Validation report form for renewal of crediting period for programme of activities

(Version 02.0)

VALIDATION REPORT	
Title of the project activity	Efficient Cookstoves in Burkina Faso GS ID: GS1340
Version number of the validation report	05
Completion date of the validation report	03/03/2023
Version number of POA-DD to which this report applies	Version: 8.0; Dated: 01/03/2023
Coordinating/managing entity	Association tiipaalga
Project participants and any communities involved	CO2logic/South Pole
Host Party	Burkina Faso
SDG Impacts:	SDG 1: No Poverty SDG 3: Good Health SDG 4: Quality Education SDG 5: Gender Equality SDG 7: Access to affordable and clean energy SDG 13: Climate Change SDG 15: Life on land
Sectoral scope(s) and selected methodology(ies)	Sectoral Scope 3 'Energy demand'. Methodology: Simplified Methodology for Efficient Cookstoves v1.1
Name of VVB	Carbon Check (India) Private Limited
Name, position and signature of the approver of the validation report	 Vikash Kumar Singh, Compliance Officer

SECTION A. Executive summary

Purpose and general description

The Project Participant Association tiipaalga has appointed the VVB, Carbon Check (India) Private Ltd. to perform an independent validation of the Design Certification Renewal of the Gold Standard Microscale Project Activity “Efficient Cookstoves in Burkina Faso” in the host country of Burkina Faso (hereafter referred to as “project activity”). This report summarises the findings of the validation of the Design Certification Renewal of the project, performed on the basis of Gold Standard criteria for registration, UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. This report contains the findings and resolutions from the validation and a validation opinion.

As per the POA-DD, the project activity “Efficient Cookstoves in Burkina Faso” involves dissemination of efficient cookstoves in Burkina Faso. The project activity aims at reducing the fuel wood consumption of households by training locales to use improved technologies and building the stoves themselves or partially subsidizing the purchase of improved cookstoves by the locals. This energy efficient programme which involves the dissemination of efficient cookstoves will help reducing the consumption of wood as well as decreasing carbon emissions.

Each VPA under the Programme of activity will reduce emission reduction that are capped at 10,000 tonnes of annual CO_2e during the 5-year crediting period. The project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project in accordance with the Gold Standard requirements for additionality.

The purpose of a validation is to have a thorough and independent assessment of the proposed project activity against the applicable Gold standard and CDM requirements, in particular, the project's baseline, monitoring plan and the project’s compliance with relevant UNFCCC and Gold standard for Global Goals criteria. These are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all Gold Standard for Global Goals Voluntary projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of voluntary emission reductions (VERs).

Location

The project activity “Efficient Cookstoves in Burkina Faso” is located in the country Burkina Faso.

Scope of the validation

The validation scope is defined as an independent and objective review of the project design document (POA-DD). The POA-DD is reviewed against the relevant criteria (see above) and decisions by the Gold standard secretariat and CDM Executive Board, including the approved baseline and monitoring methodology /B02/. The validation team has, based on the recommendations in the CDM Validation and Verification Standard and GS4GG Principles and Requirements, version 1.2 employed a rule-based approach, focusing on the identification of significant risks for project implementation and the generation of VERs.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

While carrying out the validation of the Design Certification Renewal, CCIPL determines if the project activity complies with the requirements of the applicability conditions of the selected methodology, guidance issued by the Gold Standard and also assesses the claims and assumptions made in the POA-DD without limitation on the information provided by the project participants.

The Validation team confirms the contractual relationship signed between the VVB, Carbon Check (India) Private Ltd. and the Project Developer/ Project Representative /08/. The team assigned to the validation meets the Carbon Check (India) Private Ltd.’s internal procedures including the UNFCCC/Gold Standard for Global Goals requirements for the team composition and competence. The projects team has conducted a thorough contract review as per UNFCCC and Carbon Check procedures and requirements.

Validation methodology

The validation has been performed as described in the VVS and constitutes the following steps:

- Document review of data and information (POA- DD and the relevant documents including the reference to information relating to projects or technologies similar to the proposed project activity and review based on the approved methodology being applied and of the appropriateness of formulae and accuracy of calculations).
- Cross checks between information provided in the POA-DD and information from other sources.
- Follow up actions for cross checking data and on-site assessment.
- Reference to available information
- Issuance of Validation Report.

Validation Process

The validation consists of the following four phases:

I. A desk review of the project design documents
   - A review of data and information.
   - Cross checks between information provided in the POA-DD and the information from sources with all the necessary means without limitations to the information provided by the project proponent.
   - Confirmation of the site visit dates and Validation work plan.

II. Remote site visit and follow-up interviews with the project stakeholders
   - Interviews with the relevant stakeholders in the host country with personnel having knowledge with the project development via telephone, email or direct on-site visits.
   - Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent.

III. Reference to available information's relating to projects or technologies similar projects under validation and review based on the approved methodology being applied of the appropriateness of formulae and accuracy of calculations.

IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The report is based on the assessment of the POA-DD undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, site visit, and stakeholder interviews, review of the applicable/applied methodology and its underlying formulae and calculations.

This report contains the findings and resolutions from the validation and a validation opinion on the proposed project thus confirming the project design as document is sound and reasonable and meets the stated requirements and identified criteria.

The validation protocol describes a total of 05 (Five) findings which include:

- Zero (00) Corrective Action Requests (CARs);
- Five (05) Clarification Requests (CLs);

All findings are closed during the validation process.

Conclusion

Carbon Check (India) Private Ltd. concludes the validation of the Design Certification Renewal with a positive opinion and that the Project Activity "Efficient Cookstoves in Burkina Faso" in Burkina Faso, as described in the POA-DD , meets all applicable Gold standard and CDM requirements, relevant methodologies, tools and guidelines.

The selected baseline and monitoring methodology is applicable to the project and correctly applied. Carbon Check (India) Private Ltd. therefore recommends the project to the Gold Standard for Global Goals for registration.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	⊢ ≻	Last name	First name	Affiliation

					(e.g. name of central or other office of VVB or outsourced entity)
1.	Team Leader/ Technical Expert/ Validator/ Local Expert	IR	Chaudhary	Aparna	CCIPL
2.	Technical reviewer	IR	c	Indumathi	CCIPL
3.	Trainee Assessor	IR	K V	Kiran	CCIPL

Audit Team Experience:
The team composition is linked to the methodology and local experience in the host country.

Aparna Chaudhary: Qualified Assessor and technical expert for offset projects validation and verification under CDM, VCS and Gold Standard (GS). She is qualified as a technical expert for TA 1.1. She was involved in more than 25 projects under CDM, VCS and Gold Standard (GS) and GCC

Indumathi C: She is a qualified internal technical reviewer for validation and verification of GHG emission reduction projects under CDM, VCS and Gold Standard (GS). She is an appointed Team Leader and Technical Expert for technical areas TA 1.1, 1.2, 3.1, 13.1 & 13.2. She has more than 13 years of work experience in climate change mitigation, renewable energy, energy efficiency and energy access. She has worked with various Designated Operational Entities like TUV NORD, TUV Rheinland and 4KES for more than 250 GHG emission reduction projects under different carbon crediting mechanisms. She is a certified GHG Auditor and Energy Manager (Bureau of Energy Efficiency, Government of India).

Kiran K V: A trainee assessor with experience of working in more than 10 projects in sectoral scopes 1.2 and 3.1. Has taken part in training programs conducted by GS and other standards. Holds a postgraduate degree in Environmental science and Resource Management

SECTION C. Means of validation

C.1. Desk review

List of all documents reviewed or referenced during the validation is provided in Appendix-3.

C.2. On-site inspection[1]

Duration of Remote Audit inspection: 08 June 2022				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Opening Meeting	Remote	08/06/2022	Aparna Chaudhary, Kiran K V
2.	Discussion on the following aspects of the project: • Project design and proposed technology to be used • Baseline survey • FNRB calculation • Stove Efficiency Tests/ Water boiling test • Baseline Scenarios • Emission Reductions • Environmental Impacts • Implementation schedule with milestones • Management structure with Roles and Responsibilities • Monitoring Plan/Sampling Plan and process to be adopted	Remote	08/06/2022	Aparna Chaudhary, Kiran K V
3.	• Discussion on POA-DD, ER spreadsheet and supporting documents	Remote	08/06/2022	Aparna Chaudhary, Kiran K V

C.3. Interviews

No.	**Interviewee**			**Date**	**Subject**	**Team member**
	Last name	**First name**	**Affiliation**			
1.	Costenoble	Victor	CO2logic	08/06/2022	• Project Design • Organisation background • Project Implementation plan • Crediting period start date and Project Location • Project background information • Baseline studies/ literature • Water boiling test • FNRB calculation • Baseline Scenario • Baseline Identification and Additionality • Monitoring and reporting documentation • Qualification and Training • Quality Assurance – Management and operating system • Social and Environmental Impacts • Compliance with relevant laws • Roles and responsibility • Observations of established	Aparna Chaudhary, Kiran K V
2.	Van Der Schueren	Nele				
3.	Noppen	Herman				

[1] The site visit was not undertaken for the project activity in accordance with the alternative measures provided in the section 4.1.1 of the Rule Update - Covid19: Interim Measures, version 3. VVB applied the techniques mentioned in the Annex 1 of the Rule Update - Covid19: Interim Measures, version 3. The interviews were conducted by means of telephonic calls/ audio and video calls.

					practices	
3.	Coulibaly	Esaie NSimplice	Association tiipaalga	08/06/2022	Project implementation, Grievance mechanisms.	Aparna Chaudhary, Kiran K V
4.	Bakary	Diakite				

SECTION D. Validation findings

D.1. Description of project activity

Means of validation	Document Review, Interview
Findings	--
Conclusion	The POA-DD /02/ contains a description, which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation. The location of the project activity is clearly defined in the P0A-DD. The project is located in Burkina Faso. The project activity aims at reducing the fuel wood consumption of households by training locales to use improved technologies and building the stoves themselves or partially subsidizing the purchase of improved cookstoves by the locals. This energy efficient program which involves the dissemination of efficient cookstoves will help reducing the consumption of wood as well as decreasing carbon emissions. The date of design certification is 29/10/2015. The project was registered with the first crediting period of 02/02/2015 to 01/02/2022. The crediting period for the registered GS microscale project activity is being renewed (02/02/2022 to 01/02/2027) in accordance with the §5.1.1 (d) of the GS4GG Principles and Requirements version 1.2. The design of the project stoves was assessed through remote audit activity and through the review of documents. Validation team also interviewed representative of the project participant Association tiipaalga and CO2logic to understand the maintenance of the cookstoves. implementation of programme of activity and other SDG's,

D.2. Application of selected baseline and monitoring methodology and selected standardized baseline

D.2.1. Applicability of methodology and standardized baseline

Means of validation	Document Review, Interview
Findings	--
Conclusion	Please refer to the assessment in Appendix 5 of the VR.

D.2.2. Deviation from methodology

Means of validation	Document Review, Interview
Findings	--
Conclusion	Not Applicable.

D.2.3. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	N/A
Findings	--
Conclusion	N/A

D.2.4. Project boundary

Means of validation	Document Review, Interview
Findings	--
Conclusion	The project boundary comprises the physical, geographical sites of the project

	technology (improved cookstove) and baseline and project fuel collection, in accordance with the Gold Standard Simplified Methodology for Efficient Cookstoves Version 1.1. The project boundary will be clearly defined in every VPAs under the PoA..

D.2.5. Establishment and description of baseline scenario

Means of validation	Document Review, Interview
Findings	
Conclusion	Validation team confirms that the baseline scenario opted by the project activity /01/ is in accordance with the requirements of the methodology, the Gold Standard Simplified Methodology for Efficient Cookstoves Version 1.1.In accordance with the methodology, it is assumed that in the absence of the project activity, the baseline scenario would be non-renewable fire wood consumption to meet thermal energy requirement for household cooking There is no change in the baseline scenario from the registered project activity for the methodology "Simplified methodology for efficient cookstove version 1.1 and as demonstrated in the section A.3 of the POA-POA-DD /02/ As mentioned in the section A.1 of the POA-DD, the host country Burkina Faso has witnessed a reduction of forest area from 7.716 million ha to 6.216 million ha during the period 1990 to 2020 which is driven due to the demand of wood and charcoal consumption which represents 85% of primary energy consumption in the country since a large population of the country use thermally insufficient cooking methods. The baseline scenario will be re-evaluated during the renewal of each VPA as per the step 1 of the CDMTool11 "Assessment of the validity of the original/current baseline and update of the renewal of the crediting period" The assessment of the fNRB value has been done by the verification team on the basis of the review of the fNRB calculation sheet /07-a/ and fNRB report /07-b/ provided by the PP and confirms that the calculation of fNRB value is as per the requirement provided in the CDM Tool 30 /B06/ and is deemed to be acceptable. (Detailed assessment of fNRB has been added in the Annex1 of this document) Through this POA, thermally efficient cookstoves are distributed to household who are currently using the inefficient devices which in turn reduces the carbon emissions by allowing the household to cook the same amount of food with less use of non-renewable biomass

D.2.6. Demonstration of additionality

Means of validation	Document Review, Interview
Findings	--
Conclusion	All VPAs under the PoA consist in voluntary activities that are dependent on carbon funding and would therefore not be conducted in absence of the PoA. The proposed PoA is a Microscale activity as annual generation of emission reductions is limited to a maximum of 10,000 tonnes of CO2eq at each VPA level. The PoA is deemed additional as a whole according to the GS4GG Community-Services Activity Requirements section 4.1.9 (c) (microscale projects deemed additional). Validation team has assessed that as per Community Services Activity Requirements (Version 1.2), paragraph 4.1.9 : "Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification: (a) Positive list (Annex B) (b) Projects located in LDC, SIDS, LLDC (c) Micro-scale projects

	Validation team confirms that the project activity meets the criterion I "Micro-scale projects" of the section 4.1.9 of the Community Services Activity Requirements, version 1.2. Therefore the PoA is considered as deemed additional and therefore does not require to prove financial additionality at the time of design certification. The Community Services Activity Requirements, version 1.2 include end-use energy efficiency projects, under which the project activity falls.

D.2.7. Eligibility criteria for inclusion of VPA's

Means of validation	Document Review, Interview
Findings	--

Conclusion

Sl. No	Eligibility criterion	Description/Required condition	VVB Assessment
1.	The Geographical boundaries of VPAs are consistent with the geographical	The geographical boundary of the VPA is within the geographical boundary of the PoA	On the basis of the interview with the PP and review of the POA DD, the verification team confirms that all the VPA's will be implemented within the geographical boundary of POA which is the country of Burkina Faso.
2.	Conditions to avoid double counting of Impacts, such as unique identifications of product and end user locations	A unique numbering system for devices (improved cookstove) or households will be applied in each VPA, assigning a unique number to each device or house and allowing to clearly identify for each device to which VPA it belongs.	On the basis of the interview with the PP and as mentioned in the section A.3 of the POA DD, each project device will be given a unique identification number under each VPA's.
3	Conditions to confirm that VPAs are neither registered as project activities with other offset Schemes, included in other registered PoAs, nor the project activities that have been deregistered	The VPA, nor any of its devices or households, is not yet registered and not being registered as a standalone project under other carbon standards by ensuring that the VPAs has the full title over the emission reductions generated by the users listed in the VPA.	A mechanism to ensure the transfer of legal ownership to the entity will be mentioned in each VPA's under section A.1.2 of the VPA DD
4.	Specification of the technology/measure such as the level and type of service, as well as performance specification based on, inter alia, testing/certification	VPAs under this PoA will consist in the distribution or installation of efficient cook stove to users cooking with	The type and specification of cookstoves will be defined in the VPA DD.

			non-renewable biomass on traditional woodstoves or 3-stone fires in the baseline scenario. The efficient cook stove technology will have a thermal efficiency of more than 20%	
	5.	Conditions to check the start dates of VPAs through documentary evidence	A start date will be specifying with each VPA. All VPAs will have the start date after the start date of the PoA.	The start date of each VPA will be after the start date of the POA and will be defined in each VPA DD
	6.	Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents	Each VPA will meet the applicability criteria of the Gold Standard Simplified Methodology for Efficient Cookstoves Version 1.1. Under applicability criterion 1.1.i, requesting that the baseline fuel to be only firewood, also marginal use of charcoal or agricultural residues as baseline fuel is allowed (up to 10% of a household's useful cooking energy).	The inclusion criteria for methodology will be defined in each VPA DD
	7.	Conditions to ensure that VPAs meet the requirements for demonstration of additionality	Each VPA will demonstrate automatic additionality according to the GS community services activity requirements section 4.1.9. (c) – Microscale projects. As the PoA and VPAs are fall under microscale projects, hence deemed additional	Each VPA is deemed additional as per the para 4.1.9 of GS Community service activity requirement and will be defined in each VPA DD.
	8.	Conditions to ensure no diversion of official development assistance	There will be no diversion of ODA for any of the proposed VPAs	A declaration of non-use of ODA will be provided with each VPA,
	9.	Target group (e.g. domestic/commercial/industrial, rural/urban, gridconnected/offgrid), and where applicable, distribution mechanisms (e.g. direct installation)	The PoA will target fuelwood-dependent households based in rural, urban, semi-urban areas within Burkina Faso.	Will be defined in each VPA

	10.	Conditions related to sampling requirements for the PoA	Conditions are in line with the Gold Standard Simplified Methodology for Efficient Cookstoves Version 1.1.	Will be defined in each VPA
	11.	Conditions to ensure that VPAs that will be included meet the small-scale or microscale thresholds and remain within those thresholds throughout the crediting period (N/A if all units qualify as “microscale CDM units”)	N/A	All units are quantified as microscale CDM units)
	12.	Conditions to confirm that technologies in VPAs are eligible	Covered by inclusion criterion 4	The type and specification of cookstoves will be defined in the VPA DD.
	13.	Conditions to be met by each VPA regarding SDG outcomes assessment	Positive outcomes expected for at least 3 SDGs.	Will be defined in VPA DD
	14.	(if applicable) Conditions to be met by each VPA regarding safeguarding principles	The safeguarding principles assessment at PoA level is applicable for VPAs that involve the distribution of efficient cookstoves to households and/or institutions under a voluntary scheme where users decide freely on participation.	The type and specification of cookstoves will be defined in the VPA DD.
	15.	Eligibility as per Community Services Activity Requirements	As described in the assessment at PoA level (see PoA-DD A.3), specific criteria to be met at VPA-level are covered by eligibility criterion No. 4 (technology includes end-use energy efficiency) and legal ownership (clear description of ownership, proofs that end users are aware and willing to give up rights on products) and discussion of the transfer of ownership during LSCs.	The type and specification of cookstoves will be defined in the VPA DD
	16.	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.	

D.2.8. Emission reductions

Means of validation	Document Review, Interview
Findings	--
Conclusion	According to the applied methodology, emission reductions under each VPA would be calculated as follows: $ER_Y = \sum_{0\ to\ 1}^{x\ to\ y} N_{P,Y} * P_Y * U_{P,Y} * (f_{NRB,y} * EF_{b,fuel,CO2} + EF_{b,fuel,nonCO2}) * (1-DF_{b,stove,y})$ Where: $N_{P,y}$ = Number of project cookstoves OR number of households for which all traditional three stone cookstoves for domestic use have been replaced by 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) $f_{NRB,b,y}$ = Fraction of biomass, used in year y for baseline scenario, which can be stablished as non-renewable. The project proponents shall estimate project specific national/ regional value7 or apply the default f_{NRB} value provided by the CDM Executive Board and endorsed by the host country DNA. $EF_{b,fuel,CO2}$ = CO2 emission factor of firewood that is substituted or reduced. (Default value for wood fuel 1.747 tCO2/ton of wood) $EF_{b,fuel,non\_CO2}$ = Non-CO2 emission factor of firewood that is substituted or reduced. (Default value for wood fuel 0.581 tCO2/ton of wood) $DF_{b,Stove,y}$ = 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: $Py = Bb,y * (1- \eta_b / \eta_{p,y})$ 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) 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 Determination of quantity of fire wood consumed in the baseline (Bb,y): The firewood consumed is the estimated average annual consumption of firewood per household (tones/year), which may be derived using the options, described D.6.1 of the PoA v. 4 dated 29/10/2015 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: $\eta_{p,y} = \eta_p * (DF_\eta)^{y-1} * 0.94$ Where: p,y = Efficiency of project cookstove in year y (fraction) n_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_η = 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 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).

D.2.9. Monitoring plan

Means of validation	Document Review, Interview
Findings	--
Conclusion	The outcome of the SDG 13 is used to monitor the total emission reductions generated from the microscale project activity. SDG 13 shall be monitored through the monitoring methodologies Simplified Methodology for Efficient Cookstoves v1.2. The project uses the methodologies Simplified Methodology for Efficient Cookstoves v.1.2. All the parameters as listed in the POA -POA-DD v. dated 29/10/15 /03/ have to be monitored. The POA-DD /03/ provides the roles and responsibilities under monitoring organisation. The monitoring organization structure for the project has been provided. The QA/QC procedures have also been provided in the POA-DD v.4 dated 29/10/2015 /03/. Based on remote audit interview, validation team confirms that the monitoring based on above is appropriate and also in line with the requirements of the methodology Simplified Methodology for Efficient Cookstoves v1.2. The project proponent must maintain and update total sales and project database continuously including the following data 1. Date of sale / distribution and of installation;

	2. Geographic area of sale / distribution / construction; 3. Model/type of project cook stove(s) sold, distributed or constructed; 4. Name and telephone number (if available), address: • Required for all bulk purchasers, i.e. retailers • All end users; The names and telephone numbers or name and addresses collected must be commensurate with representative sampling, i.e. the names and addresses or phone numbers (where possible) within sales record shall be large enough so that surveys can be based on representative, randomly selected samples. Detailed information about the monitoring plan is provided in the POA DD for the 1st crediting period vPOA-DD.4 dated 29/10/2015. The PoA has undergone transition as per the GS4GG transition requirement which is verified on the basis of the transition document v.1.1 provided by the project participant /04/. Validation team confirms that the monitoring plan complies with the requirements of the methodology, Simplified Methodology for Efficient Cookstoves v1.2/B02/, the monitoring arrangements described in the monitoring plan are feasible within the project design and that the PP is able to implement the described monitoring plan.

D.3. Duration and crediting period

Means of validation	Document Review, Interview
Findings	--
Conclusion	The start date of the crediting period for the project activity is 02/02/2022 /02/. This is the second crediting period (02/02/2022 to 01/02/2027) for the microscale project activity and is after the expiry of the first crediting period from 02/02/2015 to 01/02/2022. Start date of the crediting, expected operational lifetime and duration of the crediting period, have been provided in the POA-DD v.7.0 dated 01/12/2022 /02/; checked and found appropriate to the validation team.

D.4. Environmental impacts

Means of validation	Document Review, Interview
Findings	NA
Conclusion	The project activity involves Design Certification Renewal and thus this is not applicable to the project activity.

D.5. Local stakeholder consultation

Means of validation	Document Review, Interview
Findings	--
Conclusion	The project activity involves Design Certification Renewal and thus this is not applicable to the project activity.

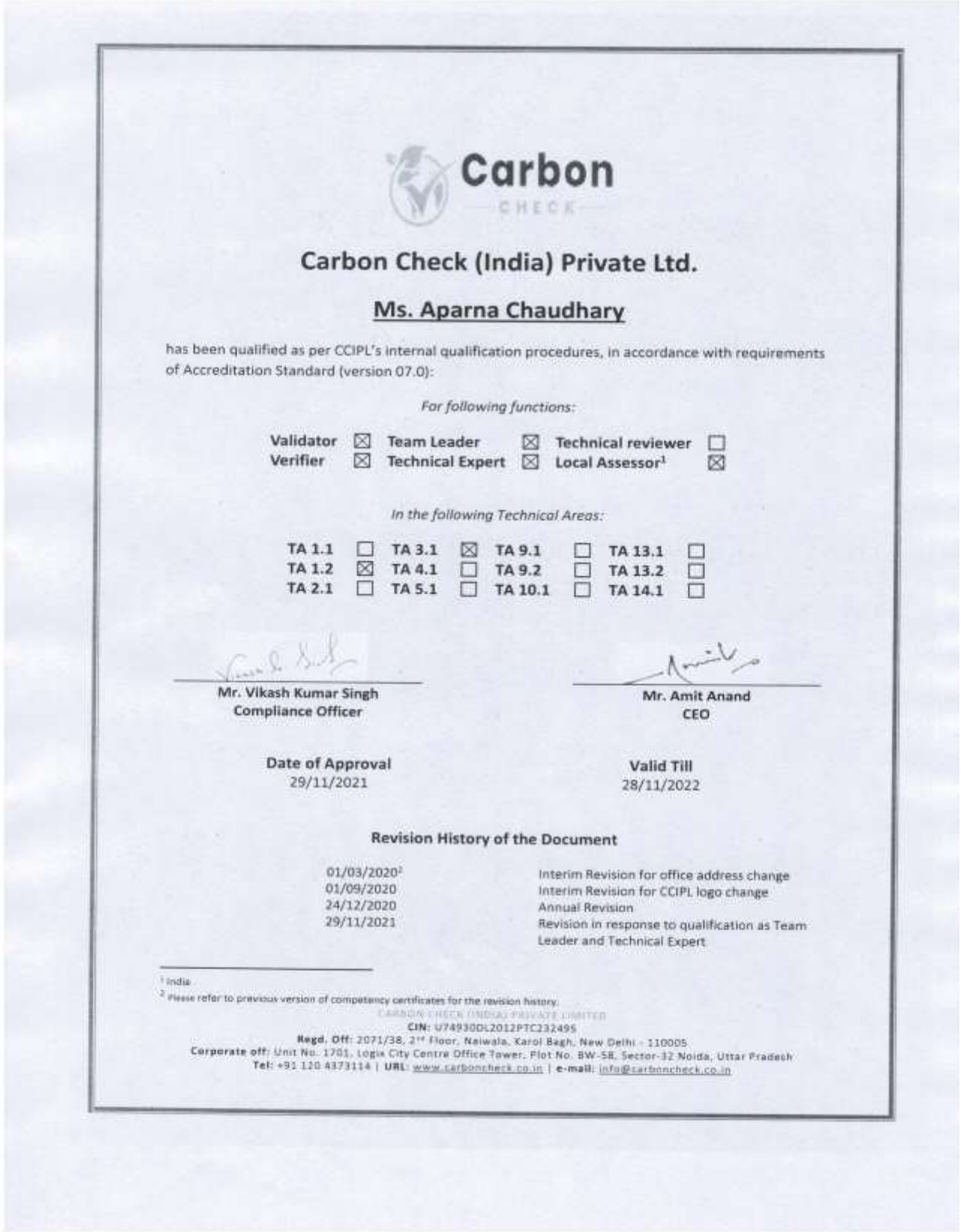
SECTION E. Internal quality control

The validation report has passed a technical review and quality review before being submitted to the project participant and UNFCCC Executive Board. The technical review was performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification.

Appendix 1. Abbreviations

Abbreviations	Full texts
BAU	Business As Usual
CA	Corrective Action / Clarification Action
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CER	Certified Emission Reduction
CL	Clarification Request
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DR	Document review
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
EI	External individual
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GACC	Global Alliance for Clean Cookstoves
GHG	Greenhouse gas(es)
GS4GG	Gold standard for global goals
I	Interview
IICS	Institutional Improved cook stove
IPCC	Intergovernmental Panel on ClimateChange
IR	Internal resource
MW	Mega Watt
POA-DD	Project Design Document
PP	Project Participant
OSV	On Site Visit
QC/QA	Quality control /Quality assurance
SS	Sectoral Scope
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Gold Standard Validation and Verification Body
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewer



Carbon
CHECK

Carbon Check (India) Private Ltd.

Ms. Aparna Chaudhary

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	☒	Team Leader	☒	Technical reviewer	☐		
Verifier	☒	Technical Expert	☒	Local Assessor[1]	☒		

In the following Technical Areas:

TA 1.1	☐	TA 3.1	☒	TA 9.1	☐	TA 13.1	☐
TA 1.2	☒	TA 4.1	☐	TA 9.2	☐	TA 13.2	☐
TA 2.1	☐	TA 5.1	☐	TA 10.1	☐	TA 14.1	☐

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
29/11/2021

Valid Till
28/11/2022

Revision History of the Document

01/03/2020[2]	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision
29/11/2021	Revision in response to qualification as Team Leader and Technical Expert

[1] India
[2] Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED
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Carbon CHECK

Carbon Check (India) Private Ltd.

Ms. Indumathi. C

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	☐	Team Leader	☒	Technical reviewer	☒
Verifier	☐	Technical Expert	☒	Local Assessor[1]	☒

In the following Technical Areas:

TA 1.1	☒	TA 4.1	☐	TA 9.1	☐	TA 13.1	☒
TA 1.2	☒	TA 5.1	☐	TA 9.2	☐	TA 13.2	☒
TA 3.1	☒	TA 5.2	☐	TA 10.1	☐	TA 14.1	☐

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

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Appendix 3. Documents reviewed or referenced

Ref no.	Reference Document
/01/	Initial POA - POA-DD, version 5.0, dated 13/05/2022
/02/	Final POA - POA-DD, Version 8.0, dated 01/03/2023
/03/	POA DD for 1st crediting period v. 4 dated 29/10/2015
/04/	GS4GG Transition annex v. 1.1
/05/	Letter of engagement between Associaltion tiipaalga and CO2logic
/06/	FAO forest report Burkina Faso
/07/	Supporting Documents for calculation of fraction of non-renewable biomass (f_{NRB}): a. Burkina Faso_fNRB Calculation Sheet_v1.0 27.12.2021 b. Burkina Faso_fNRB Report_v1.0 27.12.2021
/08/	Validation contract between the VVB and the project participant
/09/	Readiness preparation plan for REDD
/10/	Behr, D. C. et al. Using forests to enhance resilience to climate change: The Case of the Wood-Energy Sector in Burkina Faso. www.profor.info/node/2032 (2017).
/11/	United Nations Statistics Division. Population by sex and urban/rural residence. http://data.un.org/Data.aspx?d=POP&f=tableCode%3A1 (2021).
/12/	IPCC. Forest Land. in Refinement to 2006 IPCC Guidelines National Greenhouse Gas Inventories Vol. 4 Agriculture Forestry and Other Land Use vol. 4 (2019).
/13/	FAO. Global Forest Resource Assessment: Burkina Faso. https://fra-data.fao.org/BFA/fra2020/home/ (2020).

Background documents

Ref no.	Reference Document
/B01/	1. Validation and Verification Standard for programmes of activities version 03.0
/B02/	Applied baseline and monitoring methodology: Simplified methodology for efficient cookstove v.1.1
/B03/	1. Gold Standard Principles and Requirements version 1.2, dated 23/10/2019 2. Gold Standard Programme of Activity Requirements version 2, dated 05/05/2022 3. GS Validation & Verification Body Requirements version 2.0, dated 14/01/2021
/B04/	Community Services Activity Requirements (version 1.2) under GS4GG https://globalgoals.goldstandard.org/200-gs4gg-community-services-activity-requirements/
/B05/	1. Standard for sampling and surveys for CDM PAs and PoAs, version 09

	2. Guidelines for sampling and surveys for CDM project activities and programme of activities (version 04.0)
/B06/	CDM Tool 30: Calculation of the fraction of non-renewable biomass v.3.0

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	01	**Section no.**		**Date:** 28/06/2022
Description of CL				
It has been observed that the template used for the PoA DD is not the latest one which is available in the GS website. PP is requested to use the latest version of the GS4GG template.				
Project participant response				**Date:** 29/06/2022
PP revised the PoA-DD (version 6.0) in alignment with the latest GS4GG template, namely version 2.1 (released date 31/05/2022).				
Documentation provided by project participant				
GS1340_POA-DD_CP2_v6.0_track GS1340_POA-DD_CP2_v6.0_clean				
VVB assessment				**Date:**
The verification team on the basis of the review of the revised PoA DD v. 6 confirms that the POA DD has updated which is in compliance with the latest version of the GS4GG template. Thus the finding is closed.				

CL ID	02	**Section no.**		**Date:** 28/06/2022
Description of CL				
On the basis of the review of the gold standard impact registry and as confirmed by the PP during remote interview, the verification team finds that the current PoA has not undergone transition to GS4GG. As per the para 6.1.1 and 6.1.2 of GS4GG transition requirement document v.2.0, PP is requested to perform transition of existing PoA to GS4GG standard. PP is requested to refer the transition requirement for further clarification. This requirement is in compliance with the section 5.1.47 of the GS4GG Principles and requirements v.1.2				
Project participant response				**Date:** 29/06/2022
As per the mentioned requirement, PP elaborated a new transition annex document for the renewal of the PoA GS1340.				
Documentation provided by project participant				
T-V1.0-Transition-Template_PoA GS1340_v1.0				
VVB assessment				**Date:**
The PP has provided the verification team with the GS4GG transition annex of the PoA “T-V1.0-Transition-Template_PoA GS1340_v1.1”. Thus the finding is closed.				

CL ID	03	**Section no.**		**Date:** 28/06/2022
Description of CL				
It has been observed by the verification team that Co2logic is associated with the PoA as an additional party, therefore PP is requested to add the details in the key project information table of PoA-DD along with submission of any letter of engagement or authorization as a proof for the relationship to the verification team.				

Project participant response	Date: 13/07/2022
CO2logic is rather a project consultant for the certification aspects rather than a project participant. A letter describing the nature of the collaboration is found in document : '20220705 - Letter of engagement_tiipaalga CO2logic'. Hence, the name of CO2logic is not present in the KPI Table. The KPI table of the transition annex was also revised in this sense.	
Documentation provided by project participant	
20220705 - Letter of engagement_tiipaalga CO2logic T-V1.0-Transition-Template_PoA GS1340_v1.1	
VVB assessment	**Date:**
The verification team has assessed the document provided by the PP /03/ and concludes that the name of CO2ogic is not necessary to add as additional party in the KPI table. Thus the finding is closed	

CL ID	04	Section no.		Date: 28/06/2022
Description of CL				
Under the section II" Baseline Methodology" of the methodology "Simplified Methodology for Efficient Cookstoves v 1.1", "whenever the project proponent applies a renewable crediting period, the baseline must be reassessed as per the latest version of the methodology and Gold Standard rules on renewal of crediting period. It has been observed by the verification team that the PoA DD v.3 dated 12/09/2014 used the older version of the methodology "Simplified Methodology for Efficient Cookstoves v.1.0", while the current PoA DD has used the updated version of the methodology" Simplified Methodology for Efficient Cookstoves v.1.1" But the PP has not taken into account for the changes and updated values of the methodology in the current PoA DD. Therefore PP is requested to revise the PoA DD with updated GS4GG methodology.				
Project participant response				**Date:** 29/06/2022
Comparing the 2 versions of the methodology (v1.0 vs. v1.1, track change version available on this link), no change were noted for the definition of the baseline scenario. Though PP amended the PoA-DD (vers 6.0) Section B.2. Application of the methodology with additional information on the project boundary, baseline and project scenario, this in alignment with newest version of the methodology (v1.1). Those considerations will be clearly defined at the VPA level in each VPA-DD validated under the PoA GS1340.				
Documentation provided by project participant				
GS1340_POA-DD_CP2_v6.0_track GS1340_POA-DD_CP2_v6.0_clean				
VVB assessment				**Date:**
On the basis of the review of the revised PoA DD, the verification team confirms that the revised POA-DD has been prepaid in compliance with the latest version of the methodology "Simplified methodology for efficient cookstove v.1.1" Thus the finding is closed				

CL ID	05	Section no.		Date: 28/06/2022
Description of CL				
PP is requested to provide the "Data fixed ex-ante" and "Date to be monitored" in appropriate section in the current PoA-DD. Moreover, PP is also requested to provide ER sheet for the assessment of estimated emission reduction to the verification team.				
Project participant response				**Date:** 29/06/2022

PP amended the PoA-DD accordingly by adding two subsections in the document. Namely: • Section B.2.v. Data and parameters fixed ex ante to be reported in VPA-DD • Section B.2.vi. Data and parameters to be monitored In PP opinion, ER calculation sheet is not appropriate since the ER are not generated at PoA level but rather at each VPA-level. Such a file with ex-ante estimations of ER will be elaborated at each inclusion of new VPA under the PoA GS1340.
Documentation provided by project participant
GS1340_POA-DD_CP2_v6.0_track GS1340_POA-DD_CP2_v6.0_clean
VVB assessment **Date:**
The verification team has observed that the PP has revised the PoA DD and added the “data fixed ex-ante” and “Data to be monitored” in the section.2 of the PSF. Thus the finding is closed.

Appendix 5: Methodology Applicability

The microscale project applies the approved monitoring methodology Simplified Methodology for Efficient Cookstoves v1.1 /B02?. Applicability criteria for the baseline methodologies /B02/ are assessed by the validation team by means of document review and interview. It is agreed in the validation team’s opinion that the project activity fully meets the criteria as described below:

Applicability criteria as per methodology	Means of Validation
1. This methodology is applicable, i. If the baseline fuel is only fire wood; ii. If the baseline stove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion of air supply or flue gas ventilation; and iii. If the project stove is single pot or multi pot portable or in-situ cook stoves with specified efficiency of at least 20%.	As verified during the remote audit inspection and review of POA-DD, /02/ validation team confirms that the project activity consists of the efficiency improvements in thermal applications of non-renewable biomass. The project activity consists of the dissemination efficient cookstoves in household level.
2. The project boundary can be clearly identified, and the cookstoves counted in the proposed project activity are not included in another voluntary market or CDM project activity (i.e. no double counting takes place). The project proponent must have a mechanism in place together with appropriate mitigation measures to prevent double counting.	Validation team based on review of POA-DD /02/ and remote audit interviews confirms that the project activity involves distribution of efficient cook stoves. On the basis of the review of the POA DD and remote interview, the verification team confirms that the project boundary is the physical, geographical sites of the project technology and potentially of the baseline and project fuel collection. Therefore the PoA has met this applicability criteria
3. The project proponent must clearly communicate that the entity is claiming ownership rights and selling of the emission reductions resulting from the project activity. This must be communicated to the efficient cookstoves producers, retailers and end users by contract or clear written assertions in the transaction paperwork. For example, leaflets distributed with the products alerting end-users to	The Households will be explained on the regarding matter during the implementation of the PoA and further communications will be described in the VPA DD

the waiving of their carbon rights in exchange for pricing of the improved cookstove which discounts its true cost (waiver forms signed by end users are another example)	
4. The use of baseline cookstove as a backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g. discounted price for the improved technology) and the definitive discontinuity of its use.	Mechanisms to encourage the cessation of baseline stoves will be implemented by educating local people on the extensive health and environmental benefits of abandoning inefficient baseline technology. The verification team has interviewed end users from the previous Crediting period and observed that they have been educated about the extensive health and environmental benefits of using the efficient cookstoves and were not using the inefficient cookstoves anymore. Therefore PoA has met this applicability criteria.
a) The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology. For example, whether the existing baseline technology is not surrendered at the time of the introduction of the improved technology, or whether a new baseline technology is acquired and put to use by targeted end users during the project crediting period.	
b) The success of the mechanism put into place must therefore be monitored, and the approach must be adjusted if proven unsuccessful. If an old technology remains in use in parallel with the improved technology, the corresponding emissions must be accounted for as part of the project emissions.	

Appendix 6: Sustainability Validation Report

1. Project type eligibility screen

The proposed project "Efficient Cookstoves in Burkina Faso" is a microscale project implemented in Burkina Faso. The project is applying the GS methodology Simplified Methodology for Efficient Cookstoves v1.1.

The project activity involves dissemination of efficient cook stoves, in Burkina Faso. The project is eligible under GS according to clause 3.1.1 of the GS4GG Principles and Requirements document. Furthermore, clause 4.1.3 states that '*A project type is automatically eligible for GS Certification if there are approved GS Activity Requirements and/or GS Impact Quantification Methodologies associated with it or as referenced in GS Product Requirements*'. The GS has published the Community Services Activity Requirements which include end-use energy efficiency projects, under which the project activity falls. Hence, the project activity falls under the automatic eligibility list of projects.

2. Preliminary review under Gold Standard for the Global Goals

The project involves validation of Design Certification Renewal for a registered microscale project activity. A preliminary review is not required for Design Certification Renewal.

3. Sustainability Development Goals (SDG) outcomes

As per the POA DD, the relevant SDG targets are

SDG	Chosen SDG target
Goal 1: No Poverty	1.1- By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.90 a day. 1.4- By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.
Goal 3: Good health and well being	3.9- By 2030, substantially reduce the Number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Goal 4: Quality education	4.4- By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Goal 5: Gender equality	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
Goal 7 - Affordable and clean energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services
Goal 13 - Climate action	13.2 Integrate climate change measures into national policies, strategies and planning
Goal 15: Life on land	15.1By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater

	ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Validation team confirms that the outcome for SDG 13 will be quantified as CO2 emission reductions by applying the methodologies Simplified Methodology for Efficient Cookstoves v1.1.The project proponent has opted SDG 13 outcome to be certified as 'Certified SDG 13 Impact Statement' allowing the generation of carbon credits (VERs).

As per the POA-DD, the other SDG impacts of this project activity (SDG 1, SDG 3. SDG 4, SDG 5, SDG 7 and SDG 15) will not be certified as 'Certified Impact Statements' and therefore, for these SDG impacts no specific methodologies for estimation and monitoring will be applied. POA-DD

4. Data and parameters fixed ex-ante

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter - Description	EFb,fuel,CO2 - CO2 emission factor arising from use of firewood in baseline scenario
Unit/Value	1.747 tCO2/ton of firewood
Verified Source of data	IPCC default values, table 1.4 of chapter 1 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Assessment	The value of the parameter is given in the section B.2 of the PoA DD v.7. This value has been soured from the 2006 IPCC guidelines for national greenhouse gas inventories. This value and the source of the parameter is in compliance with the latest version of the GS greenhouse gas quantification methodology "Simplified methodology for efficient cookstove v.1.1".

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter - Description	EFb,fuel,non_CO2- Non-CO2 emission factor arising from use of firewood in baseline scenario
Unit/Value	0.581 tCO2/ton of firewood -
Verified Source of data	IPCC default values, table 2.9 of chapter 2 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Assessment	The value of the parameter is given in the section B.2 of the PoA DD v.7.0 This value has been soured from the 2014 IPCC fifth assessment report. This value and the source of the parameter is in compliance with the GS4GG transition annex v.1.1 provided by the PP.

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter - Description	n_b - Efficiency of the cookstove being used in the baseline scenario
Unit/Value	0.10 - Fraction
Verified Source of data	Gold Standard Simplified Methodology for Efficient Cook stoves

Assessment	The parameter is used for the calculation of emission reduction. The value of the parameter has been sourced from the GS4GG methodology 'Simplified methodology for efficient cookstove v.1.1" and is found to be in compliance. The efficiency will be confirmed in each VPA through their respective baseline survey.

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter - Description	n_p - Efficiency of the cookstove being used in the project scenario
Unit/Value	Fraction Value N/A
Verified Source of data	Determined following the Water Boiling Test Protocol.
Assessment	The parameter is used for the calculation of emission reduction. The value of the parameter will be determined through water boiling test protocol which is in compliance with the GS4GG methodology "Simplified methodology for efficient cookstove v.1.1.".

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/parameter - Description	fNRB,b,y - Non-renewability status of wood fuel during year y
Unit/Value	98% - Fraction
Verified Source of data	Report of study 'de Wet, R. & de Wet, K. 2021. Calculation of the fraction of non-renewable biomass(fNRB) — Burkina Faso v1.0. Themis Environmental and Delta Ecology'.
Assessment	The parameter is used for the calculation of emission reduction. This is in accordance with the applied methodology Simplified methodology for efficient cookstoves v.1.1 /B02/ and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/parameter - Description	Bb,y-Firewood consumption for cooking in the baseline
Unit/Value	Tonnes firewood per household per year
Verified Source of data	To be determined separately for each VPA included in the POA
Assessment	N/A.

5. Data and parameters to be monitored

Relevant SDG Indicator	**SDG 1. No poverty**

Data/parameter - Description	Number of people who benefited from microcredit. - Number of people who benefit from micro-credit scheme implemented thanks to the project activities.
Unit/Value	Number of persons
Measurement methods, procedures	The measurement of the parameter is based on qualitative information collected in the reports regarding the microcredit scheme.
Measurement frequency	After each implementation phase of the microcredit scheme
Assessment	The parameter is used to monitoring SDG 1 and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 1. No poverty**
Data/parameter - Description	Average household annual savings i.e., decrease in expenditure on wood fuel purchase - Total estimated amount in FCFA or € saved by the stove users on wood fuel purchase.
Unit/Value	Unit FCFA and/or €
Measurement methods, procedures	The measurement of the parameter is based on quantitative information collected during Monitoring surveys. The end users are asked whether they purchase wood fuel and if so, how much they spend on yearly basis.
Measurement frequency	Annually
Assessment	The parameter is used to monitoring SDG 1 and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 3. Good health and well being**
Data/parameter - Description	Number of households that observed reduction in PM2.5 & carbon monoxide (CO) concentration - Refers to the PM2.5 and carbon monoxide (CO) concentrations in the households that are considered key marker pollutants for exposure to HA
Unit/Value	PM 2.5 micro-gram/m3 and CO (mg per m3)
Measurement methods, procedures	Measure indoor pollution in kitchens among a representative group of households participating in the project
Measurement frequency	Annually
Assessment	The parameter is used to monitoring SDG 3 and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 3. Good health and well being**
Data/parameter - Description	Averted Mortality rate attributed to household air pollution -Refers to quantified health benefits of reduced PM2.5 exposures achieved via a change in household energy use and/or emissions for cooking, heating, lighting.
Unit/Value	ADALYs

Measurement methods, procedures	As per ADALYs methodology
Measurement frequency	Annually
Assessment	The parameter is used to monitoring SDG 3 and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 3. Good health and well being**
Data/parameter - Description	Number of households visited medical facilities/dispensary for treatment of respiratory issues etc. such as cough, shortness in breath, pneumonia and other respiratory issues - Refers to the reduction in incidence of respiratory illnesses.
Unit/Value	Percentage
Measurement methods, procedures	The measurement of the parameter is based on qualitative information collected during Monitoring surveys..
Measurement frequency	Annually
Assessment	The parameter is used to monitoring SDG 3 and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 4. Quality education**
Data/parameter - Description	Number of trainings initiatives for staff involved in the programme - Number of trainings initiatives for staff involved in the programme in order to increase their performance in the programme
Unit/Value	Number
Measurement methods, procedures	The list of training initiatives during the corresponding monitoring period
Measurement frequency	Annual
Assessment	The parameter is used to monitoring SDG 4 and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 4. Quality education**
Data/parameter - Description	Number of workshops carried out by women - Number of workshops carried out for women in order to increase their empowerment
Unit/Value	Number
Measurement methods, procedures	The list of workshops carried out for women during the corresponding monitoring period
Measurement frequency	Annual
Assessment	The parameter is used to monitoring SDG 4 and thus acceptable to the validation team.

Relevant SDG Indicator	SDG 5. Gender equality
Data/parameter - Description	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 - Proportion of stove users perceiving reduced time spent on wood fuel collection since the implementation of the efficient cookstoves
Unit/Value	Fraction
Measurement methods, procedures	The measurement of the parameter is based on qualitative information collected during Monitoring surveys. The end users are asked whether, since they have the 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.
Measurement frequency	Annual
Assessment	The parameter is used to monitoring SDG 5 and thus acceptable to the validation team.

Relevant SDG Indicator	SDG 5. Gender equality
Data/parameter - Description	Number of women serving in managerial/leadership /ownership role - Number of leader women which will be formed by tiipaalga staff to teach the construction methods for the cookstoves. The trained women will then form other women in the rural villages so that they will implement the technology within their households.
Unit/Value	Number
Measurement methods, procedures	The list of workshops carried out for women during the corresponding monitoring period
Measurement frequency	Annual
Assessment	The parameter is used to monitoring SDG 5 and thus acceptable to the validation team.

Relevant SDG Indicator	SDG 7. Affordable and clean energy
Data/parameter - Description	Number of efficient cookstoves disseminated - Number of efficient cookstoves included in the project database for project scenario p
Unit/Value	Number
Measurement methods, procedures	The project database provides a list of end-users with number of efficient cookstoves per end-user.
Measurement frequency	Continues
Assessment	The parameter is used to monitoring SDG 7 and thus acceptable to the validation team.

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter - Description	Up,y - Usage rate in project scenario p during year y
Unit/Value	Percentage
Measurement methods, procedures	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.
Measuring frequency	Annually
Assessment	This is in accordance with the applied methodology Simplified methodology for efficient cookstoves v.1.1 /B02/ and thus acceptable to the validation team.

Relevant SDG Indicator	SDG 13. Climate Action
Data/parameter - Description	$N_{p,i}$ - 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).
Unit/Value	Number of households included in the project (Units), based on days of usage of age group i during the corresponding monitoring period related to one year.
Measurement methods, procedures	For the determination of the number of usage days at household level for age group I during the corresponding monitoring period, the latest start day of use of all constructed 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 I during the corresponding monitoring period related to one year.
Monitoring frequency	Annual
Assessment	This is in accordance with the applied methodology Simplified methodology for efficient cookstoves v.1.1 /B02/ and thus acceptable to the validation team.

Relevant SDG Indicator	SDG 13. Climate Action
Data/parameter - Description	DF_n - Discount factor to account for efficiency loss of project stoves
Unit/Value	Fraction
Measurement methods,	N/A

procedures and frequency	
Assessment	This is in accordance with the applied methodology Simplified methodology for efficient cookstoves v.1.1 /B02/ and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/parameter - Description	DFb,stove,i - Discount factor to account for the baseline stove use in project scenario p during the year y
Unit/Value	Percentage
Measurement methods, procedures	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
Assessment	This is in accordance with the applied methodology Simplified methodology for efficient cookstoves v.1.1 /B02/ and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/parameter - Description	Number of tCO2e reduced by the project - Number of tCO2e reduced thanks to the implementation of the project
Unit/Value	Tonnes of CO2e
Measurement methods, procedures	See section a.2 of VPA- DD
Monitoring frequency	Annual
Assessment	This is in accordance with the applied methodology Simplified methodology for efficient cookstoves v.1.1 /B02/ and thus acceptable to the validation team.

Relevant SDG Indicator	**SDG 15. Life on land**
Data/parameter - Description	Quantity of non-renewable wood saved due to the use of cookstoves
Unit/Value	Tonnes of wood
Measurement methods, procedures	The calculation is done as described in section A.2 of VPADD
Measurement frequency	Annual
Assessment	The parameter is used to monitoring SDG 15 and thus acceptable to the validation team.

Annex 1: Assessment of fNRBi, y

Project representative has contracted an Independent third party "Themis Environmental (Pty) Ltd." for a study and calculation of f_{NRB} as per CDM Methodological Tool: "Calculation of fraction of non- renewable biomass" (v03.0). Validation team confirms that it has checked f_{NRB} calculation report/07-a/ and spread sheet /07-b/ prepared by Themis Environmental (Pty) Ltd.

As per the applied methodological tool, In the case of ex ante calculation of $f_{NRB,}$ the parameter f_{NRB} shall be estimated using the most recent historical year for which data is available. Review of f_{NRB} report /07-a/ prepared by Themis Environmental (Pty) Ltd. revealed that all the data used for the calculation is latest available data at the time of validation.

Review of f_{NRB} calculation report/07-a/ and spread sheet /07-b/ prepared by Themis Environmental (Pty) Ltd. reveals that the estimation of domestic consumption was derived from the valid literature available to the public (Behr et al. 2017) /10/ and UN population statistics/11/, in combination with the national average per capita woody biomass consumption. Charcoal consumption has been converted to the equivalent wood biomass by the IPCC default factor of 6. The non-domestic woody biomass consumption estimates provided by public literature (Behr et al. 2017) have been conservatively applied. The total woody biomass consumption for Burkina faso is as per the f_{NRB} report /07-a/ prepared by Themis Environmental (Pty) Ltd. is estimated to be 13,541,371 t/yr, which is deemed appropriate to the VVB.

In Burkina Faso, three ecological zone has been found i.e., Tropical dry forest, Tropical moist forest, Tropical shrubland the same was verified by referring the FAO data through web-research. VVB has noted that in the report /07-a/ geospatial data products for Burkina Faso were analysed in R to estimate Burkina Faso's renewable biomass. The woody cover from all areas defined as "forest" (>10%) cover "other wooded land" (5-10% cover) as well as "other land" (<5% cover).

The woody cover was disaggregated according to the FAO global ecological zones and the total woody cover extent was calculated for each ecological zone, within the protected areas and within areas that are either accessible or geographically remote. The woody cover is estimated as a percentage for the whole country within 30 x 30 m resolution grid cells. The woody cover extent for each cell is therefore calculated as the woody cover percentage multiplied its area (0.9 ha).

The default age-weighted mean annual increment (MAI) estimates of each ecological zone, as reported by the IPCC/12/, was used for the study, checked, and confirmed by the VVB. The proportion of forest stand ages above and below 20 years old were estimated for each ecological zone by extrapolating the observed forest gain extents between 2000 and 2020 to a 20-year period. The resulting average MAI estimates for Burkina Faso are 1.60, 0.90, and 0.90 t/ha/yr. for the tropical dry forest, tropical moist forest, and tropical shrubland respectively.

Table below provides the validated total, protected and remote forest cover extent, mean annual increment and renewable biomass by ecological zone for Burkina Faso.

Ecological Zone	Total forest cover (ha)	Protected cover (ha)	Remote cover (ha)	MAI(t/ha/yr)	Renewable biomass (t/yr)
Tropical dry forest	4,01,478	1,40,275	1,74,985	1.60	137,948
Tropical moist forest	3,45,139	43,610	1,97,557	0.90	93,575
Tropical shrubland	5,146	125	3,060	0.90	1,765
Total	7,51,763	1,84,010	3,75,602 3	-	233,289

The difference between woody biomass consumption and renewable biomass is considered to be non-renewable. Non-renewable biomass utilisation in Burkina Faso is, therefore, validated as 133,08,082 t/yr. The fraction of non-renewable biomass is the quotient of the non-renewable and the total biomass. The fraction of non-renewable biomass for Burkina Faso is, therefore, validated as 0.98.

As per the para 13 of CDM Tool 30 “Calculation of the fraction of non-renewable biomass”, the NRB value estimated has been cross checked as per the guidance and provided in the third party f_{NBR} report /07-a/. A value of 2,389,500 t/year has been obtained as the product of biomass and deforestation rate. These values have been sourced from FAO global forest resource assessment/13/ and the same has been cross checked by VVB and is found to be consistent. The estimated NRB value is found to be more than 10% than the product of biomass and deforestation rate. The justification has been provided by the PP in the f_{NRB} report/07-a/ and is deemed to be acceptable to the VVB.

From the review of this report/07-a/ and spread sheet /07-b/ and interviews with the CME and Themis Environmental (Pty) Ltd., validation team confirms the following:

- The report has been prepared by an independent party (i.e., Themis Environmental (Pty) Ltd.) who is experienced in conducting such study.
- The detailed methodology (including the calculation) of conducting the study has been provided in the report /spread sheet /07/.
- The study has been done in accordance with the CDM Methodological Tool: “Calculation of fraction of non- renewable biomass” (v03.0) including the equitation used and the data source as required by the tool.
- All the reference and data source used for the calculation/study has been listed and assessed by the VVB.

In the opinion of validation team, the calculation and placement of f_{NRB} is correct and in line with the CDM Methodological tool: Calculation of the fraction of non-renewable biomass (v03.0) and thus acceptable to the validation team.