf'* • *'CR pour recyclage Mélange banco Sourgoubila Lao Sanogo.pdf'* • *'CR pour recyclage Melange banco Sourgoubila Nakamtenga.pdf'* • *'CR pour recyclage Mélange Niou Sourou.pdf'* • *'CR Technique de construction Sourgoubila Diguila.pdf'*

Relevant SDG Indicator	**SDG 5, Gender equality**
Data/ Parameter	**Proportion of stove users perceiving reduced amount of time spent on wood fuel collection and/or reduced amount of money spent on wood fuel purchase**
Unit	Fraction
Description	Proportion of stove users perceiving reduced time spent on wood fuel collection and/or reduced money spent on wood

	fuel purchase since the implementation of the F3PA efficient cookstoves
Source of data	Monitoring surveys. See document: *'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*
Value(s) applied	Reduced amount of time spent on wood fuel collection: 100% i. Domestic tasks$_p$: 96% ii. Income generating activities$_p$: 45% iii. Field labour$_p$: 28% iv. Gardening$_p$: <1% v. Participation to a literacy program$_p$:0% vi. Community work$_p$: 1% vii. Doing nothing$_p$: 3% viii. Religious activities$_p$: 1% ix. Leisure$_p$: <1% Reduced amount of money spent on wood fuel purchase: 100% i. School fees$_p$: 61% ii. Purchase of medical drugs$_p$: 52% iii. Purchase of food$_p$: 87% iv. Income generating activities$_p$: 17%
Measurement methods and procedure	The measurement of the parameter is based on qualitative information collected during Monitoring surveys. The end users are asked whether, since they have the F3PA efficient cookstoves, they spent more, less time to collect the wood or the situation has not changed. In case of purchase wood fuel, the end users are asked they spent more, less money on the purchase of wood fuel or the situation has not changed.
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the monitoring report and raw data of the Monitoring surveys is made available for review.
Purpose of data	Calculation of the parameter "Proportion of stove users perceiving reduced amount of time spent on wood fuel collection and/or reduced amount of money spent on wood fuel purchase"
Additional comment	N.A.

Relevant SDG Indicator	**SDG 7, Affordable and clean energy**
Data/ Parameter	**Number of F3PA efficient cookstoves disseminated**
Unit	Number
Description	Number of F3PA efficient cookstoves included in the project database for project scenario p
Source of data	Project database. See documents *'DR_Tiipaalga_VPA-11_ICS_20210406'* & *'DR_Tiipaalga_VPA-12_ICS_20210406'* & *'DR_Tiipaalga_VPA-13_ICS_20210406'*

Value(s) applied	VPA 11: 10,387 VPA 12: 10,165 VPA 13: 8,629 Total: 29,181
Measurement methods and procedure	The project database provides a list of end-users with number of F3PA efficient cookstoves per end-user.
Monitoring frequency	Continuous
QA/QC procedures	The data is analyzed in the monitoring report and Project database is made available for review.
Purpose of data	Calculation of the parameter "Number of F3PA efficient cookstoves disseminated"
Additional comment	N.A.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$U_{p,1}$**
Unit	Percentage
Description	Usage rate in project scenario p during year 1
Source of data	Annual usage/monitoring survey. See document '*GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*/Tab '*Analysis*'.
Value(s) applied	90.00%
Measurement methods and procedure	The measurement of the usage rate is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the usage rate of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	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'. The record keeping system of this VPA 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). 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'.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$U_{p,2}$**
Unit	Percentage
Description	Usage rate in project scenario p during year 2
Source of data	Annual usage/monitoring survey. See document '*GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*/Tab '*Analysis*'.
Value(s) applied	79.33%
Measurement methods and procedure	The measurement of the usage rate is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the usage rate of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	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'. The record keeping system of this VPA 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). 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'.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$U_{p,3}$**
Unit	Percentage
Description	Usage rate in project scenario p during year 3

Source of data	Annual usage/monitoring survey. See document '*GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*/Tab '*Analysis*'.
Value(s) applied	76.67%
Measurement methods and procedure	The measurement of the usage rate is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the usage rate of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	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'. The record keeping system of this VPA 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). 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'.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$N_{p,1}$**
Unit	Number of households included in the project (Units), based on days of usage of age group 0-1 during the monitoring period related to one year.
Description	Household in the project database for project scenario p through year i 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	Project database. See documents: '*Tiipaalga_DR_VPA-11_ICS_MP3_20210406_Recent date per HH'* '*Tiipaalga_DR_VPA-12_ICS_MP2_20210406_Recent date per HH'*

