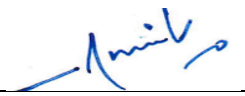
Validation report for inclusion of Voluntary Project Activity (VPA)

BASIC INFORMATION	
Title and UNFCCC reference number of the programme of activities (PoA)	ECOA_BURN multi-country Clean Cooking Programme (GS10789)
Version number of the validation report	6.0
Completion date of the validation report	16/10/2021
Version numbers of the PoA-DD to which this report applies	4
Title and reference number of each VPAs to be included	GS10789 VPA1: Efficient and Clean Cooking for households in Somalia (GS Reference No. GS10790)
Applied methodologies and standardized baselines for each VPA	Technologies and Practices to Displace Decentralized Thermal Energy Consumption' (TPDDTEC), version 03.1
Sectoral scopes for each VPA	03: Energy demand
Coordinating/managing entity (CME)	BURN Manufacturing Co.
Host Parties	Federal Republic of Somalia
Activity Requirements applied	Community Services Activities Requirements Programme of Activity Requirements
Product Requirements applied	GHG Emissions Reduction & Sequestration Product Requirements
SDG Indicators	SDG 1: No Poverty SDG 3: Good Health and Well Being SDG 7: Affordable and Clean Energy SDG 8: Decent Work and Economic Growth SDG 13: Climate Action
Name and UNFCCC reference number of the VVB	Carbon Check (India) Private Ltd. (E-0052)
Name, position and signature of the approver of the validation report	Amit Anand, Chief Executive Officer 

SECTION A. Executive summary

Purpose and general description

BURN Manufacturing Co. (the CME) has appointed the VVB, Carbon Check (India) Private Ltd. (CCIPL) to perform the validation of the proposed large scale VPA titled "GS10789 VPA1: Efficient and Clean Cooking for households in Somalia" (hereafter called "the VPA") requesting to be included in the proposed GS PoA "ECOA_BURN multi-country Clean Cooking Programme". Carbon Check was appointed to assess the information in the VPA-DD for the VPA against the requirements for including VPAs to the PoA and further documentation requirements for including VPAs to a PoA. This report summarises the findings of the validation of the VPA, performed on the basis of relevant applicable applicable Gold standard for global goals (GS4GG), as well as criteria given to provide for consistent project operations, monitoring and reporting and compliance with host country criteria and other relevant UNFCCC CDM/(GS4GG) criteria.

The proposed large-scale VPA has been developed under Programme of Activities (PoA) titled: "ECOA_BURN multi-country Clean Cooking Programme" which deploys efficient improved cookstoves (ICS) reducing woody biomass consumption for householdsin Somalia. The PoA aims to distribute highly efficient improved cookstoves to households, small and medium enterprises (SMEs) and institutions (e.g. schools, prisons, hospitals, restaurants etc) cooking in the baseline on very inefficient 3-stone fires or traditional cookstoves using non-renewable biomass. Greenhouse gas (GHG) emission reductions achieved through saving of non-renewable biomass will result in carbon credits following GS certification rules and procedures. The PoA is a voluntary action by the CME.

The VPA is estimated /01-f/ to reduce an annual average of 904,974tCO_2 over the crediting period of 5 years. The VPA involves use of methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption' (TPDDTEC), version 03.1 /B03/. The VPA results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the VPA is not a likely baseline scenario. Emission reductions attributable to the VPA are hence additional to any that would occur in the absence of the VPA in accordance with the GS4GG requirements for additionality.

The validation scope is defined as an independent and objective review of the VPA-DD /01-f/. The VPA-DD /01-f/ is reviewed against the relevant (GS4GG) criteria for validation and inclusion of VPA. The validation team has, based on the recommendations in the GS4GG PoA requirements version 1.2, CDM Validation and Verification Standard for Programme of Activities(version 02.0) /B01-1/ and employed a rule-based approach, focusing on the identification of significant risks for project implementation and the generation of VERs.

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

While carrying out the validation, CCIPL determines if the VPA complies with the requirements of UNFCCC/ GS4GG requirments, specifically the applicability conditions of the selected methodology /B03/ and also assesses the claims and assumptions made in the VPA-DD /01-f/ without limitation on the information provided by the project participants.

The report is based on the assessment of the VPA-DD /01-f/ undertaken through application of standard auditing techniques including but not limited to document reviews and stakeholder interviews, review of the applicable/applied methodology and its underlying formulae and calculations.

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

Therefore, CCIPL recommends to GS4GG for registration of the VPA.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation	Involvement in			
						Desk/document review	On-site inspection	Interviews	Validationfindings
1.	Team Leader / Technical Expert	IR	Singh	Vikash Kumar	CCIPL	X		X	X
2.	Local Expert	IR	Hersi	Abdillahi Mohamed	CCIPL	X		X	
3.	Trainee Assesor	IR	Suman	Priya	CCIPL	X		X	X

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

No.	Role	Type of resource	Last name	First name	Affiliation
1.	Technical reviewer	IR	Agarwalla	Sanjay Kumar	CCIPL
2.	Approver	IR	Anand	Amit	CCIPL

Audit Team Experience:

The team composition is linked to the methodology and local experience in the host country.

Vikash Kumar Singh: Qualified lead assessor and internal technical reviewer for offset projects validations and verifications under CDM, VCS and Gold Standard (GS) and actively been involved in the validation and verification or internal technical review of more than 200 GHG offset projects. He is qualified as technical expert for TA 1.2, 3.1,4.1,13.1 and 13.2 under CDM SS 4rganization4n. He has undergone extensive training in the validation and verification of carbon offset projects including the accreditation requirements for the VVBs. He has also received accreditation from the California Air Resources Board (ARB) under Executive Order H2-13-174 as a GHG offset lead verifier for carbon offsets projects and is a specialist for the livestock protocol. Currently, he is employed with Carbon Check in the capacity of Compliance Officer. He holds a Bachelor of Science degree in Environment & Water Management and Master of Science degree in Environmental Management. He has been involved in number of GS validation and verification projects (as internal technical reviewer and team leader) for e.g. Up Energy's Improved Cookstove Carbon Project, Uganda with GS reference number GS 1044 , Dissemination of Fuel Efficient Biomass Stoves and Water Purification Systems in Tanzania with GS reference number GS 850. He has also attended Several Gold Standard DOE webinar training and also webinar on GS4GG and passed the online examination under GS4GG. He was also involved as validation and verification assessor in the following Gold Standard Projects: GS 1078, GS 1044, GS 976, GS 850, GS 916 PoA (GS 1231 (VPA 01) GS 1029 (VPA 02), GS 1030(VPA 03), GS 1031(VPA 04)and GS 4364.

Abdillahi Mohamed Hersi: is an appointed Local Expert for Somalia. He has over forty years professional experience including project management techniques, preparation of project proposals for soliciting funds for international organizations' projects. Extensive experience in working with aid organizations such as Save the Children and Care International and UN-Habitat, and ICRC. Special

emphasis of Verification and Validation of quality Assurance of the Higher Education Institutions (HEIs) in Somaliland.

Priya Suman: Priya is qualified as Trainee Auditor in TA 1.2 and 3.1. She has also attended Several Gold Standard DOE webinar training including training on GS4GG.

Sanjay Kumar Agrwalla: He is an appointed Team Leader and Technical Expert for technical area 1.1, 1.2, 2.1, 3.1, 4.1, 5.1, 5.2, 8.1, 9.1, 9.2 and 13.1. He is having more than 20 years of experience, which involves more than 10 years of industrial experience and almost 10 years in climate change. He worked in various capacities at Kesoram Rayon, Durgapur Chemicals Limited, Gensol Consultants, TUV Rheinland India Pvt Ltd and LRQA. He is involved in more than 70 GHG audits including validation/verification/post registration changes. He also has GS Audit Experience and attended the Gold Standard webinar. The GS projects on which he has worked are 1309, 850, 6191, 411, 1353 and 939.

SECTION C. Means of validation

C.1. Desk/documentreview

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

C.2. On-site inspection

N/A, since no on site inspection has been conducted for the validation of the VPA.

On site visit justification:

As per the Gold standard requirements and in the view of current situations where travel restrictions have been put in place for domestic as well as international travel around the world due to COVID-19 pandemic, the VVB has decided to conduct the validation remotely (without on-site inspection) for the project in accordance with the provisions of paragraph 4.1.1. (b) of Rule Update: COVID 19: Interim Measures, which states:

"If site visit cannot be postponed due to significant impact of delaying the site visit on VVB and/or project developer due to timeline/commitment as per validation/verification or GS-VERs delivery agreement, VVB may replace mandatory on-site visits with remote audits. The audit may include but not limited to validation, verification, the inclusion of VPAs, design change review etc." The alternative means used for the validation is remote interviews as well as document reviews. In opinion of CCIPL, the alternative means used are justified and they are sufficient for the purpose of validation.

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	-	-	-	-
…	-	-	-	-

C.3. Interviews

Validation team has carried out remote interviews in order to assess the information included in the VPA DD /01-b/. During the desk review, the relevant records in consistent with the VPA DD checked, comparing the relevant evidence and interview with the PP representative through remote interviews.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Thaler	Johann Franz	mkaarbon safari GmbH (carbon consultant)	13/07/2021	• Discussion on Programme Design and elibility citeria • Proposed Technology to be used in the VPAs of the PoA • CME Management System Manual • Discussion on programme funding and involvement of any ODA • Discussion on the PoA DD/VPA DD and ER sheet • Monitoring/Samplin g plan • Discussion on the GS preliminary review comments • Sustainability aspects of the PoA • SDG impacts	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
2.	Martha	Jepkirui	BURN Manufacturi ng Co.	13/07/2021	• Discussion on Programme Design and elibility citeria • Proposed Technology to be used in the VPAs of the PoA • CME Management System Manual • Discussion on programme funding and involvement of any ODA • Sustainability aspects of the PoA • SDG impacts	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
3	Antony	Rono	BURN Manufacturi ng Co.	13/07/2021	• Discussion on Programme Design and elibility citeria • Proposed Technology to be used in the VPAs of the PoA • CME Management System Manual • Discussion on programme funding and involvement of any ODA • Sustainability aspects of the PoA • SDG impacts	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi

4	Kithome	Felistus	BURN Manufacturing Co.	13/07/2021	• Discussion on Programme Design and elibility citeria • Proposed Technology to be used in the VPAs of the PoA • CME Management System Manual • Discussion on programme funding and involvement of any ODA • Sustainability aspects of the PoA • SDG impacts	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
5	Edward	Omondi	BURN Manufacturing Co.	13/07/2021	• Discussion on Programme Design and elibility citeria • Proposed Technology to be used in the VPAs of the PoA • CME Management System Manual • Discussion on programme funding and involvement of any ODA • Sustainability aspects of the PoA • SDG impacts	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
6	Nijhia	Samuel	BURN Manufacturing Co.	13/07/2021	• Discussion on Programme Design and elibility citeria • Proposed Technology to be used in the VPAs of the PoA • CME Management System Manual • Discussion on programme funding and involvement of any ODA • Sustainability aspects of the PoA • SDG impacts	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
7	Madadaal	Hinda Jamac	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
8	Cali	Umalkhey Yusuf	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi

9	Mohamed	Hani	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
10	Mohamed	Rahmo	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
11	Ali	Farhiyo Aadam	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
12	Ali	Falastin Ahmed	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
13	Muse	Nimco Ahmed	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
14	Qudar	Luul	End user	13/07/2021	Baseline survey & KPT	Vikash Kumar Singh, Priya Suman
15	Maxamed	Aasiya Adan	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
16	Aadan	Nimco Abadi	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
17	Abdillahi	Rahma	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
18	Ismail	Amina Xasan	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi

19	Coli	Fartunn yulesuf	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
20	Osman	Kaltumm	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
21	Sheig	Dahabo Cabdulle	End user	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
22	Maxame d	Kawsar Ibrahim	Local Stakeholder	13/07/2021	Project Survey & KPT	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
23	Gardens	Moustaph a Harn	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
24	Haybe	Amwn Ali	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
25	Nour	Farhiya Ali	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
26	Samatar	Luul Jama	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
27	Beder	Ifrah Abdullahi	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi
28	Shido	Sagal Nasir	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi

29	Hersi	Abdillahi M.	Local Stakeholder	13/07/2021	Local Stakeholder Meeting	Vikash Kumar Singh, Priya Suman, Abdillahi Mohamed Hersi

C.4. Sampling approach

CME has conducted a baseline survey along with a baseline KPT and project KPT /16/ to determine the baseline and project fuel consumption.. The KPT protocol published by Clean Cooking Alliance and the survey questionnaire outlined in Annex 4 of the TPDDTEC methodology /B03/ were followed by CME.

The baseline surveys/KPTs resulted in an average charcoal consumption of 0.459 kg/per capita/day (equivalent to 1.028 t/household/year).

Validation team has confirmed that the sample size was sufficient to achieve a precision level of 12.3% at 90% confidence. Hence, the 90/30 confidence/precision level for large-scale project activities
for the unpaired sampling approach as required by TPDDTEC is met..

The validation team has used acceptance sampling (through remote audit) during validation for checking the above baseline survey along with a baseline KPT and project KPT. Considering that Somalia is a Least Developed Country (LDC), applying §39 © of the sampling standard (version 09.0) /B01-d/, a sample size for 8 households was chosen (with no non-responses) for the project activity. A sample size of 8 for both project KPT and baseline KPT each was required, based on an AQL of 0.5 % and UQL of 20 %, the producer risk used is 10 % and consumer risk used was 20 %. Acceptance numb©(c) thus determined for the sample is 0.

Validation team has taken 8 samples each for baseline KPT and project KPT from the CME's record. As a part of acceptance sampling, VVB to has cross-checked the same questionnaires and interview results as opted by CME. The objective of this acceptance sampling was to check if the records including responses as provided by CME is acceptable or not or is there any discrepancies. Each of the households selected for the remote audit has confirmed to the validation team that a KPT and baseline survey was performed by the CME. They have also confirmed the outline/method opted by the CME including the measurement that was done by CME during the KPT. Based on this remote interviews, validation team confirms that the KPT protocol published at Clean Cooking Alliance website along with the survey questionnaire outlined in Annex 4 of the TPDDTEC methodology were followed by the CME. It is also confirmed that the KPTs were performed by the CME in person. The average charcoal, firewood and LPG consumption was measured in kg over 3 days and then converted to TJ to determine the proportion in % of the different fuels. During the remote audits, it was confirmed that none of the selected households uses electricity or kerosene for cooking. The respondents during the remote audit also confirmed that they do not observe a difference in fuel consumption and cooking patterns between dry and rainy season, hence seasonal variation was not relevant. The baseline cooking device was also confirmed during the remote audits. No discrepancy was found during the remote audits and thus the CME's sampling records are deemed appropriate and thus acceptable to the validation team.

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

Areas of validation of compliance (SECTION D)	No. of CL	No. of CAR	No. of FAR
Titles of the VPAs and corresponding generic VPAs	--	CAR 02	--
Compliance with VPA-DD form	--	--	--
General description of the VPAs	--	--	--
Application of methodologies and standardized baselines	--	--	--
• Reference to methodologies and standardized baselines	--	--	--
• Project boundary, sources and GHGs	--	--	--
• Baseline scenario	--	--	
Estimation of emission reductionsor net anthropogenic removals	--	--	--
• Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals	--	--	--
• Data and parameters fixed ex ante	CL 01	--	--
• Ex ante calculation of GHG emission reductions or net anthropogenic GHG removals	CL 02 CL 04	CAR 01	--
• Summary of ex ante estimates of GHG emissionreductions or net anthropogenic GHG removals	--	--	--
Monitoring plan	--	--	--
• Data and parameters to be monitored	CL 05	--	--
• Description of the monitoring plan	--	--	--
Start date, crediting period type and duration	--	--	--
Environmental impacts	--	--	--
Local stakeholder consultation	--	--	
Eligibility for inclusion	--	CAR 03	--
Others (Appendix 7 SAFEGUARDING PRINCIPLES ASSESSMENT)	CL 03	--	--
Total	05	03	00

SECTION D. Validation findings

D.1. ProposedVPAsand corresponding generic VPAs

VPA title and reference number	Version number of the VPA-DD	Host Party	Version number of the PoA-DDinto which the VPA is included
GS10789 VPA1: Efficient and Clean Cooking for households in Somalia GS Ref. No. 10790	2.2, dated 23/08/2021	Republic of Somalia	Version 3.1 dated 23/08/2021

D.2. Compliance with VPA-DD form

Means of validation	DR, I
Findings	--
Conclusion	Through means of document review and interviews, the validation team considers that the VPA description in the VPA titled “GS10789 VPA1:Efficient and Clean Cooking for households in Somalia”, as described in the VPA-DD /01-f/, is accurate and complete; meets the requirements to be included in the PoA titled “ECOA_BURN multi-country Clean Cooking Programme” /B07/ and correctly applies the baseline and monitoring methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption’ (TPDDTEC), version 03.1 /B03/ and requirements of CDM VVS for PoAs (version 02.0) /B01-1/ and GS4GG PoA requirements version 1.2./B06/. Validation team confirms that CME has used latet available template of VPA-DD.

D.3. General description of the VPAs

Means of validation	DR, I
Findings	--
Conclusion	The following description of the proposed Voluntary Project Activity as per the VPA-DD /01-f/ is verified: This proposed VPA deploys highly efficient improved charcoal cookstoves (ICS), 'Jikokoas' which reduces woody biomass consumption for urban and peri-urban households in the Federal Republic of Somalia. The VPA is implemented by BURN Manufacturing Co. (henceforth referred as 'BURN') and at the same time BURN is also Coordinating and Managing Entity (CME) of the PoA. The VPA deploys an efficient cookstove known as Jikokoa intended for use with charcoal. The technology was designed and developed by BURN. These highly efficient cookstoves translate into considerable charcoal savings when compared to traditional cookstoves. The Jikokoa stove's design takes into account the local cooking culture in the project area to ensure that improvements in technology and improved standards of living do not come at the expense of cultural traditions. The households, by using the improved cookstoves (Jikokoa's), achieve considerable monetary savings through less charcoal consumption (positive contribution to SDG 1). Further, the households benefit of improved air quality. Since the Jikokoa's burn the fuel in a much cleaner way as the traditional stoves do (positive contribution to SDG 3). The project generates several jobs positively contributing to SDG 8. The VPA involves use of methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption' (TPDDTEC), version 03.1 /B03/. The VPA results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the VPA is not a likely baseline scenario. Emission reductions attributable to the VPA are hence additional to any that would occur in the absence of the VPA in accordance with the GS4GG requirements for additionality. The VPA is estimated /02/ to reduce an annual average of 904,974tCO_2 over the crediting period of 5 years. The validation team reviewed the VPA-DD /01-f/ and the ER sheet /02/ and confirms the same to be accurate. In addition, the steps used for ER calculations were found to be in conformance with the requirements of the applied methodology. The unique geographical location of the VPA area, with (latitude and longitude), have been clearly stated in the section A.2 of the VPA-DD /01-f/. CME confirms that there is no double counting of emission reductions due to the implementation/inclusion of VPA. The same was also validated though review of GS website Based on the information furnished by the CME/VPA implementer no ODA contributes to the financing of the VPA /03/. The description of the VPA as provided in the VPA-DD /01-f/ is in accordance with the PoA-DD /B07/. The validation team confirms that the description of the proposed VPA in the VPA-DD is accurate, complete, and provides an understanding of the proposed VPA. The validation team has reviewed the VPA-DD and is of the opinion that the design of the VPA is in line with GS4GG Principles and Requirements /B04/.

D.4. Application of methodologies and standardized baselines

D.4.1. Reference to methodologies and standardized baselines

Means of validation	DR,I
Findings	--

<table>
<tr><td>Means of validation</td><td>DR,I</td></tr>
<tr><td>Conclusion</td><td>The compliance of the VPA to the applicability conditions of the applied baseline and monitoring methodology /B03/ has been mentioned in the VPA-DD /01-f/ and confirms efficient improved charcoal cookstoves (ICS) reducing woody biomass consumption for urban and periurban households, hence reducing GHG emissions from the thermal energy consumption. thus satisfying all the relevant applicability criteria of the methodology TPDDTEC version 3.1 /B03/. This was verified by reviewing the the technical specification of the stove models /15/ to be implemented under the VPA.

<table>
<tr><th>Methodology applicability requirement</th><th>Justification regarding this VPA</th><th>Assessment</th></tr>
<tr><td>This methodology is applicable to programmes or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non-domestic premises</td><td>This VPA introduces highly efficient improved charcoal cookstoves (ICS) reducing woody biomass consumption for urban and periurban households, hence reducing GHG emissions from the thermal energy consumption.</td><td>Validation team based on review of the VPA-DD /01-f/ and applied methodology confirms that VPA meets this applicability criteria, provided it meets the eligibility criteria of the PoA.</td></tr>
<tr><td>The project activity is implemented by a project proponent and can include additional project participants. The individual households and institutions do not act as project participants.</td><td>This VPA is implemented by BURN Manufacturing Co, at the same time being the CME of the PoA. The individual households do not act as project participants.</td><td>Validation team based on review of the VPA-DD /01-f/ and applied methodology confirms that VPA of the PoA meets this applicability criteria, provided it meets the eligibility criteria of the PoA.</td></tr>
<tr><td>The project boundary needs to be clearly identified, and the technologies counted in the project are not included in any other voluntary market or CDM project activity (i.e. no double counting takes place). In some cases there maybe another similar activity within the same target area.</td><td>The geographical project boundary of this VPA is defined as the country of Somalia as described in section A.4 of this document.
All carbon standard registries (UNFCCC, GS and VERRA) have been checked and it is confirmed that the VPA has not been registered as a separate GS project activity, nor included as part of another registered GS (or other carbon standard) PoA nor that the project activity has been deregistered. Hence, it can be confirmed that double counting is being avoided.</td><td>Validation team based on review of the VPA-DD /01-f/ and applied methodology confirms that VPA of the PoA meets this applicability criteria provided it meets the eligibility criteria of the PoA..</td></tr>
<tr><td>Project proponents must therefore have a</td><td>The ICS under this VPA will avoid double</td><td>Validation team based on review of the VPA-DD /01-f/ and applied</td></tr>
</table>
</td></tr>
</table>

Means of validation	DR,I		
	survey mechanism in place together with appropriate mitigation measures so as to prevent any possibility of double counting.	accounting of emissions reductions through the Unique Serial Number (USN). Each device under this VPA is unquestionably assigned to the PoA 'ECOA_BURN multicountry Clean Cooking Programme'. The USN will be clearly visible on the ICS throughout the life of the product as well as stored in the electronic data management system. If there is any doubt regarding the USN of a product it will be excluded from the VPA.	methodology confirms that VPA of the PoA meets this applicability criteria provided it meets the eligibility criteria of the PoA.
	The technologies each have continuous useful energy outputs of less than 150kW per unit (defined as the total useful energy delivered from start to end of operation of a unit divided by time of operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario, the 150kW threshold applies to the displaced baseline technology.	The ICS promoted by this VPA have a capacity of less than the maximum 150kW per unit. The power output is between 1.9 to 2.4 kW (depending on the model).	Validation team based on review of the VPA-DD /01-f/ and applied methodology confirms that VPA of the PoA meets this applicability criteria provided it meets the eligibility criteria of the PoA..
	Using the baseline technology as a backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g. discounted price for the improved technology) and the definitive discontinuity of its use. The project documentation must	Customers will be encouraged to discontinue and remove the baseline technology. Nevertheless, some of the households may continue using the baseline stoves. The monitoring will provide information to what extent households continue using the baseline technologies after the introduction of the ICS: • Annual monitoring surveys will track the continued use of baseline	Validation team based on review of the VPA-DD /01-f/ and applied methodology confirms that VPA of the PoA meets this applicability criteria provided it meets the eligibility criteria of the PoA.

Means of validation	DR,I		
	provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology.	technologies • The parameter, Pp,y, is based on subsumed Project Fuel Tests and thus use of traditional stove/fuel is accounted for in project emissions calculations.	
	The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity.	The project proponent will clearly communicate to all project participants that BURN Manufacturing Co. is claiming ownership rights and selling the ER credits resulting from the distribution of project technologies. • Transfer of carbon rights will be explained at local stakeholder consultations • Written messages on the stove packaging (strip on the box) and warranty booklet explaining that the rights on carbon credits are transferred from the end-users to BURN Manufacturing Co.	Validation team based on review of the VPA-DD /01-f/ and written messages on the stove packaging (strip on the box) and warranty booklet explains that the rights of carbon credits rights on carbon credits are transferred from the end-users to BURN Manufacturing Co./07/,/08/. Based on the applied methodology, the validation team confirms that VPA meets this applicability criteria provided it meets the eligibility criteria of the PoA.
	Project activities making use of a new biomass feedstock in the project situation (e.g. shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules. If the biomass feedstock is sourced from a dedicated plantation, the criteria must apply	This VPA does not involve use of a new biomass feedstock, hence this criterion is not applicable. End users continue to use nonrenewable biomass in the project scenario.	N/A

Means of validation	DR,I		
	to both plantations established for the project activity and existing plantations that were established in the context of other activities but will supply biomass feedstock.		
	Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) conditions are not worsened compared to the baseline, and greenhouse gases (as listed in section II.1) emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove combination may include instances in which the project stove is a baseline stove.	This criterion is not applicable. Since this criterion is only relevant in case of introduction of a new biomass feedstock. Nevertheless, qualitative surveys are conducted as part of the monitoring surveys to investigate air quality with the project stove. The indoor air pollution is compared to the baseline scenario, asking end-users whether IAP increased, decreased or remained the same since the introduction of the ICS compared to the baseline stove.	N/A
	Records of renewable fuel sales may not be used as sole parameters for emission reduction calculation, but may be used as data informing the equations in section II of this methodology. These records need to be correlated to data on distribution and results of field tests and surveys confirming (a) actual use of the renewable fuel and usage patterns (such as average fraction of nonrenewable fuels used in mixed combustion or seasonal variation of fuel types), (b) GHG emissions, (c) evidence/justifications of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	This criterion is not applicable. Since this criterion is only relevant in case of introduction of a new biomass feedstock.	N/A

Means of validation	DR,I
	Hence the validation team confirms the applicability of the applied methodlogy has been met for the VPA. This is in conformance with the requirements of §193 of CDM VVS for PoAs (version 02.0) /B01-1/ and GS4GG requirements.

D.4.2. Project boundary, sources and GHGs

Means of validation	DR,I
Findings	--
Conclusion	The project boundary is the physical/geographical site of the project technologies. