Validation report for inclusion of voluntary project activities

(Gold Standard for the Global Goals)

BASIC INFORMATION	
Title of the program of activities (PoA)	Congo (DRC) Improved Cook Stoves Programme
Title of the voluntary project activities (VPA)	GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema
Type of voluntary project activities (VPA)	☒ Real case VPA ☐ Regular VPA
GS ID of real case VPA	GS11327
Version number of the validation report	2.0
Completion date of the validation report	10/05/2023
Version number of the VPA-DD to which this report applies	2.2
Coordinating/managing entity (CME)	Vitol SA
VPA Implementer (s)	WESD Capital Sprl
Project Participants and any communities involved	Vitol SA
Host Country (ies)	Democratic Republic of the Congo (DRC)
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Scale of VPA	☐ Micro Scale ☒ Small Scale ☐ Large Scale
Applied methodologies and version number	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (Version 4.0)
Mandatory sectoral scopes linked to the applied methodologies	Scope 3
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Project Cycle	☐ Regular

	☒ Retroactive	
SDG Impacts	SDG 1 - No poverty	Perceived monetary savings on charcoal spending – End users in 91% perceiving fuel spending saving
	SDG 3 - Good health and well-being	Perceived health conditions improved by the ICS users – End users in 81% perceiving improved health conditions
	SDG 7 - Affordable and Clean Energy	Number of the efficient cookstoves disseminated - 14,400
	SDG 8 - Decent Work and Economic Growth	Number of person (male and female) hired – 10 (female 7, male 3)
	SDG 13 - Climate Action	Emissions Reductions – 28,829 GS VERs
Name of the VVB	CTI Certification Co., Ltd (CTI)	
Name, position and signature of the approver of the validation report	Wu Lin Lin Wu Technical Reviewer/Approver	

SECTION A. Executive summary

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The purpose of the PoA is to sell and distribute Improved cookstoves (ICS) which are efficient in Households throughout Democratic Republic of the Congo (DRC). The proposed "GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema", hereafter referred to as "VPA 003", the VPA is designed to be included into the PoA.

The VPA003 seeks to dissemination of improved cookstoves ("ICS") to households and communities to help halving households' fuel use, thus reducing Greenhouse Gas emissions. These GHG emission reductions will be generated by the reduction of non-renewable biomass fuel consumption through using ICS.

The VPA003 involves dissemination of 14,400 ICSs from 28/04/2021 to 10/06/2021 in the neighbourhoods of Ngaliema, a commune of Kinshasa city and the associated awareness and training campaigns will be provided to the end users, the VPA Implementer distributed the ICS, and the discounted price of the ICS is very low, to encourage the removal of the old cookstoves.

VPA implementer for VPA003 provides on-going servicing of the ICS such that households have sustainable access to ICS over the long-term. Thus, the VPA003 reduces the use of woody biomass fuel that more would have been used in the absence of the VPA. This directly leads to reduced greenhouse gas emissions. This VPA is thus primarily designed for the long-term improvement of the living conditions of the local households and communities in the neighbourhoods of Ngaliema, a commune of Kinshasa city, the capital of Congo (DRC).

Scope of Validation

The scope of the services provided by the CTI Certification Co., Ltd for the VPA is to perform validation of the VPA003. The scope of validation is to assess the claims and assumptions made in the VPA design document (VPA-DD) against the GS4GG criteria, GS approved methodology and other relevant rules and requirements established for GS4GG programme of activities.

The VPA003 applied under Gold Standard for the Global Goals and the Gold Standard Reference No. is 11327.

The objective of this validation is the review by an independent entity whether the VPA is compliant with the applicable sections of:

- the Gold Standard for the Global Goals Principles and Requirements/32/,
- the Gold Standard for the Global Goals Safeguarding Principles & Requirements/34/,
- the Gold Standard for the Global Goals Programme Of Activity Requirements/33/,
- the Gold Standard for the Global Goals Community Services Activity Requirements/35/,
- GS4GG GHG Emissions Reduction & Sequestration Product Requirements/37/,
- the Gold Standard for the Global Goals Stakeholder Consultation and Engagement Requirements/36/,
- the applied GS Methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 4.0"/28/,
- Any other decisions taken by the Technical Advisory Committee of GS (GS-TAC);
- other relevant rules, including the host country legislation

As per the requirements of the Gold Standard for the Global Goals Principles and Requirements/32/, the validation is based on

- the GS4GG VPA-DD/1/,
- the GS4GG PoA-DD/4/,
- further supporting documents made available to the validator as well as
- information collected through performing remote validation interviews.

Furthermore, publicly available information, such as the host country legislation, was considered as far as available and required.

Validation Process and Methodology

The validation has been performed as described in the Gold Standard for the Global Goals Principles and Requirements/32/ as below process,

a) Desk review of GS VPA-DD (version 1.0 dated 09/12/2021)/1/ and the relevant documents submitted by the CME in context of GS4GG criteria
b) Remote validation assessment (11/06/2022~10/07/2022) by conducting meeting call, email interview, phone interview by validation team or local experts with the representative of the CME, VPA implementer, sampled households of VPA.
c) Issuance of draft validation report, reporting audit findings with respect to clarifications (CLs) and non-conformities (CARs)
d) Resolution of the raised CARs and CLs, close all findings
e) Issuance of the final validation report
f) Independent technical review of the final validation report and final/revised documentation (e.g., VPA-DD, VPA Stakeholder Consultation Report (SCR) and evidences)
g) Reporting and closure of TR comments/findings and final approval for the decision made
h) Issuance of final validation report to contracted CME and submission of request for design certification, as appropriate.

Conclusion

CTI has performed the validation of the GS VPA "GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema" having GS Ref. Number GS11327. The actual project design is consistent with the VPA-DD which will create emission reduction from the VPA during the 15-years crediting period (first crediting period is 5 years, the crediting period may be renewed twice in line with the Community Services Activity Requirements) of the VPA.

In CTI's opinion, VPA-DD, supporting documentation and subsequent follow up actions have provided with sufficient evidence to determine the fulfilment of stated GS4GG criteria. CTI confirmed that each SDG Impacts were estimated reasonably on the basis of the approved GS methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 4.0" (Version 1.0)/28/, Gold Standard for the Global Goals Principles and Requirements/32/ and Gold Standard for the Global Goals Programme Of Activity Requirements/33/. Besides, all eligibility criteria established for VPA inclusion in the PoA-DD have been sufficiently fulfilled. Therefore, this is being submitted for request for design certification and included into the PoA Congo (DRC) Improved Cook Stoves Programme (GS11324), as per GS4GG procedures as applicable.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	Remote validation	Interviews	Validation findings
1.	Team Leader & Verifier	IR	Li	Ziqi	CTI	√	√	√	√
2.	Local Expert	EI	Mbwayama Mompia	Naomie	-	-	√	√	-
3.	Local Expert	EI	Nsambu Georges	Yaukwau Makwema	-	-	√	√	-
4.	Local Expert	EI	Yvon Mutombo	Kitungunu	-	-	√	√	-

B.2. Technical reviewer and approver of the validation report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer/Approver	IR	Lin	Wu	CTI

SECTION C. Means of validation

C.1. Desk review

Desk review of all documents provided by CME, VPA implementer and publicly available documents relevant for the validation including VPA-DD/1/, Stakeholder Consultation Report/3/, POA-DD/4/, PoA Design Consultation Report (DCR)/5/, applied methodology, in particular attention to the PoA and VPA design, management system, Eligibility criteria for inclusion of a VPA in the PoA, additionality of VPA, duration of PoA and VPA, safeguarding principles assessment and other relevant supporting documents was conducted by CTI.

The main documents are listed below:

(i) the GS4GG VPA-DD Version 1.0 dated 09/12/2021/1/,

(ii) the Stakeholder Consultation Report Version 1.0 dated 17/08/2021/3/

Other supporting documents, such as publicly available information and background information were also reviewed.

The list of documents reviewed during the validation is provided under Appendix 3 of this report.

C.2. Remote validation

Duration of remote validation: 11/06/2022~30/07/2022				
No.	**Activity performed remote validation**	**Site location**	**Date**	**Team member**
1.	Opening meeting call - interviewed representatives of VPA implementer and consultant - discussed the document evidence	N/A	11/06/2022	Li Ziqi Local Experts
2.	Sent questionnaires to VPA implementer to collect the VPA information	N/A	11/06/2022	Li Ziqi
3.	Sent mail with questionnaire to local experts for site interview with randomly selected household samples who participated in the baseline survey	N/A	11/06/2022	Li Ziqi
4.	Local experts conducted site interview with household samples following the questionnaire	N/A	22/07/2022	Local Experts
5.	Findings discussion and Close Meeting	N/A	30/07/2022	Li Ziqi Local Experts

According to the section 4.1.1 b of COVID 19: INTERIM MEASURES/29/ issued by GS, if a site visit can't be postponed due to significant impact of delaying the site visit on project developer due to commitment as per GS-VERs delivery agreement, VVB can replace mandatory on-site visits with remote audits.

Hence the site visit was not conducted by the validation team, and the below alternatives have been conducted by the verification team as remote audit in line with the requirements from COVID 19: INTERIM MEASURES/29/.

1. CTI used video conference call conducting the opening meeting and interviewed representatives of CME, VPA implementer and consultant, CME introduced the design and plan of the PoA, VPA implementer introduced the design and plan of the VPA, and VVB discussed the document evidence with CME and VPA implementer based on desk review results.
2. CTI sent questionnaires to representatives from VPA implementer to get the information of the VPA. Refer to section C.3 for the details of the survey results.
3. During desk review, to check if the values from baseline sampling survey used in VPA-DD are correct, CTI randomly selected household samples from the samples list of the baseline survey conducted by VPA implementer and prepared the related questionnaires, sent the mail with questionnaire to local experts. Local experts conducted site visit and interview with household samples following the questionnaire provided by CTI. And scanned all the filled questionnaires/49/ to CTI. Refer to section C.3 for the details of the questionnaire.
4. The team discussed findings and conducted close meeting via phone call with CME, VPA implementer and consultant.

In conclusion, although the site visit was not conducted by CTI, through local expert conducted site visit to samples by filling questionnaires/49/ and CTI conducted interview meeting call, the requested information for the validation is got by CTI successfully and can be assessed by the VVB to finish the validation.

C.3. Interviews

C.3.1. Interviews with CME, VPA implementer, consultant and baseline survey household samples

No.	Interviewee			Date	Subject, Reference Number/ID	Team member
	Last name	First name	Affiliation			
1.	Ivanovitch	Michael	Vitol SA/ Senior Project Manager	11/06/2022 30/07/2022	- General aspects of the PoA - ICS sale status - Project database - Sales plan and records - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the PoA - Management of VPAs - Sampling Plan - Baseline survey - Data uncertainty and residual risks - Procedural aspects of the validation - Monitoring plan - Emission reduction calculation	Li Ziqi Local Experts
2.	Bakaly	Georges	WESD Capital Sprl – VPA003 implementer/ Representative	11/06/2022	- General aspects of the VPA - Agreement with CME - VPA management - ICS sale status - Sales plan and records - Monitoring database - Sales record - Environmental aspects - Job opportunities	
3.	Jav	Charles	WESD Capital Sprl – VPA003 implementer/ Manager of Commercial and Marketing			
4.	Nukeba	Clovis	WESD Capital Sprl – VPA003 implementer/ Accounting Officer			
5.	Kambamba	Joel	WESD Capital Sprl – VPA003 implementer/ Operation Officer			
6.	Mulumba	Alain	WESD Capital Sprl – VPA003 implementer/ Officer of			

			Commercial and Marketing			
7.	RUTH	MENGI	Baseline Survey samples	22/07/2022	- General information of interviewee - Baseline Scenario (see below C.3.2 for details questions) - Project Scenario (applicable to sampled end users who bought the ICS) (see below C.3.2 for details questions)	
8.	MICHEE	YENGA MASIYA		22/07/2022		
9.	JOSE	VULA		22/07/2022		
10.	ELYSEE	SHESSE KANSELE		22/07/2022		
11.	BRIGITTE	MUKULA		22/07/2022		
12.	NGABA	YETENTE		22/07/2022		
13.	OTSHUDI	FIDELINE		22/07/2022		
14.	ASELO	ESTHER		22/07/2022		
15.	CARMEL	KIOSSI MUZINGA		22/07/2022		
16.	BITODI	HUGUETTE		22/07/2022		
17.	JUNIOR	BOTAKU		22/07/2022		
18.	JULIE	NGONDIMA MONGADI		22/07/2022		
19.	EFULATO	GERMAINE		22/07/2022		
20.	PETRONI	NZEBA		22/07/2022		
21.	AKAKATSHI	MARCELINE		22/07/2022		
22.	AKONGA	DEBORAH		22/07/2022		
23.	MARIE	LUNZAMBA		22/07/2022		
24.	KANINGA	MABEYI		22/07/2022		
25.	EVINE	WUMBA		22/07/2022		
26.	BABU	MIMI		22/07/2022		
27.	Shi	Frank	Consultant-Beijing Springch Energy Ltd./General Manager	11/06/2022 30/07/2022	- Design of the VPA - VPA-DD and SCR editorial errors	

C.3.2. Type of Questions asked by the team members:

The questions in the questionnaires asked were basically based on requirements of GS4GG/34/,/33/. The main topics included, but not limited to, the followings:

For questions asked to VPA implementer,

1. General information of interviewee
    a. Name

b. Age
c. Gender
d. Education
e. Mobile No.
f. Email
g. VPA003 is implemented by which party?
h. When signed contract with CME?
i. When did you buy the ICS from manufacturer?
j. When did you sale the first ICS for VPA003?
k. How many stoves have been sold under VPA003? And describe the sales timeline.
l. How can you gather the sales information?
m. Did you set the VPA database for the stoves and end users? And describe the database
n. Is there any unique identification to ICS you sold?
o. When did you conduct the baseline survey? Who and how to do the survey need to be specified.
p. How can you make sure no double counting?
q. How many jobs opportunities does the VPA provided to local people? (divided by male and female)

The feedback from VPA implementer are listed in the filled questionnaire, and via checking the information, VVB confirmed that the information gained from VPA implementer is consistent with the information provided in the VPA-DD, hence VVB verified that the information of the VPA-DD is actual and correct.

For questions asked to baseline survey samples,

1. General information of interviewee
   a. Name.
   b. Age
   c. Gender
   d. Household location
   e. Education
   f. Mobile No.
   g. People No. in the Household
2. Baseline Scenario:
   h. Before using the ICS, which kinds of stove did you use?
   i. Before using the ICS, which kinds of fuel did you use?
   j. Before using the ICS, how many meals do you cook daily? _____
   k. Before using the ICS, how many charcoal/ firewood you used daily _____kg?
   l. Before using the ICS, do you think the fuel use changed by seasonal variations?
   m. Before using the ICS, how did you get the fuel?
      If purchased, the price paid for the fuel? _____
      If hand-collected, the walking distances for obtain the fuel? _____km, how many persons will collect the fuel? _____, and how much time will cost for obtain the fuel? _____hour
      If the fuels are collected, how many time did you to collect the fuels? _____ hours
3. Project Scenario (applicable to sampled end users who bought the ICS):
   n. Where or did you buy the ICS? Location _____
   o. Did you buy ICS for household cooking?
   p. Which information did you provide when you bought the ICS?
   q. Is there any unique No. or identification to your stove?
   r. Do you know that if you use the ICS, you have relinquished the ownership of the carbon credits generated to the CPA implementer?
   s. Did you signed a sale agreement that evidenced you bought an ICS?
   t. Did you promise that traditional fireplaces will not be used anymore and will be disposed of?
   u. After using the ICS, do you still use your old stove? Never use☐/Use parallel☐

v. Do you think you save fuel with ICS comparing with your old stove? Yes☐/No☐

w. Do you think the project provided job opportunities to the local people? Yes☐/No☐

The feedback from baseline survey samples from VVB questionnaires/49/ are listed as below:

General information of interviewees - All the interviewees provided the general information of the baseline scenario and household. The people No. in Household is confirmed as same to the results in PP baseline sampling survey.

For the baseline scenario information, by comparing with the information in the VVB questionnaires/49/ and PP baseline sampling survey results, CTI confirmed that all the information is consistent.

For the project scenario information, by comparing with the information in the VVB questionnaires/49/ and VPA design information in the VPA-DD, CTI confirmed that all the information of VPA is consistent.

Validation Team along with remote validation and local experts conducted the site interview, objective evidence collections, data generation and recording analysis also considered the views obtained in these interviews while arriving at Validation Opinion.

C.4. Sampling approach

Sampling approach by VPA implementer

The baseline survey sampling design carried out by the VPA is demonstrated as below:

Before preparing the VPA-DD, VPA implementer conducted the baseline scenario survey from 22/03/2021 to 28/04/2021/8/, which is verified as in line with the section 4.3 requirement of the methodology/28/. The baseline scenario survey is used to determine the baseline scenario and define the baseline technology and fuels, and values of ex ante parameters of below,

a. Average household size
b. Baseline fuel type
c. Baseline stove type
d. Average charcoal consumption - $P_{b,y}$

The baseline scenario survey records/8/ are verified by CTI, it is confirmed that the sample size determination for baseline scenario survey is in line with the section 4.3 of methodology requirement/28/.

As per the section 4.3 of applied methodology/28/, the baseline scenario survey should be carried out for each baseline scenario using representative and random sampling, following these guidelines for minimum sample size:

Group size <300: Minimum sample size 30 or population size, whichever is smaller

Group size 300 to 1,000: Minimum sample size 10% of group size

Group size > 1,000 Minimum sample size 100

Via checking the public information of the population in DRC/40/, CTI confirmed that Commune Ngaliema has a population of more than 683,135 people, the household numbers are all much larger than 1,000, therefore, the sample size should be at least 100. And 90% confidence interval and a 10% margin of error requirement was selected by VPA implementer and CME for the baseline survey and by checking the Section 4.4 of applied methodology/28/, CTI verified that total 100 households were randomly sampled across target project area in Ngaliema. The VPA implementer has employed a random sample selection method to ensure the final sample selected for baseline scenario survey was representative while optimizing fieldwork efficiency. The sample was selected in household level.

The baseline scenario survey records/8/ is verified by CTI, it is confirmed the surveys included questions about basic household characteristics including the technologies and fuels used such as surveyors' name, address, telephone number, age, gender, education background, household size, present cookstove type, fuels type price and consumption. Other critical information on target population characteristics, such as the addresses or location, mobile telephone numbers and/or landline telephone number (when possible), number of people served by baseline technology, typical baseline technology usage patterns and tasks (commercial, institutional, domestic, etc.) and so on, was also collected. This information is verified by checking original Baseline Scenario Survey filled Questionnaires/9/ which is the basis of baseline scenario survey records/8/.

Based on checking the data collected through baseline scenario survey records/8/, it is concluded that below

parameters are determined,

a. Average household size – 4.98 persons per household
b. Baseline fuel type - only charcoal
c. Baseline stove type - low-efficiency simple braseros
d. Average charcoal consumption - 2.34Kg/day/household

Via checking the sampling method as stated in baseline scenario survey records/8/, CTI verified that the method is methodology requirement/28/ and based on checking the original Baseline Scenario Survey filled Questionnaires/9/, CTI confirmed that the baseline scenario survey results are reasonable for determine the above parameters in the baseline scenario.

In order to focus on if the chosen sampling approach is adequate and acceptable, VVB conducted a sampling approach during remote validation, details are stated in following section.

Sampling approach by VVB

CTI conducted the verification of sampling results with the following steps following "Sampling and Surveys for CDM Project Activities and Programme of Activities" version 09.0/26/ and "Guideline of Sampling and surveys for CDM project activities and programmes of activities" version 04.0/25/:

For parameters listed in above, validation team made the sampling plan for interview households samples selected from baseline scenario survey during the remote validation using Simple random Sampling approach as specified in the "Sampling and Surveys for CDM Project Activities and Programme of Activities" version 09.0/26/ with the following steps,

(a) Take a random sample of the project's sample records;

In order to determine the size of the sample household for remote validation interview check, the acceptable quality level (AQL), i.e. the proportion discrepancies between the PP sample records and the VVB sample records that are acceptable is determined as 1.0% and the proportion of discrepancies between the PP sample records and VVB sample records that are unacceptable (UQL) is determined as 15% according to "Sampling and Surveys for CDM Project Activities and Programme of Activities" version 09.0/26/.

The maximum errors associated with the determination indicated above should remain at levels indicated below as per "Sampling and Surveys for CDM Project Activities and Programme of Activities"/26/:

(1) A 5% chance that the VVB will wrongly reject the PPs records (producer's risk);

(2) A 20% chance that the VVB will wrongly accept the PPs records (consumer's risk) due to the VPA is located in LDC.

With the AQL of 1.0%, the UQL of 15%, the producer's risk of 5% and the consumer's risk of 20%, the size of the acceptance sampling is determined as 19 and the acceptance number is determined as 1 according to Table 2 of "Sampling and Surveys for CDM Project Activities and Programme of Activities"/26/. To be more conservative, verification team randomly selected 20 from the baseline scenario survey sample records/8/.

Took a random sample selection of the baseline scenario survey sample records/8/ using the excel function, and Local Experts conducted the site visit of the 20 households sampled by the verifier and filling the questionnaires/49/. Refer to section C.3 for the questions listed in the questionnaires.

(b) Check the acceptability of the data for each record in the sample records based on the expertise;

The answers in the questionnaires/49/ filled by 20 samples selected by CTI from the baseline scenario survey conducted by VPA implementer is found to be consistent with the sample records in the baseline scenario survey questionnaires/9/. Also, no discrepancy is found between the baseline scenario survey sample records/8/ and the VVB sample records/49/.

(c) Based on the number of records where is agreement, determine if the sample records meet the requirements.

As there are no discrepant records, i.e. the discrepant record is less than the acceptance number of 1, the baseline scenario survey sample records/8/ is accepted as per "Sampling and Surveys for CDM Project Activities and Programme of Activities"/26/.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance of the VPA-DD with the VPA Design Document	-	-	-
Key Project Information assessment	-	-	-
General description of VPA	CL 01	CAR 01 CAR 02	-

		CAR 03 CAR 04 CAR 05 CAR 06 CAR 07	
Application of methodologies	-	CAR 08	-
- Selected approved methodology(ies) and methodological tools	-	-	-
- Application of methodology(ies) and tools	-	-	-
- Project boundary	-	CAR 09	-
- Baseline scenario	CL 02	-	-
- Demonstration of additionality	-	-	-
- Prior Consideration	-	-	-
- Ongoing Financial Need	-	-	-
- Outcome of SDG impacts	CL 03 CL 04 CL 05 CL 06 CL 07	CAR 10 CAR 11	-
- Monitoring plan	CL 08 CL 09	CAR 12 CAR 13 CAR 14 CAR 15 CAR 16	-
Duration and crediting period	CL 10	CAR 17	-
Safeguarding principles and Gender Sensitive assessment	CL 11	-	-
Outcome of stakeholder consultations	CL 12	-	-
Others (please specify) (Evidences)	-	-	-
Total	**12**	**17**	**0**

SECTION D. Validation findings

D.1. Compliance of the VPA-DD with the VPA Design Document

Means of validation	The Gold Standard for Global Goals prescribes a template for VPA-DD/DDT/. Therefore, CME has used the Gold standards for global goals VPA-DD form version 2.0/30/ which has been issued by Gold Standards on 04/05/2022. Furthermore, the "VPA-Guide_V2.0-VPA-Design-Document"/31/ has been referred by CME to fill the information of the VPA into the VPA-DD. In addition, all the GS4GG requirements are included in accordance with the Principles and Requirements/32/ and PoA Requirements/33/.
Findings	No findings were raised.
Conclusion	The final version of VPA-DD/1/ is found to be in compliance with the applicable latest VPA-DD template/30/ and instructions/31/ contained therein.

D.2. Key Project Information assessment

Means of validation	The Project activity involves dissemination of improved cookstoves ("ICS") to households and communities to help halving households' fuel use, thus reducing Greenhouse Gas emissions which has been verified as actual by remote validation. The activity requirements applied is Community Services Activities. The annual average thermal energy savings is 0.00119 (ton/household/day) *14,400*365 (household * day) * 0.0295 TJ/ton*1000/3.6(MWh/TJ) = 51.25 GWh_{th} (refer to below section D.2 for details assessment), which is less than 180 GWh_{th}. As per section 9.1.1 and 9.1.2 of GS4GG GHG Emissions Reduction & Sequestration Product Requirements (Version 2.0)/37/, the VPA003 is a small-scale GS VPA VER project. The VPA003 is a retroactive VPA with the time of first submission is 09/12/2021, within one year of the VPA start date of 28/04/2021. The project applied GS approved methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" (Version 4.0). Product Requirements applied is GHG Emissions Reduction & Sequestration.
Findings	No findings were raised.
Conclusion	The validation team confirms that the process undertaken to describe the key information of the project is described above. The information of the project is justified from the terms mentioned in Key project information form in PDD which has been assessed by the validation team, and CTI confirms that the GS project activity qualifies the eligibility criteria for GS4GG project activities.

D.3. General description of VPA

Means of validation	Below information has been checked against the GS4GG Principles& Requirements/32/ and Gold standards for Global Goals PoA-DD form version 1.1 as below, ***i. Purpose and general description of the VPA*** The purpose of the VPA is to sell and distribute Improved cookstoves (ICS) which are efficient in Households in the neighbourhoods of Ngaliema, a commune of Kinshasa city. In the absence of the proposed VPA, inefficient traditional stoves would be in continuous practice for cooking, which would lead to high consumption of non-renewable biomass fuels & release of particulate emissions into the atmosphere. Via remote verification by VVB, CTI confirmed that the ICS under the VPA combust biomass fuels more efficiently, reducing the GHG emissions and particulate emissions, thus improving the indoor air quality in project households. The VPA003 involves dissemination of 14,400 ICSs from 28/04/2021 to 10/06/2021 in the neighbourhoods of Ngaliema, a commune of Kinshasa city by checking the Monitoring Database/7/ and the associated awareness and training campaigns will be provided to the end users, the VPA Implementer distributed the ICS, and the discounted price of the ICS is very low, to encourage the removal of the old cookstoves.

Via interview with the VPA implementer during remote validation, CTI confirmed that there are no additional stoves would be distributed based on the current plan in this VPA, which means that the VPA003 only include the distribution of 14,400 ICS.

And via checking the Manufacturer specifications of ICS/12/, CTI confirmed that with the higher thermal efficiency (29.7% and 33.6%) of the ICS comparing with the traditional/baseline stoves, the ICS reduce the amount of non-renewable biomass fuel required for meeting similar thermal energy needs.

The summary of the VPA and the technology involved are described in the VPA-DD/1/ with sufficient details and clarity. The accuracy of the VPA description was determined based on the remote survey as part of validation audit, review of supporting documents (as mentioned in Appendix 3), and interaction with the project personnel from CME and CPA implementer.

ii. Eligibility of the VPA under approved PoA

Eligibility criteria	Assessment by VVB
Geographical boundaries & Target area Condition: Each VPA shall involve installation of ICS within the geographical boundary of PoA.	The aim of the VPA is to provide ICS to households in the neighbourhoods of Ngaliema, a commune of Kinshasa, Congo as mentioned by VPA implementer under Section A.1 of the VPA-DD/1/ and confirmed through the monitoring database of VPA003/7/. The VPA fulfills this eligibility criterion.
No Double Counting Condition: Each VPA shall be added to the monitoring database with a unique set of distribution data.	Via checking the ICS photo taken by local experts on-site and checking the ICS photos provided by VPA implementer, validation team confirmed that ICS cookstove have a unique serial number. Besides, via checking the monitoring database, it is also confirmed that a unique set of end-user data (including ID, phone number (as available) location and GPS location) has been established by VPA implementer and maintained by CME for management of VPA003 and all relevant end-users. A no double counting declaration/20/ is provided by VPA implementer of VPA003 states that no double counting will be occurred by the VPA. The VPA fulfills this eligibility criterion.
Exclusiveness of VPA Condition: The 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 purpose of the PoA is to introduce efficient ICS within the Congo DRC and it has to be cross-checked from the various registries at the VPA-level and confirm that VPAs are neither registered as project activities with other offset schemes, included in other registered PoAs. VPA implementer of VPA003 has provided the declaration related to the VPA003 not registered as an individual project activity/20/ as supporting evidence. Also the website of other offset schemes such as VERRA/48/, UNFCCC/47/ have been checked for search the information, CTI confirmed that the VPA is also not part of another registered PoA. Also, the proposed VPA is not a VPA that has been excluded from a registered PoA as a result of erroneous inclusion of VPAs. The VPA fulfills this eligibility criterion.
Specifications of Technology/Measure Condition: The VPA will promote	The specifications of the installed technology of VPA003 have been checked from the manufacturer's specifications/12/ and cross-checked with certified test result of the efficient of ICSs sold at the VPA003/13/. Based on checking the manufacturer's specifications/12/ and certified test result of the efficient of ICS/13/, the

<table>
<tr><td></td><td>dissemination of improved biomass ICS in PoA. The project ICS combust biomass fuels more efficiently. Due to the higher thermal efficiency of the ICS relative to the traditional/baseline stoves, the ICS reduce the amount of non-renewable biomass fuel required for meeting similar thermal energy needs.
The rated thermal efficiency shall be at least 20%.</td><td>thermal efficiency of ICSs sold in VPA003 have been verified no less than 20%.
The VPA fulfills this eligibility criterion.</td></tr>
<tr><td></td><td>Start Date

Condition:
Date on which the first ICS unit was implemented under the VPA. The start date of the proposed VPA will be on or after the start date of the PoA, and the time of first submission of the required documents of the proposed VPA to GS is within one year of the project start date.</td><td>The start date of the VPA003 is defined as 28/04/2021 which is the date of first ICS implemented in the VPA003 that is confirmed in line with the GS4GG Principles & Requirements/32/, which is confirmed through checking the monitoring database/7/ and is confirmed after the start date of PoA 01/12/2020.
And the time of first submission to GS is 09/12/2021 that is confirmed within one year of the project start date.
The VPA fulfills this eligibility criterion.</td></tr>
<tr><td></td><td>Applicability of the methodologies

Condition:
VPA must in line with applicability criteria of TPDDTEC version 4.0</td><td>
<table>
<tr><th>Applicability of TPDDTEC version 4.0</th><th>Justification</th></tr>
<tr><td>a. Project shall choose a technology design that has predictable performance in that it is proven to be efficient and durable under field conditions; for cookstoves, the rated thermal efficiency shall be at least 20%</td><td>The specifications of the installed technology of VPA003 have been checked from the manufacturer’s specifications/12/ and cross-checked with certified test result of the efficient of ICSs sold at the VPA003/13/.
Based on checking the manufacturer’s specifications/12/ and certified test result of the efficient of ICS/13/, the thermal efficiency of ICSs sold in VPA003 have been verified no less than 20%.
The VPA fulfills this applicability.</td></tr>
<tr><td>b. The technology shall have continuous useful energy output of less than 150kW per unit</td><td>Based on checking the manufacturer’s specifications/12/ and certified test result of the</td></tr>
</table>
</td></tr>
</table>

				efficient of ICSs/13/, the continuous useful energy output of ICS is verified as 1.2kW that is less than 150kW per unit. The VPA fulfills this applicability.
			c. The project activity is implemented by a project developer and can include additional project participants listed in Appendix 2 of the PDD template. The individual households and institutions may be represented collectively by community organizations, etc., but do not individually act as project participants.	The end users of VPA003 have signed a sales record with VPA implementer at the point of sale which has been verified by checking the sales record/11/, and the record showed that individual households will not individually act as project participants. The VPA fulfills this applicability.
			d. The project developer must design incentive mechanism(s), which should be effective as fast as possible, for the elimination of inefficient baseline stoves that are replaced by the project cooking devices and describe the incentive mechanism(s) in the PDD/VPA-DD at the time of validation.	By checking the sales record/11/, it is confirmed that the incentive mechanisms have been provided in VPA003 as gave some discount to the end users when they bought the ICS if the inefficient baseline stoves replaced can be taken away by the implementor. The VPA fulfills this applicability.
			e. To avoid double counting or double claiming, the project developer must: i. clearly communicate its ownership rights and intention of claiming the emission reductions resulting from the project activity to the following parties by contract or clear written assertions in the transaction paperwork: all other project participants; project technology manufacturers; and retailers of the project technology or the renewable fuel in use; and ii. inform and notify the end users that they cannot claim emission reductions from the project, and	i. The end users of VPA003 have signed a sales record with VPA implementer at the point of sale which has been verified by checking the sales record/11/, based on the sales record, CTI confirmed that the VPA003 implementer and CME have clearly communicated its ownership rights and intention of claiming the emission reductions resulting from the VPA003 to the parties including all other project participants; project technology manufacturers; and retailers of the project technology or the renewable fuel in use by contract or clear written assertions in the transaction paperwork with these parties. ii. Via checking the sales record/11/, the validation team is able to verify that a

			iii. exclude from the project activity, cooking devices included in any other voluntary market or CDM project activity/PoA, and strive not to displace the cooking devices of another CDM or voluntary project/PoA.	carbon rights waiver has been integrated to the sales record upon sale of each ICS to make the end users aware of them waiving ownership rights over emission reductions and to make sure the VPA003 implementer has the legal ownership of the emission reductions generated by the VPA003 when they buy the ICS. Besides, during the local stakeholder consultation (LSC) process of VPA003 confirmed by checking the SCR/3/, it is confirmed that the stakeholders and end users have been notified that the ownership of ERs waived when end users buy the ICSs in VPA003. iii. As per above eligible criteria 2 and 3, exclude from the VPA will be confirmed as no double counting will be occurred for VPA003. The VPA fulfills this applicability.
			f. Project activities making use of solid non-renewable biomass fuel in the project scenario or other improved non-renewable biomass fuel cookstoves meeting certain conditions described in the footnote to Table 1 (e.g. switch from three-stone fire biomass stoves to LPG stoves) may only claim emission reductions for energy efficiency improvement aspect and shall assume the same baseline and project fuel for emission reduction calculations.	N/A for the VPA.
			g. Project activities making use of a new solid biomass feedstock in the project situation (e.g. switch to green charcoal or renewable biomass briquettes) must comply with relevant specific requirements for biomass related project activities, as defined in	N/A for the VPA.

			the latest version of the Community Services Activity Requirements. The specific requirements apply to both plantations established for the project activity and/or existing plantations that will supply biomass feedstock.	
			h. Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases emitted by the project fuel/stove combination are estimated with adequate precision. Furthermore, for projects where cooking will move from outdoor to indoor or where the project technology reduces ventilation (for example, changing from a stove with chimney to improved stove with no chimney), indoor air pollution (IAP) levels shall not worsen in the project compared to the baseline, including PM 2.5 and carbon monoxide (CO) emissions. This may be demonstrated before project Design Certification or during project operation using the certification resulting from of a manufacturer's test, report of field testing of the technology's PM 2.5 and carbon monoxide (CO) emissions, report of lab testing of the technology, or results of modelling of the technology's operation under field conditions. If none of these are available, reference from published literature or report by independent agencies may be used as evidence, provided it is not more than 5 years	The evidence of certified test results/13/ has been provided by VPA implementer which credibly reflect the particulate matter from the using of stoves in VPA003 is 70% lower compared to the baseline stoves. And based on the ICS type used in VPA003 comparing with the baseline stoves, it is confirmed that VPAs will not involve cooking move from outdoor to indoor. The VPA fulfills this applicability.

		old.
		The VPA fulfills this eligibility criterion.
	Additionality Condition: According to the section 4.1.9 Community Services Activity Requirements (version 1.2), 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 of this document) (b) Projects located in LDC, SIDS, LLDC (c) Microscale projects	The aim of the VPA003 is to provide ICSs to households in the neighbourhoods of Ngaliema, a commune of Kinshasa, Congo as mentioned by VPA implementer under Section A.1 of the VPA-DD/1/ and confirmed through the monitoring database of VPA003/7/. And the geographic boundary of Ngaliema has been checked by google earth map and confirmed as within Congo. And Congo (DRC) is in the List of Least Developed Countries, hence the VPA is considered as deemed additional.
	Local Stakeholder Consultation (LSC) Condition: The LSC is conducted at the PoA level and VPA level	The SCR of VPA003/3/ has been checked and confirmed the LSC has been conducted at the VPA level. The VPA fulfills this eligibility criterion.
	No diversion of official development assistance (ODA) Condition: Affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance	Via checking the ODA declaration signed by the VPA implementer/21/, it is verified that no ODA is provided under the condition that the credits generated by the VPA003 will be transferred, either directly or indirectly, to the donor country providing ODA support. The VPA fulfills this eligibility criterion.
	Target Group and Distribution Mechanism Condition: Target Group: Households	The monitoring database/7/ of VPA003 have been maintained at VPA and PoA level. The monitoring database/7/ and sales record/11/ have been checked to confirm the target group only include households and sale mechanism followed by VPA003 implementer. The VPA fulfills this eligibility criterion.
	Sampling Condition: VPAs under the program will adhere to all requirements	The VPA003 monitoring and sampling plan have been described at the VPA level that confirmed as adhere to all requirements as mentioned in TPDDTEC, version 4.0/28/ or the Standard: Sampling and surveys for CDM project activities and programme of activities (Version 09.0)/26/.

	as mentioned in TPDDTEC, version 4.0 or the Standard: Sampling and surveys for CDM project activities and programme of activities (Version 09.0)	Refer to section D.5.1 for details assessment of the monitoring and sampling plan. The VPA fulfills this eligibility criterion.
	SSC Threshold Condition: VPAs meet the small-scale thresholds and remain within those thresholds throughout the crediting period. For project activities that improve thermal energy efficiency, small-scale thresholds, the maximum energy saving of 60 GWh(e) per year is equivalent to 180 GWh(th) per year saving.	The annual average thermal energy savings is 0.00119 (ton/household/day) *14,400*365 (household*day) * 0.0295 TJ/ton*1000/3.6(MWh/TJ) =51.25 GWh_{th} (refer to below section D.2 for details assessment), which is less than 180 GWh_{th}. As per section 9.1.1 and 9.1.2 of GS4GG GHG Emissions Reduction & Sequestration Product Requirements (Version 2.0)/37/, the VPA003 is a small-scale GS VPA VER project. The VPA fulfills this eligibility criterion.
	Eligible technology Condition: Technologies in VPAs are eligible as per the TPDDTEC, version 4.0	Based on checking the manufacturer's specifications/12/ and certified test result of the efficient of ICS/13/, the thermal efficiency of ICSs sold in VPA003 have been verified no less than 20%. The VPA fulfills this eligibility criterion.
	SDG outcomes Condition: Conditions to be met by each VPA regarding SDG outcomes assessment	SDG outcomes have been assessed under each monitoring parameters of this VPA and the same will be included in each monitoring report. Refer to section D.5 for details assessment of the SDG outcomes of VPA003. The VPA fulfills this eligibility criterion.
	Safeguarding principles Condition: Conditions to be met by each VPA regarding safeguarding principles	Each safeguarding principle have been assessed in a form through all the relevant information and parameters at the VPA-DD. Refer to section D.7 for details assessment of each safeguarding principles of VPA003. The VPA fulfills this eligibility criterion.
	Retroactive VPAs Condition: The time of first submission is within one year of the VPA start date.	The start date of the VPA003 is defined as 28/04/2021 which is the date of first ICS implemented in the VPA003 that is confirmed in line with the GS4GG Principles & Requirements/32/, which is confirmed through checking the monitoring database/7/. The time of first submission is 09/12/2021 which is within one year of the VPA start date, thus the VPA003 is identified as retroactive VPA. The VPA fulfills this eligibility criterion.

iii. Legal ownership of products generated by the VPA and legal rights to alter use of resources required to service the VPA

The end users of VPA003 have signed a sales record with VPA implementer at the point of sale which has been verified by checking the sales record/11/, based on the sales record, CTI confirmed that the VPA003 implementer and CME have clearly communicated its ownership rights and intention of claiming the emission reductions resulting from the VPA003 to the parties including all other project participants; project technology manufacturers; and retailers of the project technology or the renewable fuel in use by contract or clear written assertions in the transaction paperwork with these parties.

Via checking the sales record/11/, the validation team is able to verify that a carbon rights waiver has been integrated to the sales record upon sale of each ICS to make the end users aware of them waiving ownership rights over emission reductions and to make sure the VPA003 implementer has the legal ownership of the emission reductions generated by the VPA003 when they buy the ICS.

This is verified by questionnaire interview/49/ with the end users by local experts, and CTI confirmed that they give up the rights voluntarily.

Besides, during the local stakeholder consultation (LSC) process of VPA003 confirmed by checking the SCR/3/, CTI confirmed that the stakeholders and end users have been notified that the ownership of ERs waived when end users buy the ICSs in VPA003.

In addition, via checking the CME and VPA003 Implementer agreement/6/ and ICS purchase contract/14/, CTI confirmed that ICS producer and VPA 003 Implementer all give up the carbon rights voluntarily.

In conclusion, CTI verified that the VPA does not involve any activity that causes alteration of any resource, or contested legal rights and other disputes, therefore the need for acquiring any specific legal right is not applicable.

iv. Location of VPA

The VPA003 is located in the neighbourhoods of Ngaliema, in the Kinshasa City of Congo (DRC).

Details of the project location are given in table D-1 below:

Table D-1: VPA Location

No.	Project Location
Host Country	Congo (DRC)
Region:	Ngaliema
Latitude and Longitude of four typical locations	(4°19'02"S 15°15'51"E), (4°20'44"S 15°12'23"E), (4°19'49"S 15°16'52"E) and (4°26'01"S 15°15'28"E)

The project location has been clearly provided in section A.2 of the VPA-DD, which has been verified by checking the google earth map/41/ and the detailed coordinates of the Ngaliema have been provided respectively and the information is verified as correct.

v. Technologies/measures

In DRC, the majority of rural HHs depends on the renewable woody biomass (including charcoal) fuel and low efficiency traditional cook stoves as confirmed from the PoA-DD.

The technology implemented by the VPA003 is to improve the efficiency of the decentralized thermal energy consumption by introduction of ICSs with a specified efficiency of about 30%/12/.

The information presented in the VPA-DD on the technical design of the ICS is consistent with the actual implementation of the VPA as confirmed through:

	a) Monitoring Database/7/, sales record/11/, Manufacturer specification of ICS/12/, CME and VPA Implementer agreement/6/. b) A remote validation has been performed and relevant VPA implementer personnel with knowledge of the VPA were interviewed. If doubts arose, further investigations and additional interviews were conducted. c) Local Expert conducted the site interview with sampled end users and site inspection of the ICSs and taken the photos of the ICSs used in the households/17/, upon the photos, CTI verified that the actual ICSs are same to the types (including A&B) provided in the VPA-DD. The technology to be employed is environmentally safe and sound as well as state of the art. Technical features of the ICS are verified as below assessment. Via checking the Manufacturer specification of ICS/12/ and certified test result of the efficient of ICS/13/, CTI confirmed that efficient ICS to be included are cooking equipment allowing quicker heating-up, longer cooking and heat retaining with less woody biomass fuel as well as lower combustion fumes. It must result in significant savings of fuel and associated expenses, thanks to, inter alia, advanced-material combustion chamber, overconsumption-restricting woody biomass fuel introduction design. VPA implementer has provided detailed specifications along with examples of improved cook stoves that maybe employed in the VPA-DD section A.3. CTI herewith confirms that the descriptions of ICSs are the same as provided in the VPA-DD by checking the Manufacturer specification of ICS/12/ and certified test result of the efficient of ICS/13/. ***vi. Scale of the project*** The number of units of 14,400 have been verified from the sales record/11/ and the calculation of aggregated capacity under this VPA is clearly depicted in PDD and assessed in above table for demonstration of Eligibility of the VPA under approved PoA. Thus, the validation team has confirmed that the VPA is small-scale. ***i. Funding sources of PoA*** DRC is place on the OECD Development Assistance Committee's ODA recipient list. Via checking the ODA declaration from VPA implementer/21/, it is verified that no ODA is provided under the condition that the credits generated by the VPA003 will be transferred, either directly or indirectly, to the donor country providing ODA support.
Findings	CAR 01, CAR 02, CAR 03, CAR 04, CAR 05, CAR 06, CAR 07 and CL 01 were raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	CTI confirms; (a) The process undertaken to validate the accuracy and completeness of the VPA is described above; (b) The VPA description contained in the VPA-DD/1/ of the GS VPA is accurate and complete; (c) The remote validation was conducted by the validation team as described in this report. (d) The general eligibility criteria that applies to all VPAs seeking Gold Standard Certification under the PoA has been validated. The VPA003 is found to be eligible under the PoA. Moreover, CTI confirms that the description of the GS VPA, as contained in the VPA-DD/1/ sufficiently covers all relevant elements, is accurate and complete and that it provides with a clear understanding of the nature of the GS VPA.

D.4. Application of methodologies

D.4.1. Selected approved methodology(ies) and methodological tools

Means of validation	The VPA-DD employs the approved GS methodology "REDUCED EMISSIONS FROM COOKING AND HEATING: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)", Version 4.0/28/. The VPA refers to the tools and guidelines below: CDM Tool 30 - Calculation of the fraction of non-renewable biomass, version 03.0/27/ Sampling and surveys for CDM project activities and programmes of activities, version 09.0/26/ Requirements and Guidelines: Usage Rate Monitoring, version 2.0/24/
Findings	CAR 08 was raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The validation team confirms that the applied methodology, tool, guideline and reference of GS, CDM website have been provided.

D.4.2. Application of methodology(ies) and tools

Means of validation	The approved GS methodology "REDUCED EMISSIONS FROM COOKING AND HEATING: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)", Version 4.0/28/ has been used. Due to the inclusion criteria are used to demonstrate methodology applicability, so refer to section D.3 above for detail assessment of the methodology applicability.
Findings	No finding was raised.
Conclusion	The validation team confirms that the VPA 003 meets all the applicability conditions of the applied methodology/28/.

D.4.3. Project boundary

Means of validation	The project boundary basically defines the physical, geographical sites of the project technologies/practices including the fuel collection and production area and it is well defined in the VPA-DD/1/ (section B.3) according to applied methodology/28/. The project boundary of VPA003 includes all individual households who receive ICSs. The target area consists of households residing in Ngaliema commune in Kinshasa city. The fuel collection and production area is considered to be included in the project boundary. Via remote validation and checking the sale records/11/ and Monitoring Database/7/, it is verified that project boundary is clearly defined in the VPA-DD as per the methodology. Emissions sources included in the project boundary have been appropriately included in the VPA-DD. CO_2, CH_4 and N_2O emissions due to use of non-renewable biomass in the traditional stove for baseline scenario (for all the project sites) and the project scenario has reduced emissions, thus CO_2, CH_4 and N_2O GHGs are included.
Findings	CAR 09 was raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The project boundary of VPA003 is completely determined in the VPA-DD/1/ as per applied methodology/28/ and is validated by CTI. Also, validation team confirmed that the sources and gases that are accounted to be appropriate according to the context of VPA.

D.4.4. Baseline scenario

Means of validation	The baseline scenario in the VPA is same as the one set at PoA level. The CME has applied an approved GS methodology/28/. As per section 3.4 of the applied GS methodology, "the project developer shall define the baseline scenario as the existing baseline technology/practice use and fuel consumption patterns for the type of service provided by the project technology in the population targeted for adopting the new project technology, i.e., "target population"."

Then as per the section 3.4 of the applied GS methodology, the applicable baseline scenario for fuel and technology is determined based on section 4.3 of the applied methodology.

a. Project scenario

In project scenario of VAP003, via checking the Manufacturer specifications of ICS/12/ and monitoring database/7/, CTI confirmed that two types of improved cook stoves that burn charcoals are distributed to households for cooking in commune Ngaliema with the higher thermal efficiency (29.7% and 33.6%) of the ICS comparing with the traditional/baseline stoves, which do not differ by more than +/- 5%. So, the project has a single project scenario according to the 3.7.3 of the applied methodology.

b. Target Population

The target population is rural HHs in Ngaliema which rely majorly on woody biomass for their cooking using the traditional stoves due to the ICSs from VPA003 was sold in this area.

Via checking the public information of the population in DRC/40/, CTI confirmed that Commune Ngaliema has a population of more than 683,135 people.

c. Baseline scenario survey

The baseline survey sampling design carried out by the VPA is demonstrated as below:

Before preparing the VPA-DD, VPA implementer conducted the baseline scenario survey from 22/03/2021 to 28/04/2021/8/, which is verified as in line with the section 4.3 requirement of the methodology/28/. The baseline scenario survey is used to determine the baseline scenario and define the baseline technology and fuels, and values of ex ante parameters of below,

a. Average household size
b. Baseline fuel type
c. Baseline stove type
d. Average charcoal consumption

The baseline scenario survey records/8/ are verified by CTI, it is confirmed that the sample size determination for baseline scenario survey is in line with the section 4.3 of methodology requirement/28/.

As per the section 4.3 of applied methodology/28/, the baseline scenario survey should be carried out for each baseline scenario using representative and random sampling, following these guidelines for minimum sample size:

Group size <300: Minimum sample size 30 or population size, whichever is smaller

Group size 300 to 1,000: Minimum sample size 10% of group size

Group size > 1,000 Minimum sample size 100

Via checking the public information of the population in DRC/40/, CTI confirmed that Commune Ngaliema has a population of more than 683,135 people, the household numbers are all much larger than 1,000, therefore, the sample size should be at least 100. And 90% confidence interval and a 10% margin of error requirement was selected by VPA implementer and CME for the baseline survey and by checking the Section 4.4 of applied methodology/28/, CTI verified that total 100 households were randomly sampled across target project area in Ngaliema. The VPA implementer has employed a random sample selection method to ensure the final sample selected for baseline scenario survey was representative while optimizing fieldwork efficiency. The sample was selected in household level.

The baseline scenario survey records/8/ is verified by CTI, it is confirmed the surveys included questions about basic household characteristics including the technologies and fuels used such as surveyors' name, address, telephone number, age, gender, education background, household size, present cookstove type, fuels type price and consumption. Other critical information on target population characteristics, such as

	the addresses or location, mobile telephone numbers and/or landline telephone number (when possible), number of people served by baseline technology, typical baseline technology usage patterns and tasks (commercial, institutional, domestic, etc.) and so on, was also collected. This information is verified by checking original Baseline Scenario Survey filled Questionnaires/9/ which is the basis of baseline scenario survey records/8/. Based on checking the data collected through baseline scenario survey records/8/, it is concluded that below parameters are determined, a. Average household size – 4.98 persons per household b. Baseline fuel type - only charcoal c. Baseline stove type - low-efficiency simple braseros d. Average charcoal consumption - 2.34Kg/day/household Via checking the sampling method as stated in baseline scenario survey records/8/, CTI verified that the method is methodology requirement/28/ and based on checking the original Baseline Scenario Survey filled Questionnaires/9/, CTI confirmed that the baseline scenario survey results are reasonable for determine the above parameters in the baseline scenario. The CME and VPA implementer have made provision to note the information about the stove replaced and fuel used in the baseline scenario for each household receiving the project stove. The CME and VPA implementer will conservatively not claim any emission reduction for any household which reports usage of a stove consuming any other fuel than wood fuel in the baseline scenario. The VPA will only claim credits for end-users that using ICSs for cooking and suppressed demand is not included in the baseline scenario. Based on the checking the data provided in VPA-DD and above related assessment, it proves that the baseline scenario determined in the section B.4 of the VPA-DD is correct and reasonable. Therefore, baseline scenario is identified transparently for the VPA.
Findings	CL 02 was raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The validation team based on the description provided above with regard to the assessment of the requirements confirms that: (a) All the assumptions and data used by the project developers are listed in the VPA-DD/1/, including their references and sources; (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the VPA-DD; (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable; (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the VPA-DD; (e) The approved methodology and guideline has been correctly applied to identify the most plausible baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed GS4GG VPA. (f) The baseline survey has been conducted using sampling method which assessed in line with the requirement of the methodology. The validation team confirms that it has taken other steps and other sources of information used to cross-check the information contained in the VPA-DD/1/, wherever applicable, as listed above.

D.4.5. Demonstration of additionality

Means of validation	By means of comparison of the VPA-DD with the section 4.1.9 of GS4GG Community Services Activity Requirements (Version 1.2)/35/, it is confirmed that, 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 of this document) (b) Projects located in LDC, SIDS, LLDC (c) Microscale projects

	Via checking the List as per UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States/39/, CTI confirmed that DRC is LDC, thus the VPA003 which aim at distributing Energy efficient ICS devices in Ngaliema of DRC is considered as deemed additional. In conclusion, the VPA meets the section 4.1.9 of GS4GG Community Services Activity Requirements (Version 1.2)/35/, thus as deemed additional.
Findings	No finding was raised.
Conclusion	The validation team confirms that all the documented evidence listed and reviewed during the validation process are found correct and is able to confirm that: a) The demonstration of additionality has been done using the GS4GG Community Services Activity Requirements (Version 1.2)/35/. b) As per the detailed assessment, the additionality of the VPA is justified sufficiently.

D.4.6. Prior Consideration

Means of validation	The VPA start date is defined as 28/04/2021. And the time of first submission is confirmed as 09/12/2021 by checking the screenshot of email/16/. In addition, the agreement signed between CME and VPA003 Implementer/6/ is confirmed as signed on 01/10/2020 which prove that the carbon credits revenues were seriously considered in the decision to implement the project. Therefore, CTI verified that the time of first submission is within one year of the VPA start date. Hence, the prior consideration is proved.
Findings	No finding was raised.
Conclusion	The evidence is supplied to prove the prior consideration.

D.4.7. Ongoing Financial Need

Means of validation	N/A
Findings	-
Conclusion	-

D.5. Outcome of SDG impacts

Means of validation

CEM has selected 5 SDGs, the demonstration is provided as below,

SDGs	Targets & Indicators	Validation Opinion
SDG 1 No poverty	**Target 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 **Indicator:** N_{sav}: Fraction of ICS users perceiving money saving on charcoal spending	The VPA results in less poverty by reducing costs on charcoal consumption due to introduce efficient ICS to help household in money saving on charcoal spending. Thus money spent on charcoal can be substantially reduced as a result of implementing the VPA. Project Monitoring Indicator: N_{sav}: Fraction of ICS users perceiving money saving on charcoal spending Hence validation team confirms the project's contribution to SDG 1.
SDG 3 Good health and well-being	**Target 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and	The VPA results in reduction of air pollutions associated with charcoal burning due to introduce efficient ICS. Thus air pollutions can be substantially

	soil pollution and contamination. **Indicator:** N_{health}: Fraction of ICS users perceiving health conditions improved after using ICSs	reduced as a result of implementing the VPA. Project Monitoring Indicator: N_{health}: Fraction of ICS users perceiving health conditions improved after using ICSs Hence validation team confirms the project's contribution to SDG 3.
SDG7 Affordable and Clean Energy	**Target 7.1** By 2030, ensure universal access to affordable, reliable and modern energy services **Indicator:** Number of the efficient cookstoves disseminated	Via checking the sale records/11/, CTI confirmed that the VPA aims at the sale of ICSs using clean, modern technology for cooking in HHs. Project Monitoring Indicator: Number of the efficient cookstoves disseminated The project will enable local households to access the affordable and clean energy, and using available energy sources more efficiently. Hence validation team confirms the project contribution to SDG 7.
SDG8 Decent Work and Economic Growth	**Target 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value **Indicator:** Number of person (male and female) hired.	Via remote validation interview with employees and checking the employment list/22/, it is verified that VPA has provided employment for administrative, sales and management positions for both male and female. Project Monitoring Indicator: Number of person (male and female) hired. Hence validation team confirms the project's contribution to SDG 8.
SDG 13 Climate Action	**Target 13.2** Integrate climate change measures into national policies, strategies and planning **Indicator:** Emissions Reductions	The VPA reduces GHG emissions due to introduce efficient ICS to reduce consumption for woody fuels previously required to cooking. Thus woody fuels consumption can be substantially reduced as a result of implementing the VPA. Project Monitoring Indicator: Emission reductions Hence validation team confirms the project's contribution to SDG 13.

The validation of selected methodology(ies) or proposed approach for calculating baseline and project impacts is tabulated as below:

SDGs	Approaches	Validation Opinion
SDG 1 No poverty	Monitoring Indicator: N_{sav}: Fraction of ICS users perceiving money saving on charcoal spending	SDG 1 impact will be monitored through the parameter N_{sav}: Fraction of

		Baseline impacts: 0 Project impacts: In project situation, 91% of the ICS users perceive money saving on charcoal spending. Source of data would be surveyed by sampling according to the monitoring plan and ex ante data is derived from survey of three similar registered GS projects. Net impact of SDG1=Project impact of SDG1 – Baseline impact of SDG1	ICS users perceiving money saving on charcoal spending Based on the similar registered GS projects, it is confirmed that 91% of the ICS users perceive money saving on charcoal spending Thus validation team confirms selected approach is applicable to calculating the net impacts.
	SDG 3 Good health and well-being	Monitoring Indicator: N_{health}: Fraction of ICS users perceiving health conditions improved after using ICSs Baseline impacts: 0 Project impacts: In project situation, 81% of the ICS users perceive improved health conditions after using ICSs. Source of data would be surveyed by sampling according to the monitoring plan and ex ante data is derived from survey of three similar registered GS projects. Net impact of SDG3=Project impact of SDG3 – Baseline impact of SDG3	SDG 3 impact will be monitored through the parameter N_{health}: Fraction of ICS users perceiving health conditions improved after using ICSs Based on the similar registered GS projects, it is confirmed that 81% of the ICS users perceive improved health conditions after using ICSs Thus validation team confirms selected approach is applicable to calculating the net impacts.
	SDG7 Affordable and Clean Energy	Monitoring Indicator: Number of the efficient cookstoves disseminated (N_{ICS}) Baseline impacts: 0 Project impacts: The actual data of number of the efficient cookstoves disseminated is available from monitoring database of this VPA/7/. The data shall be cross-checked with sales records/11/. The net impact of SDG7 = Project impact of SDG7- Baseline impact of SDG7	SDG 7 outcome will be monitored through the parameter number of the efficient cookstoves disseminated By gathering and analyzing monitoring database/7/, the number of ICS sold and disseminated will be determined and this value will be cross-checked by sales records with each end users/11/. Thus validation team confirms selected approach is applicable to calculating the net impacts.
	SDG 8 Decent Work and Economic Growth	Monitoring Indicator: Number of person (male / female) hired N_{em}) Baseline impacts: 0	SDG 8 impact will be monitored through the parameter Number of person (male / female) hired.

	Project impacts: In project situation, Number of person (male / female) hired will be 10 (3 males & 7 females) and recorded. Source of data is employment list and it will be cross checked by the labor contracts. Net impact of SDG8=Project impact of SDG8 – Baseline impact of SDG8	By checking the employment list/22/ also the Labor contracts/23/ used for cross-check. Thus validation team confirms selected approach is applicable to calculating the net impacts.
SDG 13 Climate Action	Monitoring Indicator: Emission reduction Calculation Method: Applied Methodology /28/ Net impact of SDG13= ER_y	SDG 13 outcome will be monitored through calculation of GHG Emission Reductions by ongoing data collection and storage for ER_y calculation; and monitoring. By measuring emission reductions generated from VPA, the impacts of project combat climate change will be determined. Thus validation team confirms selected approach is applicable to calculating the net impact. The methodological choices/approaches to estimate the GHG Emission Reduction Values will be assessed in below.

Specific calculation for SDG 13:

CME has applied method 1 in the applied methodology/28/ for calculating emission reductions.

The baseline fuel and the project fuel are the same under this VPA which has been confirmed by checking the baseline survey report/8/ and confirmed by checking the questionnaires taken from remote verification.

The applied methodology/28/ directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). The emission reductions are calculated using the following equation:

$$ER_y = N_{b,p,y} * U_{p,y} * SFS_{p,b,y} * NCV_{b,fuel} * (f_{NRB,b,y} * EF_{b,f,CO2} + EF_{b,f,nonCO2}) - LE_{p,y} \quad (1)$$

Where:

ER_y	=	Emission reduction for total project activity in year y (tCO_2e/yr)
$N_{b,p,y}$	=	Number of project technology-days included in the project database for baseline b/project p pair in year y (days)
$U_{p,y}$	=	Cumulative Usage rate for technologies in project scenario p in year y (fraction)
$SFS_{p,b,y}$	=	Specific fuel savings for an individual project technology of baseline b/project p pair in year y (mass or volume units/technology*day)
$f_{NRB,b,y}$	=	Fractional non-renewability status of woody biomass fuel during year y
$NCV_{b,fuel}$	=	Net calorific value of the fuel(s) that is substituted or reduced in baseline b (TJ/ton)
$EF_{b,f,CO2}$	=	CO_2 emission factor from use of fuel f (tCO_2/TJ)

$EF_{b,f,nonCO2}$ = Non-CO_2 emission factor arising from use of fuel f, when the baseline fuel f is biomass or charcoal (tCO_2e/TJ)

$LE_{p,y}$ = Leakage for project scenario p in year y (tCO_2e/yr)

Demonstration of Data and parameters fixed ex ante for determination of contribution to each of the SDGs is tabulated as below:

Ex Ante Data and Parameters

Parameters	Value	Reference	Assessment by VT
Baseline scenario survey results –ICS 1	Refer to VPA-DD	Baseline scenario survey records/8/ and Baseline Scenario Survey filled Questionnaires/9/	Confirmed as correct for ex ante determination. Via checking the Baseline scenario survey records/8/ and Baseline Scenario Survey filled Questionnaires/9/, CTI confirmed that the baseline scenario survey results is actual and correct, which is also verified by remote validation. Refer to section C.3 and C.4 of this report for detail assessment.
Project technology description –ICS 2	Refer to VPA-DD	Manufacturer specifications of ICS/12/, certified test result of the efficient of ICS/13/, monitoring database/7/ and sale records/11/	Confirmed as correct for ex ante determination. Via checking the Manufacturer specifications of ICS/12/, certified test result of the efficient of ICS/13/, monitoring database/7/ and sale records/11/, CTI confirmed that the project technology description is actual and correct, which is also verified by remote validation.
Expected technical life of project technology –ICS 3	7 years	Manufacturer specifications of ICS/12/	Confirmed as correct for ex ante determination, data source of Manufacturer specifications of ICS/12/ is verified and value is correct and actual. Besides, it is confirmed that the expected technical life of project technology is shorter than the crediting period, CME has described measures to ensure that end users are provided replacement technology of comparable or higher quality at the end of the technical life which has been verified as in line with the applied methodology.

	Avoidance of double counting or double claiming among project participants –ICS 5	N/A	Agreement between CME and VPA003 Implementer/6/, Contract between Implementer and ICS producers/14/; and Sales records between VPA003 implementer and end users/11/	Confirmed as correct for ex ante determination. The Agreement between CME and VPA003 Implementer/6/, Contract between Implementer and ICS producers/14/ and Sales records between VPA003 implementer and end users/11/ have been checked for search the information, CTI confirmed that the double counting of the ER values from VPA will be avoided.
	Avoidance of double counting or double claiming with other mitigation actions–ICS 6	N/A	UNFCCC website /47/ VERRA website/48/	Confirmed as correct for ex ante determination. The website of other offset schemes such as VERRA/48/, UNFCCC/47/ have been checked for search the information, CTI confirmed that the VPA is not part of another registered PoA in other voluntary market or UNFCCC/compliance mechanisms. Thus avoid of double counting or double claiming with other mitigation actions.
	Regulatory framework for provision of thermal energy services – ICS 7	The DRC's public website resources and related policies and regulations have been checked.	Wood fuel policies and practices in selected countries in Sub-Saharan Africa - a critical review/44/ and World Development Perspectives /45/	Confirmed as correct for ex ante determination. Via checking the related policies and regulations/44/ and /45/, CTI verified that the implementation of the project does not undermine or conflict with any national, sub-national or local regulations or guidance for thermal energy supply/devices or fuel supply or use of DRC.
	$EF_{b,f,CO2}$ – ICS8 CO_2 emission factor arising from use of fuels in baseline scenario	Charcoal: 165.22 tCO_2/TJ (includes charcoal production emissions)	Methodology default value as defined in the applied methodology /28/	Confirmed as correct for ex ante determination. The value is a default one from applied methodology. The applied methodology is verified.
	$EF_{b,f,nonCO2}$ – ICS 9 Non-CO_2 emission factor arising from use of fuels	Charcoal: 44.83 tCO_2/TJ (includes charcoal production emissions)	Methodology default value as defined in the applied methodology /28/	Confirmed as correct for ex ante determination. The value is a default one from applied methodology. The applied methodology is verified.

in baseline scenario			
$NCV_{b,fuel}$ – ICS 12 ***Net calorific value of the fuels used in the baseline***	Charcoal: 0.0295 TJ/ton	Methodology default value as defined in the applied methodology /28/	Confirmed as correct for ex ante determination. The applied methodology is verified.
$f_{NRB,b,y}$ – SDWS21 ***Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass or charcoal***	83.1%	Determined by CDM Tool 30 Calculation of the fraction of non-renewable biomass (Version 03.0)/27/	As per the applied methodology, the PP has selected f_{NRB} of 83.1% is fixed based on the results of the NRB assessment for the first crediting period. Refer to below for detail assessment.

Assessment of $f_{NRB,b,y}$

As per the applied methodology, based on the above assessment, firewood and charcoal are baseline fuels, the fractional non-renewability of biomass needs to be assessed, and the value has been determined by CDM Tool 30 "Calculation of the fraction of non-renewable biomass" (version 03.0)/27/ as assessed below,

$f_{NRB}=NRB/(NRB+RB)$ (2)

Where:

- f_{NRB} Fraction of non-renewable biomass in the applicable area in the relevant period (fraction or %)
- *RB* Quantity of renewable biomass that is available on a sustainable basis in the applicable area in the relevant period (tonnes)
- *NRB* Quantity of non-renewable biomass consumed in the applicable area in the relevant period (tonnes)

The detail calculation process has been elaborated in the excel sheet for f_{NRB} calculation/15/ which has been assessed by CTI as correct and in line with the requests from the tool.

CME has chosen that f_{NRB} of 83.1% is fixed for the first crediting period.

Demonstration of Ex ante estimation of impacts linked to each of the 5 SDGs is tabulated as below:

SDGs	Ex ante estimation of impacts	VVB Assessment
SDG 1 No poverty	Baseline impacts: 0 Project impacts: Fraction of ICS users perceiving money saving on charcoal spending N_{sav} is 91% The ex-ante estimation is based on survey of three similar registered GS projects Actual measurements will be available from sampling survey to End-users of ICS in Ngaliema commune **Net SDG impact:**	Baseline impact confirmed as 0 due to no ICS sold from this VPA used in households in the baseline scenario; Ex ante Project impact confirmed as the actual data of Fraction of ICS users perceiving money saving on charcoal spending is 91% provided in VPA-DD which is verified by checking the survey of three similar registered GS projects

		Fraction of ICS users perceiving money saving on charcoal spending N_{sav} is 91%	
	SDG 3 Good health and well-being	Baseline impacts: 0 Project impacts: Fraction of ICS users perceiving health conditions improved after using ICSs N_{health} is 81% The ex-ante estimation is based on survey of three similar registered GS projects. Actual measurements will be available from sampling survey to End-users of ICS in Ngaliema commune **Net SDG impact:** Fraction of ICS users perceiving health conditions improved after using ICSs N_{health} is 81%	Baseline impact confirmed as 0 due to no ICS sold from this VPA used in households in the baseline scenario; Ex ante Project impact confirmed as the actual data of Fraction of ICS users perceiving health conditions improved after using ICSs is 81% provided in VPA-DD which is verified by checking the survey of three similar registered GS projects.
	SDG 7 Affordable and Clean Energy	Baseline impacts: 0 Project impacts: the actual data of number of the efficient cookstoves disseminated is 14,400 The estimation is based on sales records/11/ Actual measurements will be available from monitoring database/7/ and cross checked by the sales records /11/. **Net SDG impact:** The actual data of number of the efficient cookstoves disseminated is 14,400 sets	Baseline impact confirmed as 0 due to no ICS sold from this VPA in the baseline scenario; Project impact confirmed as the actual data of number of the efficient cookstoves disseminated is 14,400 provided in VPA-DD which is verified by checking the sales records/11/.
	SDG 8 Decent Work and Economic Growth	Baseline impacts: 0 Project impacts: 10 employees have been hired including 3 males and 7 females The estimation is based on the Number of person in Employment list/22/ **Net SDG impact:** 10 employees have been hired including 3 males and 7 females	Baseline impact confirmed as 0 due to no employees have been hired without project; Project impact confirmed as 10 employees have been hired including 3 males and 7 females which is verified by checking Employment list/22/ also the labor contracts/23/.
	SDG 13 Climate Action	Baseline impacts: 0 tCO_2 Project Emissions Project impacts: 144,145 tCO_2 Emission Reductions **Net SDG impact:** 144,145 tCO_2 Emission Reductions for the 5 years crediting period of VPA	Baseline impact confirmed as 0 tCO_2 emission reductions; Project impact confirmed as 144,145 tCO_2 emission reductions and yearly data has been provided respectively in VPA-DD by checking the ER sheet/2/; Net impact confirmed as 144,145 tCO_2 emission reductions and yearly data

			has been provided respectively in VPA-DD by checking the ER sheet/2/.

For Emission Reduction calculation, based on above assessment for the ex-ante determined values and below assessment for ex ante estimated data for monitored values, the Emission Reductions are calculated as provided in the VPA-DD, the results are re-produced by validation team and verified as correct. It is verified that **the annual ex ante determined ERs calculated result is 28,829 tCO_2/yr.**

The detail of emission reduction calculation is transparently discussed in the VPA-DD/1/. The assessment team has checked the VPA-DD/1/ and ER sheet/2/ for the detail calculation of all the particulars and found it to be correct.

Demonstration of Summary of annual average ex ante estimates of each SDG impact over the crediting period is tabulated as below:

SDG	Baseline estimate	Project estimate	Net Impact
1	0% of end users perceiving fuel spending saving	End users in 91% perceiving fuel spending saving	End users in 91% perceiving fuel spending saving
3	0% of end users perceiving improved health conditions	End users in 81% perceiving improved health conditions	End users in 81% perceiving improved health conditions
7	0 ICS disseminated	14,400 ICSs disseminated	14,400 ICSs disseminated
8	0 jobs created	10 Number of person (3 male / 7 female) hired	10 Number of person (3 male / 7 female) hired
13	0 tCO_2e Emission Reduction	28,829 tCO_2e Emission Reduction	28,829 tCO_2e Emission Reduction

Findings	CAR 10, CAR 11, CL 03, CL 04, CL 05, CL 06 and CL 07 were raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The validation team has cross checked the parameters and values related to the emission reduction and confirmed that justification of the mentioned values is correct.

D.5.1. Monitoring plan

Means of validation

The monitoring plan in the VPA-DD/1/ is correctly applied to the VPA. The monitoring plan has been found to be in compliance with the requirements of the applied methodology/28/.

The monitored data and parameters are assessed as below table by validation team, **Data and parameters to be monitored:**

Parameter	Ex-ante data	Monitoring frequency	Assessment
N_{sav}- *SDG1* Fraction of ICS users perceiving money saving on charcoal spending	91%	Annually	Fraction of ICS users perceiving money saving on charcoal spending will be monitored by sampling survey to end-users of ICS in Ngaliema commune. By asking whether the household spendings on charcoal purchase is less than before using ICSs, the Fraction of ICS users perceiving money saving on charcoal spending will be determined. Thus validation team confirms selected monitoring approach is applicable.
N_{health} – *SDG3*	81%	Annually	Fraction of ICS users perceiving health conditions improved after

	Fraction of ICS users perceiving health conditions improved after using ICSs			using ICSs will be monitored by sampling survey to end-users of ICS in Ngaliema commune. By survey the influence of ICS using on their health conditions, the Fraction of ICS users perceiving health conditions improved after using ICSs will be determined. Thus validation team confirms selected monitoring approach is applicable.
	N_{ICS}- *SDG7* Number of the efficient cookstoves disseminated	14,400	Continuous	Number of the efficient cookstoves disseminated will be monitored by derived from monitoring database/7/. By gathering and analyzing monitoring database/7/, the number of the efficient cookstoves disseminated will be determined and this value will be cross-checked by sales records/11/. Thus validation team confirms selected monitoring approach is applicable.
	N_{em}- *SDG8* Number of person (male / female) hired	10 Number of person (3 male / 7 female) hired	Continuous	The Number of person (male / female) in the project under administrative, sales and management positions will be monitored through checking the Employment list/22/. The number will be calculated based on the employment list/22/ and cross checked by the labor contracts/23/. Thus validation team confirms selected monitoring approach is in compliance with the methodology.
	ICS15 Avoidance of double counting or double claiming among project technology end users	N/A	Monitored whenever project technology is sold	The avoidance of double counting or double claiming among project technology end users will be monitored through checking the Sales record/11/. The end-users declare to give up carbon rights related to the ICS use in the Sales record/11/. Thus validation team confirms selected monitoring approach is in compliance with the methodology.
	ICS16 Presence of stove stacking	N/A	Annually	The usage survey will be conducted to investigate the status of use of other stoves, to capture cooking habits and stove usage of households in the region. The surveys will be integrated with the usage survey and to ensure any stove stacking is considered so that emission reductions are calculated only from real reduction of, or replacement of, baseline fuel use, when an old technology remains in

				use in parallel with the improved technology, or another technology is put in use in parallel, the corresponding emission must be accounted for so that emission reductions are not overestimated. Thus validation team confirms selected monitoring approach is in compliance with the methodology.
	$P_{b,y}$ – ICS 18 Quantity of fuel that is consumed in baseline scenario b during year y (SDG 13)	0.00234 ton/ household-day - derived from baseline scenario survey/8/	At the start of crediting period (fixed for one crediting period)	$P_{b,y}$ will be monitored by Baseline performance field tests as per the requirement in section 4.1 of the applied methodology. QA/QC procedure is confirmed as defined in line with the applied methodology, in compliance with the general requirements for sampling (Section 4.4 of the applied methodology), general requirements for QA/QC (Section 4.5 of the applied methodology) and Annex 2 Kitchen performance test.
	$P_{p,y}$ – ICS 19 Quantity of fuel that is consumed in project scenario p during year y (SDG 13)	0.00115 ton/ household-day - certified test result of the efficient of ICS/13/	Updated every two years, or more frequently	$P_{p,y}$ will be monitored by Project performance field tests as per the requirement in section 4.1 of the applied methodology. QA/QC procedure is confirmed as defined in line with the applied methodology, in compliance with the general requirements for sampling (Section 4.4 of the applied methodology), general requirements for QA/QC (Section 4.5 of the applied methodology) and Annex 2 Kitchen performance test.
	$SFS_{b,p,y}$ – ICS 20 Specific fuel savings for an individual project technology of baseline b/project p pair in year y (SDG 13)	0.00119 ton/ household-day – calculated by $P_{b,y}$- $P_{p,y}$	Updated every two years, or more frequently	$SFS_{b,p,y}$ will be calculated by $P_{b,y}$- $P_{p,y}$ QA/QC procedure is confirmed as defined in line with the applied methodology, the calculated value should be cross-check with proportional efficiency of baseline and project technology.
	$U_{p,y}$ – ICS 26 Weighted average usage rate in project scenario p during year y (SDG 13)	90% - derived from good practice in the "Requirements and Guidelines: Usage Rate Monitoring" /24/	Annually or more frequently, in all cases on time for any request for issuance	$U_{p,y}$ will be monitored by usage survey as per the requirement in section 4.1 of the applied methodology. QA/QC procedure is confirmed as defined in line with the applied methodology, in compliance with the general requirements for sampling (Section 4.4 of the applied methodology), general requirements for QA/QC (Section 4.5 of the applied methodology).

$N_{b,p,y}$– ICS 27 Number of project technology-days included in the project database for baseline b/project p pair in year y (SDG 13)	5,256,000 days – ex ante calculated by N_{ICS} (14,400) *365 days	Calculated annually	$N_{b,p,y}$ will be monitored by derived from monitoring database/7/ as the sum of the number of project technology units times the calendar days during the year y that they were present at the end user locations. QA/QC procedure is confirmed as defined in line with the applied methodology, the calculated value should be cross checked the results of the usage survey with the contents of the project database to confirm whether the project technology units surveyed are present at end user locations as expected, or not. If there is discrepancy, this must be explained or corrected.
$LE_{p,y}$– ICS 28 Leakage in project scenario p during year y (SDG 13)	Default discount value of 0.95 applied to emission reductions - Sources established by section 2.4.A Leakage Emissions of applied methodology	Default discount value of 0.95 applied to emission reductions	LE_y has been chosen as default discount value of 0.95 applied to emission reductions. Thus validation team confirms selected monitoring approach is in compliance with the methodology.

CTI has confirmed that the monitoring parameters are sufficient to calculate each SDG impacts especially the emission reductions/2/ in accordance with the methodology/28/. The parameters will be calculated or measured as mentioned above in section D.4.8.

Sampling Plan

Sampling plan was provided by CME and VPA implementer and has been demonstrated in the VPA-DD.

As per the above assessment of all the monitored parameters related the project activity, CTI confirmed that below parameters are monitored with sampling approach including,

a. $U_{p,y}$
b. $P_{b,y}$
c. $P_{p,y}$

The following sampling methods will be used and have been assessed by validation team as below,

i. Usage Survey for $U_{p,y}$

The sample size determination for usage survey (at least 30 samples for project technologies of each age being credited) is in line with the methodology requirement/28/.

The majority of interviews in a usage survey must be conducted in person and the resulting usage parameter should be weighted based on the age distribution for project technologies in the project database.

The usage survey determines the usage proportion for each age cohort of technologies being credited for each project scenario p, so the sample size is defined

for each age cohort following the general requirements for sampling with a minimum of 30 samples for project technologies of each age cohort being credited.

The usage survey will be conducted in line with the requirements and guidelines of Requirements and Guidelines: Usage Rate Monitoring for further details and example/24/.

ii. Baseline and project performance field tests (BFT and PFT) for $P_{b,y}$ and $P_{p,y}$

$P_{b,y}$ and $P_{p,y}$ will be tested by performance field tests (BFT and PFT) which measure real, observed technology performance in the field. Testing of the fuels used in both baseline stoves and project stoves, and the test of samplings determines the value of fuel annual savings per unit. The sample size is following 90/30 rule and when the sample sizes are large enough to satisfy the "90/30 rule", i.e the endpoints of the 90% confidence interval lie within +/-30% of the estimated mean, overall emission reductions can be calculated on the basis of the estimated mean fuel annual savings per unit.

The requirements of the tests have been defined in the VPA-DD as per the applied methodology/28/.

Other elements of monitoring plan

The validation team has analyzed the content to the monitoring plan against the requirements of the applied methodology and came to the following conclusions:

The validation team evaluated the feasibility and sufficiency of the monitoring plan. The key components of the monitoring plan are as follows.

Monitoring organization and responsibility:

The VPA-DD contains descriptions illustrating the organization structure of the monitoring works under the supervising of CME monitoring manager. The VPA implementer will be responsible for the collecting all monitoring data in the field, signing sale records with end users, registering data to monitoring database and keep hardcopies, and so on. And all the data will be reviewed by the CME and VVB. The organizational structure is considered sufficient to fulfil the monitoring requirements of the methodology and to ensure that SDG impacts can be verified.

QA/QC:

The PDD contains sufficient description on how quality will be controlled and assured in the monitoring of SDG impacts.

Training:

Training will be provided to relevant personnel about how to properly conduct the monitoring process.

Internal audit:

CME will check the raw data of monitoring parameters collected by the VPA implementer before calculation of the SDG impacts.

Data management and archive:

The CME shall perform statistical analysis on the data collected and kept all data at least for 2 years after the end of the last crediting period.

Emergency Procedure

The actions will be taken which has been clearly defined in the VPA-DD to make sure the SDG impacts values to be conservative if the data with flaws are founded during the monitoring and internal auditing. Via checking the measures, it is verified that the

	emergency procedure is reasonable and conservative values of SDG impacts will be used for the missing or damaged data.
Findings	CAR 12, CAR 13, CAR 14, CAR 15, CAR 16 and CL 08, CL 09 were raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The validation team confirms: • The parameters which are part of monitoring plan is in line with the VPA-DD • The monitoring arrangements described in the monitoring plan of the VPA-DD /1/ are feasible within the project design. The CME and VPA implementer will be able to implement the sampling and monitoring plan.

D.6. Duration and crediting period

Means of validation	The start date of the VPA003 is 28/04/2021 which is the date on the first purchase receipt for the ICS sold to an end-user and this date is verified as the started date to use of the ICS by checking the monitoring database/7/. The audit team has reviewed the related sales records/11/ and found first date is correct, CTI confirmed that the start date is defined in line with the 4.1.40 of the GS4GG Principles &Requirements/32/. The VPA is retroactive projects, for which the stakeholder consultation (1st round) is conducted on 18/05/2021 after the project start date of 28/04/2021 which is in line with the GS4GG Principles &Requirements/32/. The lifetime of the project is defined as 15 years. The CME has considered a crediting period of 15 years starting from 28/04/2021 for this VPA, and first crediting period is 5 years, the crediting period may be renewed twice.
Findings	CAR 17 and CL 10 were raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The project start date as stated in VPA-DD/1/ has been validated as per the definition of start date given in the GS4GG Principles and Requirements/32/. • A crediting period of 5 years has been selected by the CME as per GS4GG Programme Of Activity Requirements/33/. • The expected lifetime of the project indicated in the VPA-DD is correct.

D.7. Safeguarding principles and Gender Sensitive assessment

Means of validation

The validation team has also checked mitigation measure with respect to the 9 Safeguarding Principles. The validation opinion is detailed below,

No	Safeguarding principles	Assessment of relevance to the project	Mitigation measure	Validation Opinion
1	**Human Rights**			
	a. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. b. The Project shall not discriminate	No	Not required	The VPA003 is implemented under the laws of Congo which has been assessed in previous sections, and the VPA dissemination of ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions. The households interviewed by the local experts, had a positive opinion on the project and are welcome to such projects. All households in the project region that

		with regards to participation and inclusion.			respect the principles and values of sustainable development can equally participate and benefit from the project. Hence it is verified that no impact of the human existence to this kind of project. As such there is no risk involved and therefore the project does not violate this safeguarding principle. Via remote validation and interview with households, CTI confirmed that the project has no discrimination to any participation and inclusion. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	2	**Gender Equality and Women's Rights**			
		a. The Project shall not directly or indirectly reinforce gender-based discrimination and shall not lead to/contribute to adverse impacts on gender equality and/or the situation of women. b. Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work c. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.	No	Not required	The VPA003 is designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions. The validation team has observed that the project will not directly or indirectly reinforce gender-based discrimination and shall not lead to/contribute to adverse impacts on gender equality and/or the situation of women. The validation team has verified that the project increases women's access to or control of resources, entitlements and benefits by providing easy access to clean water and equal job opportunities. Via checking the employment list/22/, it is verified that project did not set up any barriers to the employment of women and has

		d. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)			generated income and jobs opportunities for women. Besides, via checking the labor contracts/23/, CTI confirmed that all employees have benefits based on pregnancy, maternity/paternity leave, or marital status. Thus it is concluded that the project apply the principles of nondiscrimination, equal treatment, and equal pay for equal work. Finally, via checking the Stakeholder Consultation Report /3/, it is verified that there is no Expert Stakeholder needed as the project apply the principles of nondiscrimination, equal treatment, and equal pay for equal work. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	3	**Community Health, Safety and Working Conditions**			
		a. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	Not required	The VPA003 is designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions. The validation team has observed that the project reduces the health risks caused by biomass stoves using solid biomass fuel in the baseline scenario, and the project activity will not cause community exposure to increased health risks and shall not adversely affect the health of the workers and the community which is verified by local expertise from validation team. As such there is no risk involved and therefore the project does not violate this safeguarding principle.

	4	**Cultural Heritage, Indigenous Peoples, Displacement and Resettlement**			
		4.1 Sites of Cultural and Historical Heritage			
		Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	Not required	During remote validation and checking the photos of ICSs, CTI confirmed that the ICS is a small household device is not used in sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. The project does not utilise Cultural Heritage, including the knowledge, innovations, or practices of local communities, affected communities. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		4.2 Forced Eviction and Displacement			
		Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	Not required	During remote validation and checking the photos of ICSs, CTI confirmed that the ICS is a small household device. It obviously does not cause physical or economic relocation of peoples. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		4.3 Land Tenure and other rights			
		Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	Not required	During remote validation and checking the photos of ICSs, CTI confirmed that the ICS is a small household device and used in user's home and it does not require any change to land tenure arrangements and/or other rights such as resource access rights, community-based property rights and customary rights. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		4.4 Indigenous people			

		Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	N/A	During remote validation and interview with households, CTI confirmed that people have the same and equal access to the clean and renewable energy, and no one will be affected directly or indirectly in a negative way by the project. Besides, there are no indigenous people present within the area of influence nor the project is located on territory claimed by indigenous people. This is verified by remote validation. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	5	**Corruption**			
		a. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	Not required	During remote validation, CTI confirmed that the project is implemented on the ground by the households. The ethical codes of the VPA implementer and CME are against corruption. Hence, the Project does not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	6	**Economic Impacts**			
		6.1 Labour Rights			
		a. The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with	No	Not required	Via checking the employment list/22/ and labor contracts/23/, it is verified that the employees are hired according to related local labour occupational health and safety laws following the relevant ILO conventions/42/. Hence no any form of

			obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. b. Workers shall be able to establish and join labour organisations c. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance, AND e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. d. No child labour is allowed			forced or compulsory labor. Via checking the labor contracts/23/, it is verified that contract specify working hours, tasks and payments. All employees have benefits based on social security, pregnancy, maternity/paternity leave, or marital status which has been verified consistent with the requests of related acts/42/. All employees would provide their age information document, e.g. ID, when signing the labour contract, and the VPA implementer did not and will not employ any child labour. Besides, the employees also have the right to establish labour unions and to carry on labour union activities in accordance with applicable laws and regulations. As such there is no risk involved and therefore the project does not violate this safeguarding principle.

		(Exceptions for children working on their families' property requires an Expert Stakeholder opinion) e. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures			
		6.2 Negative Economic Consequences			
		Does the project cause negative economic consequences during and after project implementation ?	No	Not required	Via checking ICSs purchase contract/14/ and sales records/11/ and interview with the VPA implementer, it is verified that the equipment procurement cost of the project was borne by the CME, and part or all of the cost will be recovered by selling the ICSs. The project will be economically feasible through the sale of emission reduction credits. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	7	**Climate and Energy**			
		7.1 Emissions			
		Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	Not required	The VPA designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions. Via checking the ER sheet/2/, CTI confirmed that the project decreases GHG emissions comparing with the baseline scenario.

					As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		7.2 Energy Supply			
		Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	Not required	The VPA designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions. CTI confirmed that the project will not use energy from the local grid or power supply or fuel resource supply that provides for other local users. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	8	**Water**			
		8.1 Impact on Natural Water Patterns/Flows			
		Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	Not required	The VPA is not involved in abstraction from water resources required to support biodiversity and other ecosystem services. The VPA is designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions and will not negatively affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s). Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the project only changes the fuel quantity use for cooking instead of water resources. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		8.2 Erosion and/or Water Body Instability			

			Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	Not required	The VPA is not involved in abstraction from water resources required to support biodiversity and other ecosystem services. The VPA is designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions and will not negatively affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s). Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the project could not directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion, and could not directly or indirectly impact on surface and ground waters or soil erosion on slopes. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	9	**Environment, ecology and land use**				
		9.1 Landscape Modification and Soil				
			Does the Project involve the use of land and soil for production of crops or other products?	No	Not required	The VPA does not involve the production, harvesting, and/or management of living natural resources by small-scale landholders and/or local communities. Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that ICSs used at the households' homes does not involve any use of crop land, and will not cause degradation in existing landscape function and services. It will not affect

					the health condition of any soils. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		9.2 – Vulnerability to Natural Disaster			
		Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that ICSs used at the households' homes does not involve any land use changes. It would not lead to the exacerbation of impacts caused by natural or man-made hazards, such as landslides or floods. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		Principle 9.3 Genetic Resources			
		Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that ICSs used at the households' homes, thus the VPA does not involve any use of GMOs, so it will not have negatively impacted by the use of genetically modified organisms or GMOs. As such there is no risk involved and therefore the VPA does not violate this safeguarding principle.
		9.4 Release of pollutants			
		Could the Project potentially result in the release of pollutants to the environment?	No	Not required	The VPA designed to disseminate ICS to households to help halving households' fuel use, thus reducing Greenhouse Gas emissions. Via remote validation and checking the Manufacturer specifications of ICS/12/,

					it is verified that the ICS improving the indoor air quality in project households. Via checking the ER sheet/2/, CTI confirmed that the VPA decrease GHG emissions comparing with the baseline scenario. As such there is no risk involved and therefore the VPA does not violate this safeguarding principle.
		9.5 Hazardous and Non-hazardous Waste			
		Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the VPA produces ceramics and aluminum and other metallic waste, which is well identified, collected and sent to recycling. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		9.6 – Pesticides & Fertilisers			
		Will the Project involve the application of pesticides and/or fertilisers?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the VPA does not involve any use of pesticides and/or fertilizers. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		9.7 Harvesting of Forests			
		Will the Project involve the harvesting of forests?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the VPA does not involve any harvesting of forests but avoid erosion associated with tree cutting/ felling. As such there is no risk involved and therefore the project does not violate this safeguarding principle.

		9.8 Food			
		Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the VPA does not modify the quantity or nutritional quality of food available, but quality of the food is increased using ICS because the emitted particulate matter generated by charcoal consumption in the kitchen is reduced. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		9.9 Animal husbandry			
		Will the Project involve animal husbandry?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the VPA does not involve animal husbandry. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
		9.10 High Conservation Value Areas and Critical Habitats			
		Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, it is verified that the VPA is not located in an area within a high conservation value area or within critical natural habitats. The project activity does not physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. Oppositely, the project reduces the GHG emissions. As such there is no risk involved and therefore the project does not

				violate this safeguarding principle.
	9.11 Endangered Species			
	Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	Not required	Via remote validation and checking the Manufacturer specifications of ICS/12/, CTI confirmed that there are no endangered species identified as potentially being present within the Project boundary. In addition, the ICSs used in the project will not pose a threat to any species. As such there is no risk involved and therefore the project does not violate this safeguarding principle.

Assessment that project complies with 'gender sensitive' requirements

The justifications provided for the project complies with 'gender sensitive' requirements are assessed as per four mandatory questions included under Step 1 to 3 in "Gold Standard Gender Equality Guidelines and Requirements" in below table,

Questions	Justification
Question 1: Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The VPA003 reflects the key gender issues and requirements of Gender Sensitive design and implementation. Via remote validation and checking the Manufacturer specifications of ICS/12/, CTI confirmed that the VPA003 will result in reduction of woody fuels that used to cooking by traditional stoves in baseline scenario, which would generate harmful smoke and cause air pollution when burning in low efficiency and traditional stoves which mainly handled by women. Hence, largely women will benefit from the VPA activity through reducing women's work load related to cooking, collection of fuel needed for cooking. The gender-sensitive approaches have been used in stakeholder consultation which has been verified in the Stakeholder Consultation Report/3/, this make sure the information of project has been shared equitably with women and men stakeholders.

		Furthermore, via checking the labor contracts/23/, it is verified that the VPA has employed women in the implementation of the VPA. This is also verified by remote validation observation and interview with the women staffs.
	Question 2: Explain how the project aligns with existing country policies, strategies and best practices	The VPA003 does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis. Via comparing the labor contracts/23/ with National Gender Policy/43/, it is verified that the VPA003 respects all the rights to the women. This is also verified by remote validation observation and interview with the woman staffs.
	Question 3: Is an Expert required for the Gender Safeguarding Principles & Requirements?	The VPA003 does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis verified by checking the labor contracts/23/. Hence, no gender experts are required for the Gender Safeguarding Principles & Requirements.
	Question 4: Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Via checking the Local Stakeholder Consultation Records/19/, it is verified that the Key Project Information which includes gender guidelines have been introduced to the local stakeholders. All assessment questions related to safeguarding principles, including principle 2 "Gender Equality and Women's Rights", have been discussed during the stakeholder consultation meeting as verified in the SCR/3/. Also refer to above of Safeguarding Principle Assessment for detail analysis. Hence, no gender experts are required to engage in the Stakeholder Consultation.
Findings	CL 11 was raised and resolved. Refer to Appendix 4 in this report for detail assessment.	
Conclusion	The Safeguarding principles assessment is carried out according to the relevance to the project activity. CME discuss any possibilities in Safeguarding Principles of the GS4GG. The validation team considers the Safeguarding principles assessment has been based on the accurate local situation and the corresponding information has been included in the VPA-DD. It is analyzed in the VPA-DD that it would create no risks of relevance to the VPA in all aspects of Safeguarding principles assessment. The validation team also considers that no mitigation measures are required for the VPA.	

D.8. Outcome of stakeholder consultations

Means of validation	The stakeholder consultation carried out at both PoA level and VPA level. For VPA level, According to the Gold Standard for the Global Goals Programme Of Activity Requirements/33/, "For retroactive VPA/CPA, a physical meeting shall be held at the

	stakeholder feedback round if no physical meeting has taken place earlier or depending on the outcome of the detailed preliminary review or a VVB's request in case of Completeness Check pathway (Pathway 1)". In comply with the Gold Standard rules and guidance, the CME and VPA implementer conducted the stakeholder consultation process of VPA as below, The stakeholder feedback round (SFR) of VPA has been conducted electronically by inviting the stakeholders via email. The invitation along with project information and "Feedback table" were sent out to all the relevant stakeholders before 15/04/2021, and the SFR lasted to 17/08/2021 for more than three months, and no comments or feedback had been received from the stakeholders. The physical consultation meeting was held on 18/05/2021 at Salle Saint Dominique, 13ème rue, Commune de, Ngaliema, quartier résidentiel, DRC, attended by 19 stakeholders including local people, representatives from NGO and officers from local government, furthermore some of the consultations were completed through house-to-house communication and questionnaires, based on the two Consultation channels, total 30 effective evaluation forms were delivered and received for this VPA which has been verified by checking the attendance list and signed evaluation forms/19/. During the meeting the CME and VPA implementer introduced the VPA003 design and answering the questions raised by the stakeholders and the corresponding social and environmental impacts were discussed. The 'Stakeholder Consultation Meeting Evaluation Form' were distributed to each participant and all participants were asked to respond to all questions from the forms and the questionnaire. The validation team was able to verify above by conducting the remote interview with CME, checking the filled forms and questionnaires, meeting attendance list/19/ against the SCR for the VPA/3/. Most of participates held positive attitude towards the VPA and believe that it will have an overall positive impact on the local area and local residents, respondents sent clear message that the VPA has far more positive effects than negative ones. During the meeting, there are 3 comments regarding the quality of the ICS and purchase of ICS were raised by the participants. The CME provided the feedbacks to each comment with participants' agreement. Since all the questions are related to the VPA technology, not negative comments to the VPA design and monitoring methods, environment, social and economic impacts, thus it is verified that there is no need to change the VPA design. Based on the above assessment, the validation team hereby confirms that the VPA fulfills the relevant criteria of the GS4GG Stakeholder Consultation for VPA. **Continuous input / grievance mechanism** For the continuous input / grievance mechanism, CME has listed different methods. As confirmed through the remote validation checking the photo of expression book/18/, CTI verified that the inputs/grievances mechanism has been in place. As per checking the internet/email address which has been provided to local stakeholders, CTI verified that they have access to provide issues or comments through given methods.
Findings	CL 12 was raised and resolved. Refer to Appendix 4 in this report for detail assessment.
Conclusion	The Validation team confirmed that the CME and VPA implementer has conducted VPA level stakeholder consultation process as per Gold Standard for the Global Goals Programme Of Activity Requirements/33/ and solicit comments for the VPA has been addressed in the VPA-DD and SCR/3/. Via checking the relevant evidence/19/, it is verified that no comments were received from the stakeholders regarding to the impact to the VPA design. Therefore, overall, the CME and VPA implementer did not need to alter the original design of the VPA.

SECTION E. Internal quality control

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The final validation report was undergone a technical review by a qualified independent reviewer before requesting design certification of the VPA. The technical review was performed by a technical reviewer qualified in accordance with CTI's qualification scheme for GS validation and verification that meets the criteria of GS4GG guidelines for qualification.

SECTION F. Validation opinion

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CTI Certification Co., Ltd (CTI) has conducted the validation of the GS4GG VPA “GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema”. The validation was performed on the basis of rules and requirements defined by GS4GG Principles and Requirements and GS4GG Programme Of Activity Requirements.

The validation is based on the GS approved methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 4.0”, the Stakeholder Consultation Report, and the final version of VPA-DD. The validation consisted of the following three phases: i) desk review of the VPA design and the eligibility criteria of VPA inclusion; ii) follow-up remote validation and interviews with CME and VPA implementer; iii) resolution of outstanding issues and the issuance of the final validation report.

In the course of the validation 17 Corrective Action Requests (CARs), 12 Clarification Requests (CLs) were raised and successfully closed. No Forwarded Action Requests (FARs) was raised.

The review of the VPA design documentation and additional documents related to baseline and monitoring methodology and subsequent background investigation have provided the CTI with sufficient evidence to validate the fulfilment of the latest valid GS4GG requirements.

In detail the conclusions can be summarized as follows:

- the VPA meets all eligibility criteria set by GS4GG;
- the VPA is eligible to all the inclusion eligibility criteria defined in PoA;
- the VPA additionality is sufficiently justified in the VPA-DD;
- the VPA does not result in diversion of ODA.
- the VPA meets the stakeholder consultation requirements.
- the VPA’s contribution to SDG is determined.

The conclusions of this report show, that the VPA003, as it was described in the VPA-DD, is in line with all criteria applicable for the validation against the GS4GG requirements without any qualifications or limitations.

Therefore, the VPA is recommended to SustainCERT for the inclusion of the PoA “Congo (DRC) Improved Cook Stoves Programme”.

Appendix 1. Abbreviations

Abbreviations	Full texts
BAU	Business-as-usual
BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CME	Coordinating/managing entity
CO_2	Carbon dioxide
CP	Crediting Period
CTI	CTI Certification Co., Ltd
DCR	PoA Design Consultation Report
DRC	Democratic Republic of the Congo
EB	Executive Board
FAR	Forward Action Request
GHG	Green House Gas
GS4GG	Gold Standard for the Global Goals
ICS	Improved Cooking Stove
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LSC	Local Stakeholder Consultation
MoV	Means of Validation
MP	Monitoring Plan
ODA	Official Development Assistance
POA-DD	Programme of Activities Design Document
PE	Project Emission
QC/QA	Quality control/Quality assurance
SCR	Stakeholder Consultation Report
SD	Sustainable Development
SDG	Sustainable Development Goals
SSC	Small-Scale
tCO_2e	Tonnes of Carbon di oxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
US	Usage survey
V	Version
VER	Voluntary Emission Reduction
VPA	Voluntary Project Activities
VPAI	Voluntary Project Activities Implementer
VPA-DD	VPA Design Document
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

Mr. Wu LIN

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation
	TA 1.2: Energy generation from renewable energy sources
SS 2: Energy distribution	TA 2.1: Electricity distribution
SS 3: Energy demand	TA 3.1: Energy demand
SS 4: Manufacturing industries	TA 4.1: Cement and lime production
SS 5: Chemical industry	TA 5.1: Chemical industry
	TA 5.2: Caprolactam, nitric and adipic acid
SS 10: Fugitive emissions from fuels (solid, oil and gas)	TA 10.1: Fugitive emissions from oil and gas
SS 11: Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1: Emissions of fluorinated gases
	TA 11.2: Refrigerant gas production
SS 12: Solvents use	TA 12.1: Chemical industry
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater
	TA 13.2: Manure

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Lu ZHOU

General Manager

Shenzhen, 01/01/2021

Mr. Ziqi LI

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 3: Energy demand	TA 3.1: Energy demand
SS 4: Manufacturing industries	TA 4.1. Cement and lime production
SS 5: Chemical industry	TA 5.1: Chemical industry
	TA 5.2: Caprolactam, nitric and adipic acid
SS 11: Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1: Emissions of fluorinated gases
	TA 11.2: Refrigerant gas production
SS 12: Solvents use	TA 12.1: Chemical industry
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater
	TA 13.2: Manure

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:
Wu LIN
Technical Competen Wu Lin
Shenzhen, 01/03/2022

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	CME	GS4GG VPA Design document of "GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema"	- Version No. 1.0, dated 09/12/2021 - Version No. 2.1, dated 23/03/2023 - Version No. 2.2, dated 06/05/2023	CME
2.	CME	Emission Reduction Calculation spreadsheet of "GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema"	- Version No. 1.0, dated 09/12/2021 - Version No. 2.1, dated 13/02/2023	CME
3.	CME	Stakeholder Consultation Report of "GS11324 - VPA003 - Congo (DRC) Improved Cook Stoves-Ngaliema"	- Version No. 1.0, dated 17/08/2021 - Version No. 2.1, dated 15/02/2023	CME
4.	CME	GS4GG PoA Design document of "Congo (DRC) Improved Cook Stoves Programme"	Version No. 1.2, dated 03/09/2022	CME
5.	CME	POA Design Consultation Report of "Congo (DRC) Improved Cook Stoves Programme"	Version No. 1.2, dated 03/09/2022	CME
6.	CME and VPA003 Implementer	CME and VPA Implementer agreement	CME and VPA003 Implementer agreement dated on 01/10/2020	CME
7.	CME	Monitoring Database	Database with unique end-user data, including unique serial number and unique phone number (as available) and location etc to make sure each end-user is identified	CME
8.	CME	Baseline Survey report	Baseline Survey report conducted from 22/03/2021 to 28/04/2021	CME
9.	Sample households	Baseline Survey Questionnaires	Baseline Scenario Survey filled Questionnaires	CME
10.	CME	Photos	Photos of the ICS	CME
11.	CME	Sales records	Sales records of ICS signed with end users	CME
12.	BISO NA BINO SARL	Manufacturer specifications of ICS	Manufacturer specifications of ICS	CME
13.	CERERK	Certified test result	Certified test result of the efficient of ICS	CME
14.	CME and BISO NA BINO SARL	ICS purchase contract	ICS purchase contract signed on 02/10/2020	CME
15.	CME	Excel sheet for f_{NRB} calculation	Excel sheet for f_{NRB} calculation as per the Tool 30	CME
16.	CME	Time of first submission of VPA to Gold Standard	Screenshot of email on 09/12/2021	CME
17.	Local expert	Photo	Photos of the ICSs used in the households	Local expert
18.	CME	Photo	Photo of grievance expression book	CME
19.	CME	Local Stakeholder Consultation Records	Local stakeholder consultation process evidences:	CME

			- The email for invitation; - Photo of all the invitation channel - LSC Meeting attendance's list with signature; - All filled evaluation forms by attendance in the Meeting	
20.	VPA implementer	Declaration of no double counting	Issued on 12/07/2022	CME
21.	VPA implementer	ODA declaration	Declaration of Non-Use of ODA by VPA implementer of GS11327 issued on 08/12/2021	CME
22.	CME	Employment list	Employment list including employment information	CME
23.	VPA implementer and employees	Labor contracts	Labor contracts signed with employees for implementation of this project	CME
24.	GS	Requirements and Guidelines	Usage Rate Monitoring, version 2.0	GS website
25.	UNFCCC	Guideline of Sampling and surveys	Guideline of Sampling and surveys for CDM project activities and programmes of activities, version 04.0	UNFCCC Website
26.	UNFCCC	Standard for Sampling and Surveys	Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 09.0	UNFCCC Website
27.	UNFCCC	CDM Tool 30	"Calculation of the fraction of non-renewable biomass" (version 03.0)	UNFCCC Website
28.	GS	Applied GS approved methodology	"Technologies and Practices to Displace Decentralized Thermal Energy Consumption" Version 4.0	GS website
29.	GS	COVID 19: INTERIM MEASURES	RU_2021-v5_COVID-19_Interim-measures	GS website
30.	GS	GS4GG VPA-DD template	Gold Standard for the Global Goals Key Project Information & VPA Design Document (VPA-DD) Template, version 2.0, 04/05/2022	GS Website
31.	GS	Guide	VPA-Guide_V2.0-VPA-Design-Document	GS Website
32.	GS	Gold Standard for the Global Goals Principles and Requirements	Version 1.2	GS Website
33.	GS	Gold Standard for the Global Goals Programme of Activity Requirements	Version 1.2	GS Website
34.	GS	Gold Standard for the Global Goals Safeguarding Principles & Requirements	Version 1.2	
35.	GS	Gold Standard for the Global Goals Community Services Activity Requirements	Version 1.2	GS Website
36.	GS	Gold Standard for the Global Goals Stakeholder Consultation and Engagement Requirements	Version 1.2	GS Website
37.	GS	GS4GG GHG Emissions Reduction & Sequestration Product Requirements	Version 2.0	GS Website

38.	IPCC	IPCC	2006 IPCC Guidelines for National Greenhouse Gas Inventories www.ipcc-nggip.iges.or.jp	Public Website
39.	UN	List for the Least Developed Countries	List as per UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf	Public Website
40.	Wiki	Public information of the population in DRC	https://en.wikipedia.org/wiki/Communes_of_Ngaliema	Public Website
41.	Google	Google earth map	earth.google.com	Public Website
42.	ILO	ILO conventions	https://www.ilo.org/global/lang--en/index.htm	Public Website
43.	Wiki	National Gender Policy	https://www.wikigender.org/wiki/africa-for-womens-rights-republic-of-congo/	Public Website
44.	Center for International Forestry Research	Wood fuel policies and practices in selected countries in Sub-Saharan Africa - a critical review	https://www.cifor.org/knowledge/publication/7293/	Public Website
45.	Science Direct	World Development Perspectives	https://www.sciencedirect.com/science/article/pii/S2452292922000091	Public Website
46.	Gold Standard Organization	Gold Standard	http://www.goldstandard.org/	Website
47.	UNFCCC	UNFCCC	http://cdm.unfccc.int	Website
48.	VCS	VCS	http://www.v-c-s.org/	Website
49.	VVB	VVB questionnaires	Questionnaire provided by CTI to local experts for site visit interview and filled scanned version	N/A
50.	Research	Wood fuel for urban markets in the Congo Basin: A livelihood perspective	https://www.researchgate.net/publication/261024549_Woodfuel_for_urban_markets_in_the_Congo_Basin_A_livelihood_perspective	Website
51.	Food and Agricultural organization of UN	The Charcoal Transition: Greening the Charcoal Value Chain to Mitigate Climate Change and Improve Local Livelihoods	https://www.uncclearn.org/resources/library/the-charcoal-transition-greening-the-charcoal-value-chain-to-mitigate-climate-change-and-improve-local-livelihoods/	Website

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

Table 1. CAR and FAR from preliminary review

FAR ID	01	**Section No.**	-	**Date : 31/07/2022**
Description of FAR				
VVB need to check supporting documents for all SDG goal estimated.				
CME response				**Date :** 13/02/2023
The supporting data for all parameters and the calculation process have been supplied.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The CME has provided all the supporting evidence for all SDG goal estimated, especially those related to SDG 13 during the validation process and has been assessed by VVB in the section D.5 of this report and listed above Appendix as reference. FAR 01 is closed.				

FAR ID	02	**Section No.**	-	**Date : 31/07/2022**
Description of FAR				
VVB needs to assess the calculation to demonstrate that ICS disseminated by the VPA are expected to represent a total annual energy savings of less than 180GWh.				
CME response				**Date :** 13/02/2023
It is justified in DD section A.4 that ICSs sold by VPA003 are expected to save annual energy of less than 180GWh.				
Documentation provided by project developer				
/11/				
VVB assessment				**Date:** 14/03/2023
The annual average thermal energy savings is 0.00119 (ton/household/day) *14,400*365 (household * day) * 0.0295 TJ/ton*1000/3.6(MWh/TJ) = 51.25 GWh_{th}, which is less than 180 GWh_{th}. As per section 9.1.1 and 9.1.2 of GS4GG GHG Emissions Reduction & Sequestration Product Requirements (Version 2.0)/37/, the VPA003 is a small-scale GS VPA VER project. Refer to section D.2 of this report for detail assessment of values of all the parameters used for calculation above. FAR 02 is closed.				

FAR ID	03	**Section No.**	-	**Date : 31/07/2022**
Description of FAR				
VVB shall check the supporting documents/ references for justification of compliance to all applicable safeguarding principles.				
CME response				**Date :** 13/02/2023
The supporting documents/references for justification of compliance to all applicable safeguarding principles have been provided.				
Documentation provided by project developer				
/1/ version 2.1 /12/				
VVB assessment				**Date:** 14/03/2023
The CME has provided all the supporting documents/ references for justification of compliance to all applicable safeguarding principles. Refer to section D.7 of this report for detail assessment of all applicable safeguarding principles based on evidence listed above Appendix as reference. FAR 03 is closed.				

Table 2. CL from this validation

CL ID	01	**Section no.**	A.1	**Date : 31/07/2022**
Description of CL				
The detail sale status of the ICS under VPA003 is not clarified.				
CME response				**Date :** 13/02/2023

14,400 stoves were sold from 28 April 2021 to 10 June 2021. VPA003 sales database provided includes the detail sale status such as end users name, sales date, serial number of the cookstove to demonstrate the distribution process.
Documentation provided by project developer
/1/ version 2.1
VVB assessment **Date:** 14/03/2023
The revised VPA-DD is checked, it is verified that the related clarification has been added which has been verified as correct and actual by checking the monitoring database/7/ and sales record/11/. CL 01 is closed.

CL ID	02	**Section no.**	B.4	**Date: 31/07/2022**
Description of CL				
How the baseline scenario survey was conducted as per the section 4.3 of the methodology and what is the results of the survey are not clarified in detail.				
CME response				**Date:** 13/02/2023
The Sec B.4 has been updated; survey results and other required details are included.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, it is verified that the related clarification has been added. Refer to section D.4.4 for detail assessment. CL 02 is closed.				

CL ID	03	**Section no.**	B.6.1	**Date: 31/07/2022**
Description of CL				
The methodological choices/approaches for estimating the SDG Impact for SDG 7 and 8 are not clarified.				
CME response 1st				**Date:** 13/02/2023
The methodological approaches applied to calculate baseline and project outcomes for SDG 7 and 8 have been updated in VPA003 DD Section B 6.1				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment 1st				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the clarification is added for SDG 7 and SDG 8 and confirmed as correct. However, it is observed that PD has added SDG 1 and SDG 3 impacts, related methodological choices/approaches for estimating the SDG Impact for SDG 1 and 3 are not clarified.				
CME response 2nd				**Date:** 17/03/2023
The methodological approaches applied to calculate baseline and project outcomes for SDG 1 and 3 have been updated in VPA003 DD Section B 6.1				
VVB assessment 2nd				**Date:** 21/03/2023
The revised VPA-DD is checked, CTI confirmed that the clarification is added for SDG 1 and SDG 3 and confirmed as correct. Refer to section D.5.1 for detail assessment of the choices/approaches. CL 03 is closed.				

CL ID	04	**Section no.**	B.6.1	**Date: 31/07/2022**
Description of CL				
Why the VPA choose method 1 for ER calculation is not clarified.				
CME response				**Date:** 13/02/2023
The justification for applying method 1 has been added in VPA003 DD Section B6.1.				
Documentation provided by project developer				
/1/ version 1.2 /8/				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the reason has been clarified. CME has applied method 1 in the applied methodology/28/ for calculating emission reductions. The baseline fuel and the project fuel are the same under this VPA which has been confirmed by checking the baseline survey report/8/ and confirmed by checking the questionnaires taken from remote verification. CL 04 is closed.				

CL ID	05	**Section no.**	B.6.1	**Date: 31/07/2022**
Description of CL				
After the ER calculation formular, there are no ex ante determination values listed for each of the parameter. Clarification is requested.				
CME response				**Date:** 13/02/2023
Each ex ante determination values in the ER calculation formular are clarified in VPA003 DD Section B.6.2 "Data and parameters fixed ex ante".				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that all the ex ante determination values have been listed for each of the parameter CL 05 is closed.				

CL ID	06	**Section no.**	B.6.2	**Date: 31/07/2022**
Description of CL				
1. For parameter $EF_{b,f,CO2}$, why the Methodology cap value is chosen for this VPA is not clarified. 2. For parameter $EF_{b,f,nonCO2}$, why the Methodology cap value is chosen for this VPA is not clarified.				
CME response				**Date:** 13/02/2023
1. For parameter $EF_{b,f,CO2}$, the methodology default (165.22 tCO_2/TJ) is chosen for this VPA, and the emission reduction calculation is revised accordingly. 2. For parameter $EF_{b,f,nonCO2}$, the methodology default (44.83 tCO_2/TJ) is chosen for this VPA, and the emission reduction calculation is revised accordingly.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
1. The revised VPA-DD is checked, CTI verified that the value has been changed to methodology default (165.22 tCO_2/TJ) which is verified as reasonable and applicable. 2. The revised VPA-DD is checked, CTI verified that the value has been changed to methodology default (44.83 tCO_2/TJ) which is verified as reasonable and applicable. CL 06 is closed out.				

CL ID	07	**Section no.**	B.6.2	**Date: 31/07/2022**
Description of CL				
For parameter $f_{NRB,b,y}$, how the value is determined as 83.1% as per the tool is not clarified and the data source is missing.				
CME response				**Date:** 13/02/2023
The parameter $f_{NRB,b,y}$, is determined by following the CDM TOOL30. The calculation excel spreadsheet with data source has been provided separately.				
Documentation provided by project developer				
/1/ version 2.1 /15/				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI verified that the value has been calculated as per the tool. As per the applied methodology, based on the above assessment, firewood and charcoal are baseline fuels, the fractional non-renewability of biomass needs to be assessed, and the value has been determined by CDM Tool 30 "Calculation of the fraction of non-renewable biomass" (version 03.0)/27/ as assessed below, $f_{NRB}=NRB/(NRB+RB)$ Where: f_{NRB} Fraction of non-renewable biomass in the applicable area in the relevant period (fraction or %) *RB* Quantity of renewable biomass that is available on a sustainable basis in the applicable area in the relevant period (tonnes) *NRB* Quantity of non-renewable biomass consumed in the applicable area in the relevant period (tonnes) The detail calculation process has been elaborated in the excel sheet for f_{NRB} calculation/15/ which has been assessed by CTI as correct and in line with the requests from the tool. CME has chosen that f_{NRB} of 83.1% is fixed for the first crediting period. CL 07 is closed out.				

CL ID	08	Section no.	B.7.2	Date: 31/07/2022
Description of CL				
The sampling plan is not clearly designed for corresponding monitoring parameters and related different sampling methods. Clarification is requested.				
CME response				**Date:** 13/02/2023
The sampling plan has been updated in VPA003 DD Section B 7.2 for corresponding monitoring parameters and associated sampling methods.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI verified the sampling plan for different monitored parameters have been listed respectively and assessed by VVB. Refer to section D.5.1 of this report for detail assessment. CL 08 is closed out.				

CL ID	09	Section no.	B.7.3	Date: 31/07/2022
Description of CL				
The monitoring plan is not clearly designed for monitoring of ER value of VPA and data management, QA/QC procedure, training etc.				
CME response				**Date:** 13/02/2023
The monitoring plan in VPA003 DD has been updated accordingly based on the requirements.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI verified that the monitoring plan has been elaborated accordingly. Refer to section D.5.1 of this report for detail assessment. CL 09 is closed out.				

CL ID	10	Section no.	C.2.2	Date: 31/07/2022
Description of CL				
As per the GS4GG Programme Of Activity Requirements, it requests “All VPAs/ CPAs shall be renewed every 5 years. Exception is granted to Gold Standard VPAs that are or will be part of PoA that was registered under earlier versions of Gold Standard. Any VPA submitted within the first crediting cycle of PoA (i.e., 7 years) shall be allowed to use the same 7 year, twice renewal model. All VPAs/CPAs submitted for inclusion after the first crediting cycle of such PoA and completion of transition to GS4GG shall follow the GS4GG Certification Cycle (i.e. 5 year renewals)”. Then why the VPA chooses the length of crediting period of 10 years is not clarified.				
CME response				**Date:** 13/02/2023
The crediting period duration has been changed to be 5 years, with the potential to be renewed twice.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI verified that the crediting period has been updated to 5 years accordingly which is verified in line with the GS4GG Programme Of Activity Requirements/33/. CL 10 is closed out.				

CL ID	11	Section no.	D.1	Date: 31/07/2022
Description of CL				
For all the demonstration of safeguarding principles, CME is requested to clarify all the supporting evidence and provide the related sources to prove the impact to each safeguarding principle.				
CME response				**Date:** 13/02/2023
VPA003 DD Section D and Appendix 1 have been updated following Safeguarding Principles requirements.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI verified that the related supporting evidence has been described and provided for the demonstration of safeguarding principles which has been assessed by VVB. Refer to section D.7 of this report for detail assessment. CL 11 is closed out.				

CL ID	12	Section no.	E	Date: 31/07/2022
Description of CL				
CME is requested to clarify the stakeholder consultation process and results in section E.				
CME response				**Date:** 13/02/2023
Stakeholder consultation process has been clarified in VPA003 DD Section E where it is applicable.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI verified that the stakeholder consultation process has been elaborated and assessed by VVB. Refer to section D.8 of this report for detail assessment. CL 12 is closed out.				

Table 3. CAR from this validation

CAR ID	01	Section no.	A.1	Date: 31/07/2022
Description of CAR				
The number of ICS marketed under this VPA is not provided.				
CME response				**Date:** 13/02/2023
14,400 ICSs have been sold to end users in VPA003, the sales database containing sales details is provided.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the information of number of ICS marketed under this VPA has been clearly specified which is verified as correct by checking the monitoring database/7/. CAR 01 is closed.				

CAR ID	02	Section no.	A.1.1	Date: 31/07/2022
Description of CAR				
All the Eligibility Criterions need to be updated as per the change of PoA.				
CME response				**Date:** 13/02/2023
Eligibility Criterions has been updated accordingly to reflect the change of PoA.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the information has been updated accordingly which is verified in line with the PoA-DD. CAR 02 is closed.				

CAR ID	03	Section no.	A.1.1	Date: 31/07/2022
Description of CAR				
For the column Means of Verification/Supporting evidence for inclusion, the description is not based on the actual status of VPA003 and the related supporting evidence are not in line with the requirement in PoA-DD.				
CME response				**Date:** 13/02/2023
The description has been updated to reflect the actual status of VPA003. Related supporting evidences are added based on the requirement specified in PoA-DD.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the information has been updated accordingly which is verified in line with the PoA-DD. Refer to section D.3 of this report for detail assessment. CAR 03 is closed.				

CAR ID	04	Section no.	A.2	Date: 31/07/2022
Description of CAR				
The project boundary area is not highlighted in the map of Fig 2.				
CME response				**Date:** 13/02/2023

The project boundary has been highlighted in the map as required.
Documentation provided by project developer
/1/ version 2.1
VVB assessment **Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the area has been highlighted accordingly. CAR 04 is closed.

CAR ID	05	**Section no.**	A.3	**Date: 31/07/2022**
Description of CAR				
1. The actual photo that used by the end users are missing. 2. Data source of the technical data of ICS is missing.				
CME response				**Date:** 13/02/2023
1. Photos of the end users using the project technology have been added. 2. Data source of the technical data of ICS has been added.				
Documentation provided by project developer				
/1/ version 2.1				
VVB assessment				**Date:** 14/03/2023
1. The revised VPA-DD is checked, CTI confirmed that the actual photos that show the ICS use by end users have been added accordingly which can show the baseline stove using and ICS using. 2. The revised VPA-DD is checked, CTI confirmed that the data source of the technical data of ICS is added which is verified as correct by checking the Manufacturer specifications of ICS/12/. CAR 05 is closed.				

CAR ID	06	**Section no.**	A.4	**Date: 31/07/2022**
Description of CAR				
The accurate energy saving value of the VPA is missing for demonstrate the small-scale.				
CME response				**Date:** 13/02/2023
The accurate energy saving value of VPA003 has been added to demonstrate that is below the threshold of small-scale project, hence the project is small-scale.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the demonstration has been added. The annual average thermal energy savings is 0.00119(ton/household/day) *14,400*365 (household*day) * 0.0295 TJ/ton*1000/3.6(MWh/TJ) =51.25 GWh_{th} (refer to below section D.2 for details assessment), which is less than 180 GWh_{th}. As per section 9.1.1 and 9.1.2 of GS4GG GHG Emissions Reduction & Sequestration Product Requirements (Version 2.0)/37/, the VPA003 is a small-scale GS VPA VER project. CAR 06 is closed.				

CAR ID	07	**Section no.**	A.5	**Date: 31/07/2022**
Description of CAR				
The ODA funding description is not related the VPA but PoA.				
CME response				**Date:** 13/02/2023
No Public funding is involved in VPA003. DRC is place on the OECD Development Assistance Committee's ODA recipient list, and the ODA Declaration from VPA003 implementer has been provided.				
Documentation provided by project developer				
/1/ version 2.1 /21/				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the ODA Declaration from VPA 003 implementer has been provided accordingly/21/. CAR 07 is closed.				

CAR ID	08	**Section no.**	B.1	**Date: 31/07/2022**
Description of CAR				
1. The version of the tool and guideline used for the VPA is missing. 2. The reference websites of tool and guideline used for the VPA is missing.				
CME response				**Date:** 13/02/2023
1. Version number of the tool and guideline has been specified in the VPA003 DD. 2. References of websites where tool and guidelines were retrieved also have been added in the VPA DD.				

Documentation provided by project developer	
/1/ version 2.1	
VVB assessment	**Date:** 14/03/2023
1. The revised VPA-DD is checked, CTI confirmed that the version of the tool and guideline used for the VPA is added accordingly which is confirmed in line with the PoA-DD. 2. The revised VPA-DD is checked, CTI confirmed that the reference websites of tool and guideline has been added accordingly which is confirmed in line with the PoA-DD. CAR 08 is closed.	

CAR ID	09	**Section no.**	B.3	**Date: 31/07/2022**
Description of CAR				
1. The boundary of the VPA is not defined as per the applied methodology. 2. The description of the emission sources is not in line with the sources provided in the table below.				
CME response				**Date:** 13/02/2023
1.The boundary of the VPA003 has been updated as per section 3.1 of the applied methodology. 2.The emission reduction included in the project boundary have been updated as per section 3.2 of applied methodology.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date: 14/03/2023**
1. The revised VPA-DD is checked, CTI confirmed that the boundary of the VPA is defined as per the applied methodology includes the physical, geographical sites of the project technologies/practices including the fuel collection and production area and it is well defined in the VPA-DD/1/ (section B.3) according to applied methodology/28/. The project boundary of VPA003 includes all individual households who receive ICSs. The target area consists of households residing in Ngaliema commune in Kinshasa city. The fuel collection and production area is considered to be included in the project boundary. Via remote validation and checking the sale records/11/ and Monitoring Database/7/, it is verified that project boundary is clearly defined in the VPA-DD as per the methodology. 2. The revised VPA-DD is checked, CTI confirmed that the emissions sources included in the project boundary have been appropriately included in the VPA-DD. CO_2, CH_4 and N_2O emissions due to use of non-renewable biomass in the traditional stove for baseline scenario (for all the project sites) and the project scenario has reduced emissions, thus CO_2, CH_4 and N_2O GHGs are included. CAR 09 is closed.				

CAR ID	10	**Section no.**	B.6.2	**Date: 31/07/2022**
Description of CAR				
Not all the ICS parameter are listed as per the applied methodology, such as ICS 1, 2, 3, 5, 6, 7 are missing.				
CME response				**Date:** 13/02/2023
The missing ICS parameters are added in B.6.2 and the VPA003 DD is updated.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date: 14/03/2023**
The revised VPA-DD is checked, all the requested ICS parameters have been added accordingly. Refer to section D.5 of this report for detail assessment. CAR 10 is closed.				

CAR ID	11	**Section no.**	B.6.3	**Date: 31/07/2022**
Description of CAR				
The ex ante estimation results of the SDG 7 and 8 are not provided correctly.				
CME response 1st				**Date:** 13/02/2023
The ex ante estimation results of the SDG 7 and 8 have been corrected.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment 1st				**Date: 14/03/2023**
The revised VPA-DD is checked, CTI confirmed that the ex ante estimation results of the SDG7 and 8 have been updated accordingly. However, it is observed that PD has added SDG 1 and SDG 3 impacts, related ex ante estimation results of the SDG 1 and 3 are not provided correctly.				
CME response 2nd				**Date:** 17/03/2023

The methodological approaches applied to calculate baseline and project outcomes for SDG 1 and 3 have been updated in VPA003 DD Section B 6.1
VVB assessment 2nd **Date:** 21/03/2023
The revised VPA-DD is checked, CTI confirmed that the ex ante estimation results of the SDG 1 and 3 have been updated accordingly. Refer to section D.5 of this report for detail assessment. CAR 11 is closed.

CAR ID	12	**Section no.**	B.7.1	**Date: 31/07/2022**
Description of CAR				
For the parameter N_{ICS} and N_{em}, the description is not same to other parts.				
CME response				**Date:** 13/02/2023
The description of parameter N_{ICS} and N_{em}, has been revised to keep same to other parts.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the description of parameter N_{ICS} and N_{em} are consistent in the whole DD. CAR 12 is closed.				

CAR ID	13	**Section no.**	B.7.1	**Date: 31/07/2022**
Description of CAR				
Not all the ICS parameter are listed as per the applied methodology, such as ICS15 and 16 are missing.				
CME response				**Date:** 13/02/2023
ICS15 and 16 have been specified according to the methodology requirements.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the ICS parameters have been added accordingly. Refer to section D.5 of this report for detail assessment. CAR 13 is closed.				

CAR ID	14	**Section no.**	B.7.1	**Date: 31/07/2022**
Description of CAR				
For ICS 18, 1. the left column is not same to the template requests. 2. the data source of ex ante value is missing.				
CME response				**Date:** 13/02/2023
1. The left column of ICS 18 has been revised according to template requests. 2. The data source of ex ante value of ICS 18 is added.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date:** 14/03/2023
1. The revised VPA-DD is checked, CTI confirmed that the left column is updated in line with the template requests. 2. The revised VPA-DD is checked, CTI confirmed that the data source of ex ante value is added accordingly. Refer to section D.5.1 of this report for detail assessment. CAR 14 is closed.				

CAR ID	15	**Section no.**	B.7.1	**Date: 31/07/2022**
Description of CAR				
For ICS 19, 1. the data source of ex ante value is missing. 2. the description of QA/QC procedure is not in line with the applied methodology.				
CME response				**Date:** 13/02/2023
1. The data source of ex ante value of ICS 19 has been added. 2. The description of QA/QC procedure of ICS 19 has been revised according to applied methodology.				
Documentation provided by project developer				
/1/ version 1.2				

VVB assessment	Date: 14/03/2023
1. The revised VPA-DD is checked, CTI confirmed that the data source of ex ante value is added accordingly. 2. The revised VPA-DD is checked, CTI confirmed that the QA/QC procedure of ICS 19 is added accordingly. Refer to section D.5.1 of this report for detail assessment. CAR 15 is closed.	

CAR ID	16	Section no.	B.7.1	Date: 31/07/2022
Description of CAR				
For ICS 26, 1. the data source of ex ante value is missing. 2. the description of QA/QC procedure is not in line with the applied methodology.				
CME response				**Date:** 13/02/2023
1.the data source of ex ante value of ICS 26 has been added. 2.the description of QA/QC procedure of ICS 26 has been revised according to applied methodology.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date:** 14/03/2023
1. The revised VPA-DD is checked, CTI confirmed that the data source of ex ante value is added accordingly. 2. The revised VPA-DD is checked, CTI confirmed that the QA/QC procedure of ICS 19 is added accordingly. Refer to section D.5.1 of this report for detail assessment. CAR 16 is closed.				

CAR ID	17	Section no.	C.1.1	Date: 31/07/2022
Description of CAR				
The start date of VPA is not defined as per the GS4GG Principles and Requirement which request the start date is the date of implementation of the first unit under the project, however, the VPA start date is defined as the date of first efficient cookstove has been disseminated, revision is requested.				
CME response				**Date:** 13/02/2023
The start date of VPA003 has been updated to follow the correct definition.				
Documentation provided by project developer				
/1/ version 1.2				
VVB assessment				**Date:** 14/03/2023
The revised VPA-DD is checked, CTI confirmed that the information has been updated. The start date of the VPA is 28/04/2021 which is the date on the first purchase receipt for the ICS sold to an end-user and this date is verified as the started date to use of the ICS by checking the monitoring database/7/. The audit team has reviewed the related sales records/11/ and found first date is correct, CTI confirmed that the start date is defined in line with the 4.1.40 of the GS4GG Principles &Requirements/32/. The VPA is retroactive projects, for which the stakeholder consultation (1st round) is conducted on 18/05/2021 after the project start date of 28/04/2021 which is in line with the GS4GG Principles &Requirements/32/. CAR 17 is closed.				

Table 4. FAR from this validation

FAR ID	-	Section no.	-	Date :
Description of FAR				
CME response				**Date :**
Documentation provided by project participant				
VVB assessment				**Date:**