	'Tiipaalga_DR_VPA-13_ICS_MP1_20210406_Recent date per HH' .
Value(s) applied	VPA 11: 0 VPA 12: 844 VPA 13: 2,156 Total: 3,000
Measurement methods and procedure	For the determination of the number of usage days at household level for age group 0-1 during the corresponding monitoring period, the latest start day of use of all constructed F3PA efficient cookstoves within the household will be taken in order to have conservative approach. Number of households included in the project (Units) are calculated based on days of usage of age group 0-1 during the corresponding monitoring period related to one year.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A part of the households in the project area of the VPA are polygamous. Each wife of the household included in the carbon project must have at least two F3PA efficient cookstoves. This is a local cooking requirement as one is for the Mush "Tô", the other for the sauce "Sauce". Additional cookstoves could be used for boiling water or preparing the soup. All the traditional three stone cookstoves for domestic use will be replaced by the F3PA efficient cookstoves. This means that according to the needs of the household, an un-predetermined number of project cookstoves will be constructed and used at household level. 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. Women will be trained by the Tiipaalga instructors or leader women to build the project cookstoves themselves using local materials according to a strict construction protocol. In tight collaboration of the project coordinator, the instructor and the leader women the logistical management, quality assurance of the project cookstoves according to the construction protocol and the management of the project database recording all constructed project cookstoves will be ensured.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$N_{p,2}$**
Unit	Number of households included in the project (Units), based on days of usage of age group 1-2 during the monitoring period related to one year.

Description	Household in the project database for project scenario p through year i 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	Project database. See documents: '*Tiipaalga_DR_VPA-11_ICS_MP3_20210406_Recent date per HH'* '*Tiipaalga_DR_VPA-12_ICS_MP2_20210406_Recent date per HH'* '*Tiipaalga_DR_VPA-13_ICS_MP1_20210406_Recent date per HH'* .
Value(s) applied	VPA 11: 1,079 VPA 12: 2,496 VPA 13: 0 Total: 3,574
Measurement methods and procedure	For the determination of the number of usage days at household level for age group 1-2 during the corresponding monitoring period, the latest start day of use of all constructed F3PA efficient cookstoves within the household will be taken in order to have conservative approach. Number of households included in the project (Units) are calculated based on days of usage of age group 1-2 during the corresponding monitoring period related to one year.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A part of the households in the project area of the VPA are polygamous. Each wife of the household included in the carbon project must have at least two F3PA efficient cookstoves. This is a local cooking requirement as one is for the Mush "Tô", the other for the sauce "Sauce". Additional cookstoves could be used for boiling water or preparing the soup. All the traditional three stone cookstoves for domestic use will be replaced by the F3PA efficient cookstoves. This means that according to the needs of the household, an un-predetermined number of project cookstoves will be constructed and used at household level. 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. Women will be trained by the Tiipaalga instructors or leader women to build the project cookstoves themselves using local materials according to a strict construction protocol. In tight collaboration of the project coordinator, the instructor and the leader women the logistical management, quality assurance of the project cookstoves according to the construction protocol and the management of the project

	database recording all constructed project cookstoves will be ensured.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$N_{p,3}$**
Unit	Number of households included in the project (Units), based on days of usage of age group 2-3 during the monitoring period related to one year.
Description	Household in the project database for project scenario p through year i 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	Project database. See documents: *'Tiipaalga_DR_VPA-11_ICS_MP3_20210406_Recent date per HH'* *'Tiipaalga_DR_VPA-12_ICS_MP2_20210406_Recent date per HH'* *'Tiipaalga_DR_VPA-13_ICS_MP1_20210406_Recent date per HH'* .
Value(s) applied	VPA 11: 2,367 VPA 12: 0 VPA 13: 0 Total: 2,367
Measurement methods and procedure	For the determination of the number of usage days at household level for age group 2-3 during the corresponding monitoring period, the latest start day of use of all constructed F3PA efficient cookstoves within the household will be taken in order to have conservative approach. Number of households included in the project (Units) are calculated based on days of usage of age group 2-3 during the corresponding monitoring period related to one year.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A part of the households in the project area of the VPA are polygamous. Each wife of the household included in the carbon project must have at least two F3PA efficient cookstoves. This is a local cooking requirement as one is for the Mush "Tô", the other for the sauce "Sauce". Additional cookstoves could be used for boiling water or preparing the soup. All the traditional three stone cookstoves for domestic use will be replaced by the F3PA efficient cookstoves. This means that according to the needs of the household, an un-predetermined number of project cookstoves will be constructed and used at household level. 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. Women will be trained by the Tiipaalga instructors or leader women to build the project cookstoves themselves using local materials according to a strict construction protocol. In tight collaboration of the project coordinator, the instructor and the leader women the logistical management, quality assurance of the project cookstoves according to the construction protocol and the management of the project database recording all constructed project cookstoves will be ensured.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**DF_{η}**
Unit	Fraction
Description	Discount factor to account for efficiency loss of project stoves
Source of data	Gold Standard Simplified Methodology for Efficient Cookstoves
Value(s) applied	Default value: 0.99 i.e., 1 % efficiency loss per year
Measurement methods and procedure	N.A.
Monitoring frequency	N.A.
QA/QC procedures	N.A.
Purpose of data	Calculation of emission reductions
Additional comment	N.A.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$DF_{b,stove,1}$**
Unit	Percentage
Description	Discount factor to account for the baseline stove use in project scenario p during the year 1
Source of data	Monitoring data. See document 'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'.
Value(s) applied	1.08%
Measurement methods and procedure	The measurement of the discount factor to account for the baseline stove use is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the baseline technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the discount factor to account for the baseline stove use in project scenario p of each technology age category.

Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	The discount factor for the baseline-stove shall be determined based on the 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 age-group 0-1 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. 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.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$DF_{b,stove,2}$**
Unit	Percentage
Description	Discount factor to account for the baseline stove use in project scenario p during the year 2
Source of data	Monitoring data. See document 'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'.
Value(s) applied	0.88%
Measurement methods and procedure	The measurement of the discount factor to account for the baseline stove use is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the baseline technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the discount factor to account for the baseline stove use in project scenario p of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	The discount factor for the baseline-stove shall be determined based on the 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 age-group 1-2 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.

	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.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$DF_{b,stove,3}$**
Unit	Percentage
Description	Discount factor to account for the baseline stove use in project scenario p during the year 3
Source of data	Monitoring data. See document 'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'.
Value(s) applied	1.89%
Measurement methods and procedure	The measurement of the discount factor to account for the baseline stove use is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the baseline technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the discount factor to account for the baseline stove use in project scenario p of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	The discount factor for the baseline-stove shall be determined based on the 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 age-group 2-3 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. 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.

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/ Parameter	**Number of tCO2e reduced by the project**
Unit	Ton of CO2e
Description	Number of tCO2e reduced thanks to the implementation of the project during the corresponding monitoring period.
Measured/calculated/default	Measured
Source of data	ER calculations: see documents :

	'GS 1340 - VPA 11 - ER_MP3' *'GS 1340 - VPA 12 - ER_MP2'* *'GS 1340 - VPA 13 - ER_MP1'*
Value(s) of monitored parameter	VPA 11: 9,486 VPA 12: 9,752 VPA 13: 6,946 Total: 26,184
Monitoring equipment	N/A
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	See section E.4
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comments	

D.3. Comparison of monitored parameters with last monitoring period

Data/Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
SDG 13: Number of tCO2e reduced by the project	VPA 11: 9,486 VPA 12: 9,752 VPA 13: 6,946 Total : 26,184	VPA 11: 9,590 VPA 12: 7,870 VPA 13: N.A. Total : 17,460
SDG 13: $U_{p,1}$ $U_{p,2}$ $U_{p,3}$	 90% 79% 77%	 88% 73% N.A.
$DF_{b,stove,1}$ $DF_{b,stove,2}$ $DF_{b,stove,3}$	1.08% 0.88% 1.89%	0.59% 2.23% N.A.
SDG 3: Proportion of households perceiving: - less often smoke levels - incidence of coughing - incidence of respiratory illness - incidence of itchy eyes	 100% 100% 100% 100%	 100% 100% 100% 100%
SDG 4: Number of training initiatives for staff involved in the programme	1	1
SDG 4:	75	84

Number of workshops carried out for women for the group of VPA's		
SDG 5: Proportion of stove users perceiving reduced amount of time spent on fuel collection Proportion of stove users perceiving reduced amount of money spent on wood fuel purchase	100% 100%	100% 100%
SDG 7: Number of F3PA efficient cookstoves disseminated for the group of VPA's	VPA-11: 10,387 VPA-12: 10,165 VPA-13: 8,629 Total: 29,181	VPA-11: 10,385 VPA-12: 10,161 VPA-13: N.A. Total: 20,546

D.4. Implementation of sampling plan

In parallel with the distribution of the F3PA efficient cookstoves, and as per monitoring plan in the respective registered VPA-DD's (VPA-11, VPA-12 & VPA-13), tiipaalga conducted the following monitoring activities:

Date	Activity	Purpose
Ongoing	Project database	Establish total distribution record to track number of households 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)
From 7/04/2021 to 3/05/2021	Monitoring survey	(i) To establish single usage rate factor of age group 0-1, age group 1-2 and age group 2-3 based on 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'; (ii) To establish single discount factor age group 0-1, age group 1-2 and age group 2-3 to account for the baseline stove use; (iii) To measure the parameters regarding SDG 3 and SDG 5.

The parameters which need to be monitored through surveys for the VPA are (i) Up,y Usage rate in project scenario p during year y; and (ii) DFb,stove,y Discount factor to account for the baseline stove use in project scenario p during the year y. A single

survey with cross sampling of households has been undertaken using a single random sampling plan. The sample size is calculated for the population of VPA-11, VPA-12 and VPA-13, using the sampling guidelines described below.
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 (see data base records file). Only the households recorded in the database are part of the project activity.
Since the project activities started in January 2018, there are three age groups, i.e. 0-1 age group, 1-2 age group and 2-3 age group; The start of the crediting period of each household is considered as the latest installation date of all stoves within the cooking sets of the different wives within the household (see files *'DR_Tiipaalga_VPA-11_ICS_20210406'* & *'DR_Tiipaalga_VPA-12_ICS_20210406'* & *'DR_Tiipaalga_VPA-13_ICS_20210406'*). For each household the number of technology-days during MP3 are calculated per age group: (i) age group 0-1 (i.e. installation date + 365days), (ii) age group 1-2 (i.e. installation date + 2*365), (iii) age group 2-3 (i.e. installation date + 3*365). The number of households per age-group are determined after cumulation of the technology-days per age group of the households in the project database divided by the number of days in a year, i.e. 365 days.
The minimum household sample size of each age group is determined according to 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.

As the number of recorded households for VPA-11, VPA-12 and VPA-13 per age-group is more than 1000, the minimum sample size per age-group is 100. For this monitoring survey the household size was set at 150 households (see file '*Tiipaalga_MS_Sampling_VPA-11-12-13_MP3_20210406'*). The method of selecting households for the sample list for the monitoring survey is random sampling using the random functionality in excel (see file '*Tiipaalga_MS_Sampling_VPA-11-12-13_MP3_20210406*'). 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. The monitoring surveys are performed by user interviews. Only people older than 18 years are interviewed.

The questions used during the survey are presented in the file '*GS1340_Monitoring Survey_VPA-11 MP3_VPA-12 MP2_VPA-13 MP1*'[5]. Apart from information for the sustainable development indicators, the survey has been built up in order to collect reliable data to calculate the usage rate Up,y per age group and the discount factor to account for the baseline stove use DFb,stove,y per age group.

[5]The document is in French, an English translation of the questions of the survey is available in headers of document : '*GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'*.

The file *'Tiipaalga_MS_Sampling_VPA-11-12-13_MP3_20210406'* contains the 150 at random selected households across VPA-13 for the first monitoring survey of age group 0-1, 150 at random selected households across VPA-12 for the second monitoring survey of age group 1-2 and 150 at random selected households across VPA 11 for the third monitoring survey of age group 2-3.

The file *'GS1340_MS_VPA-11_MP2_VPA-12_MP1_20200430'* of the monitoring survey contains the following data in worksheet "Group 2":

- Identifier (Unique internal ID number) which is the unique key of household info;
- Identification data per wife: name, picture of wife with it stoves;
- Data on stoves used per wife: size of stoves, installation dates of each stove, location of stoves, frequency of usage, condition of stove …;
- Data on cooking habits during dry and wet season;
- Data related to sustainable indicators.

Based on this information the usage rate Up,y is calculated per household in column T and the discount factor to account for the baseline stove use DFb,stove,y per households in column AU. The worksheet "Analysis" contains the evaluated parameters usage rate Up,y and discount factor to account for the baseline stove use DFb,stove,y per age group.

Out of the 450 at random selected households for the different age-groups, twenty-one (21) households have not been surveyed for the following reasons:

Display Name	Reason
VPA 12 - PARE AWA - 1889 - TAPSOBA LAMINE	F3PA broken and not rebuilt
VPA 12 - PARE AWA - 454 - SAWADOGO JEAN	F3PA broken and not rebuilt
VPA 11 - PARE AWA - 3092 - SAMPEBGO REMY	F3PA broken and not rebuilt
VPA 11 - PARE AWA - 3075 - SAMPEBGO TINSSIBIRI	F3PA broken and not rebuilt
VPA 12 - PARE AWA - 1943 - SAWADOGO DIEUDONNE	F3PA broken and not rebuilt
VPA 13 - PARE AWA - 1587 - BAGA FRANÇOIS	F3PA broken and not rebuilt
VPA 13 - PARE AWA - 1372 - SAWADOGO JULIEN	Divorced woman and household members have broken up
VPA 13 - PARE AWA - 1420 - SAWADOGO RAPHAËL	Divorced woman and household members have broken up
VPA 11 - PARE AWA - 4328 - GUELBEOGO FATIMATA	Wife deceased
VPA 12 - SAWADOGO ALIZETA - 210 - OUEDRAOGO BOUANGA ANDRÉ	F3PA broken and not rebuilt
VPA 12 - SAWADOGO ALIZETA - 233 - OUEDRAOGO JULIEN	Movement of the household out of the project area
VPA 13 - ZOUDA ANTOINETTE - 2207 - OUEDRAOGO MINATA	Unknown
VPA 12 - PARE AWA - 1985 - OUEDRAOGO NORAOGO SAMUEL	F3PA broken and not rebuilt
VPA 12 - PARE AWA - 1972 - OUEDRAOGO YANDE	F3PA broken and not rebuilt & Movement of the household out of the project area
VPA 11 - SAWADOGO ALIZETA - 467 - ZONGO EDOUARD	Deceased wife(s)
VPA 12 - SAWADOGO ALIZETA - 1698 - KANAZOÉ TASERÉ	F3PA broken and not rebuilt

VPA 12 - SAWADOGO ALIZETA - 1670 - ZOUGRANA ABDOULAYE	F3PA broken and not rebuilt & Divorced woman and household members split up
VPA 11 - ZOUDA ANTOINETTE - 5055 - OUEDRAOGO POUSGA SAÏDOU	F3PA broken and not rebuilt
VPA 11 - ZOUDA ANTOINETTE - 5119 - SANKARA DAOUDA	F3PA broken and not rebuilt
VPA 11 - ZOUDA ANTOINETTE - 5116 - SANKARA BOUREIMA	F3PA broken and not rebuilt
VPA 11 - Sawadogo Alizeta - 1459 - Bagsanre Marcel	Was not visited

For these 21 households a usage rate Up,y has been accounted of 0%.

The surveyed households per age group are presented with pictures of stove users and stoves in the following files: *'GS1340_List of surveyed households_MP1_0-1_20210705'*, *'GS1340_List of surveyed households_MP2_1-2_20210705'*, *'GS1340_List of surveyed households_MP3_2-3_20210705'*.

The following points were considered when evaluating the usage rate Up,y:

- All project cookstoves within the sample are assessed if they are still operational. If one stove user doesn't use any of its project cookstoves, the corresponding household is considered as drop-off;
- The working conditions of project cookstoves are evaluated on the status (i) *Green*: the stove is in good working conditions, (ii) *Orange*: the stove is in acceptable working conditions, but needs some maintenance activities; and (iii) *Red*: the stove is not working well, and needs to be reconstructed (see section C for more details). A household with at least one red project cookstove is considered as a drop-off;
- If a stove-user migrated even for a temporary period, the corresponding household is considered as a drop-off;

Based on the collected data during the survey for this monitoring period the usage rate Up,1 of age group 0-1 is evaluated at 90.00%. In total 15 households out of the 150 households surveyed had an usage rate of 0% because of too bad condition of at least one F3PA efficient cookstove (status red), migration of the household or broken F3PA efficient cookstoves. The usage rate Up,2 of age group 1-2 resulted in 79.33%. In total 31 households had an usage rate of 0% due to one of the above mentioned reasons. The usage rate Up,3 of age group 2-3 resulted in 76.67%. In total 35 households had an usage rate of 0% due to one of the above mentioned reasons. All other project cookstoves were used and in operational conditions.

The discount factor to account for the baseline stove use is calculated based on the number of meals that have been cooked with the baseline stove during the monitoring period. The impact of dry and wet season on the baseline stove use has been evaluated. The baseline stove usage has been questioned in the survey in two ways (see '*GS1340_MS_VPA-11 MP3_VPA-12_MP2_VPA-13_MP1_20210705*') (i) relative based on a week usage during dry and wet season (column AK till column AT); (ii) absolute based on total number of usages during dry and wet season (column AZ and BA).The

following points were considered when evaluating the discount factor to account for the baseline stove use DFb,stove,y:

- The wet season starts on the 1st of June and ends the 31nd of October, which is 152 days;
- Usage of baseline stove during wet and dry season has been surveyed, as well as the number of meals cooked during dry and wet season;
- Based on the number of meals cooked with the baseline cookstove compared to the number of cooked meals, the baseline usage fraction is calculated per stove user. In the case of more than one stove user per household, the highest value will be taken in order to identify the baseline cookstove usage at household level;
- In case the two ways of baseline usage reporting (relative on weekly basis and absolute) didn't match, the highest baseline usage has been calculated for the corresponding household;
- The discount factor for the baseline stove use is based on the average baseline stove use fraction of all the households within the sample;
- If a household has dropped off when evaluating the usage rate, it is not considered when calculating the average baseline stove use fraction;
- A conservative approach has been considered when evaluating the number of meals cooked with the baseline stove.

Based on the collected data during the survey, the baseline stove usage fractions have been evaluated at 1.08% for age group 0-1. This means that, on average, approximately 1 meal out of 100 meals are cooked with the baseline stove. For age group 1-2, the baseline stove usage fraction was 0.88% and for age group 2-3, the baseline stove usage fraction was 1.89%.

SECTION E. CALCULATION OF SDG IMPACTS

E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

a) *SDG 3, Good health and well-being*

Not applicable, the direct outcome is calculated, see section E.4.

b) *SDG 4, Quality Education*

Not applicable, the direct outcome is calculated, see section E.4.

c) *SDG 5, Gender equality*

Not applicable, the direct outcome is calculated, see section E.4.

d) *SDG 7, Affordable and clean energy*

Not applicable, the direct outcome is calculated, see section E.4.

e) *SDG 13, Climate Action*

The methodology directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). See section E.4. for the calculation of the emission reductions.

E.2. Calculation of project value or estimation of project situation of each SDG Impact

a) *SDG 3, Good health and well-being*

Not applicable, the direct outcome is calculated, see section E.4.

b) *SDG 4, Quality Education*

Not applicable, the direct outcome is calculated, see section E.4.

c) *SDG 5, Gender equality*

Not applicable, the direct outcome is calculated, see section E.4.

d) *SDG 7, Affordable and clean energy*

Not applicable, the direct outcome is calculated, see section E.4.

e) *SDG 13, Climate Action*

The methodology directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). See section E.4. for the calculation of the emission reductions.

E.3. Calculation of leakage

a) *SDG 13, Climate Action*

As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves, the net emission reductions (ERy) for a micro-scale programme of activities (mPOA) need to be discounted by a factor of 0.95 to account for leakages related to non-renewable biomass saved by the project activity.

E.4. Calculation of net benefits or direct calculation for each SDG Impact

a) SDG 3, Good health and well-being

Smoke level reduction = (Number of stove users perceiving less smoke since the implementation of F3PA efficient cookstoves) / (Number of respondents)

Incidence of coughing reduction = (Number of stove users perceiving less incidence of coughing since the implementation of F3PA efficient cookstoves) / (Number of respondents)

Incidence of respiratory illness reduction = (Number of stove users perceiving less incidence of respiratory illnesses since the implementation of F3PA efficient cookstoves) / (Number of respondents)

Incidence of itchy eyes reduction = (Number of stove users perceiving less incidence of itchy eyes since the implementation of F3PA efficient cookstoves) / (Number of respondents)

See document: '*GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705*'

b) SDG 4, Quality education

Number of trainings initiatives for staff involved in the programme = Number of trainings initiatives for staff involved in the programme during the monitoring period

See document : '*Compte rendu de formation des enqueteurs verification An3_with comments'*.

Number of workshops carried out for women for the group of VPA's = Number of workshops carried out for women during the monitoring period

See documents: *'Bilan AGV-AS-formations VPA 111213_2021 - with comments'.*

c) SDG 5, Gender equality

Proportion of stove users perceiving reduced amount of time spent on fuel collection = (Number of stove users perceiving reduced amount of time spent on fuel collection) / (Number of respondents collecting wood fuel)

Activities carried out by women during saved time:

i) **Domestic tasks$_p$** = (Number of women using their saved time to do domestic tasks) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)

ii) **Income generating activities$_p$** = (Number of women using their saved time to do income generating activities) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
iii) **Field labour$_p$** = (Number of women using their saved time to do field labour) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
iv) **Gardening$_p$** = (Number of women using their saved time to do gardening) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
v) **Participation to a literacy program$_p$** = (Number of women using their saved time to participate to a literacy program) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
vi) **Community work$_p$** = (Number of women using their saved time to do community work) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
vii) **Doning nothing$_p$ =** (Number of women using their saved time to participate to do nothing) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
viii) **Religious activities$_p$** = (Number of women using their saved time to participate to religious activities) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
ix) **Leisure$_p$** = (Number of women using their saved time to participate to do leisure) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)

See document: 'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'

Proportion of stove users perceiving reduced amount of money spent on wood fuel purchase = (Number of stove users perceiving reduced amount of money spent on wood fuel purchase) / (Number of respondents purchasing fuel)
Usage of saved money by women:

i. **School fees$_p$ =** (Number of women using their saved money for the payment of school fees) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)
ii. **Purchase of medical drugs$_p$** = (Number of women using their saved money for the purchase of medical drugs) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)
iii. **Purchase of food$_p$** = (Number of women using their saved money for the purchase of food) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)
iv. **Investment for field crops$_p$** = (Number of women using their saved money to invest in field crops) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)

v. **Purchase of equipments$_p$** = (Number of women using their saved money to purchase equipments like mobile, bicycle, …) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)

vi. **Income generating activities$_p$** = (Number of women using their saved money for income generating activities) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)

vii. **Savings$_p$** = (Number of women using their saved money for their savings) / (Number of women considering they save money thanks to the F3PA efficient cookstoves)

See document: 'GS1340_MS_VPA-11_MP3_VPA-12_MP2_VPA-13_MP1_20210705'

d) *SDG 7, Affordable and clean energy*

Number of F3PA efficient cookstoves disseminated for the group of VPA's = Number of F3PA efficient cookstoves included in the project database for project scenario p

See documents: *'DR_Tiipaalga_VPA-11_ICS_20210406'* & *'DR_Tiipaalga_VPA-12_ICS_20210406'* & *'DR_Tiipaalga_VPA-13_ICS_20210406'.*

e) *SDG 13, Climate Action*

The methodology directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). The emission reduction for the VPA are calculated using the following equation.

$$ER_Y = \sum_{0to1}^{xtoy} N_{P,y} * P_y * U_{P,y} * (f_{NRB,y} * EF_{b,fuel,CO2} + EF_{b,fuel,nonCO2}) * (1 - DF_{b,Stove,y})$$

Where

$N_{p,y}$	Number of households with project cookstoves of each age group operational in the year y
P_y	Quantity of firewood that is saved in the year y (tones 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)
$f_{NRB,y}$	Factional non-renewability status of wood fuel during year y
$EF_{b,fuel,CO2}$	CO2 emission factor of firewood that is substituted or reduced
$EF_{b,fuel,nonCO2}$	Non CO2 emission factor of firewood that is substituted or reduced
$DF_{b,stove,y}$	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 using the following equation:

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

Where:

P_y	Quantity of firewood that is saved in the year y (tones per household in year y)
$B_{b,y}$	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)
η_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
y	Year of the crediting period

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 option (c) of the methodology: minimum service level i.e. energy derived from the combustion of 0.5 tonnes per capita per year as the default baseline biomass consumption. The average household size per municipality is available in the "Recensement général de la population et de l'habitation (RGPH) de 2006 du Burkina Faso"[6] or the general census of the population and habitat of Burkina Faso, table 15.

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

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

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

Where

[6] INSD, recensement général de la population et de l'habitation de 2006, juillet 2008, Ministère de l'Economie et des Finances, p43 (tableau 15), 52 pages

$\eta_{p,y}$	Efficiency of project cookstove in year y (fraction)
η_p	Efficiency of project cookstove (fraction) determined at the start of the project activity
DF_η	Discount factor to account for efficiency loss of project cookstove per year of operation (fraction)
0.94	Adjustment factor to account for uncertainty related to project cookstove efficiency test

See documents: '*GS 1340 - VPA 11 - ER_MP3*' & '*GS 1340 - VPA 12 - ER_MP2*' & '*GS 1340 - VPA 13 - ER_MP1'*. The consolidated results are presented in document : '*GS1340 - VPA-11 MP3_VPA-12_MP2_VPA-13_MP1 - Consolidated ER calculation*'.

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
13	Number of tCO2e reduced by the project			Year 2020: VPA 11: 9,486 tCO2e VPA 12: 9,752 tCO2e VPA13 : 6,946 tCO2e Total : 26,184 tCO2e
3	Smoke level reduction Incidence of coughing reduction Incidence of respiratory illness reduction Incidence of itchy eyes reduction			100% 100% 100% 100%
4	Number of trainings initiatives for staff involved in the programme			1
4	Number of workshops carried out for women for the group of VPA's			75
5	Proportion of stove users perceiving reduced amount of time spent on fuel collection Proportion of stove users perceiving reduced amount of money spent on wood fuel purchase			100% 100%
7	Number of F3PA efficient cookstoves disseminated for the group of VPA's			29,181

E.5. Comparison of actual SDG Impacts with estimates in approved PDD

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period

13	Year 2020: VPA 11: 9,702 tCO2e VPA 12: 9,787 tCO2e VPA 13: 9,787 tCO2e **Total : 29,359 tCO2e**	Year 2020: VPA 11: 9,486 tCO2e VPA 12: 9,752 tCO2e VPA 13: 6,946 tCO2e **Total : 26,184 tCO2e**
3	Smoke level reduction: **>90%** Incidence of coughing reduction: **>90%** Incidence of respiratory illness reduction: **>90%** Incidence of itchy eyes reduction: **>90%**	Smoke level reduction: **100%** Incidence of coughing reduction: **100%** Incidence of respiratory illness reduction: **100%** Incidence of itchy eyes reduction: **100%**
4	Number of trainings initiatives for staff involved in the programme: **1**	Number of trainings initiatives for staff involved in the programme: **1**
4	Number of workshops carried out for women for the group of VPA's: **60** (VPA-11: 20, VPA-12: 20 and VPA-13: 20)	Number of workshops carried out for women for the group of VPA's: **75**
5	Proportion of stove users perceiving reduced amount of time spent on fuel collection: **>90%** Proportion of stove users perceiving reduced amount of money spent on wood fuel purchase: **>90%**	Proportion of stove users perceiving reduced amount of time spent on fuel collection: **100%** Proportion of stove users perceiving reduced amount of money spent on wood fuel purchase: **100%**
7	Number of F3PA efficient cookstoves disseminated for the group of VPA's: VPA-11: 6,200 VPA-12: 6,200 VPA-13: 6,200 **Total: 18,600**	Number of F3PA efficient cookstoves disseminated for the group of VPA's: VPA-11: 10,387 VPA-12: 10,165 VPA-13: 8,629 **Total: 29,181**

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

Not applicable.

E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

- SDG 7 Number of efficient F3PA cookstoves: Due to the higher adoption rate of the project technology, the total number of disseminated F3PA cookstoves is higher than the previsions presented in the PDD.

SECTION F. SAFEGUARDS REPORTING

Not applicable.
No safeguarding principles were added to the monitoring plan.

SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.

No inputs/grievances have been received for the project during the monitoring period.

G.2. Report on any stakeholder mitigations that were agreed to be monitored.

Not applicable. No stakeholder mitigations were agreed to be monitored.

G.3. Provide details of any legal contest that has arisen with the project during the monitoring period

No legal contest or dispute has arisen.

Revision History

Version	Date	Remarks

1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Section for POA monitoring Forward action request section Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on safeguard reporting Clarity on design changes Leakage section added for VER/CER projects Addition of Comparison of monitored parameters with last monitoring period Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption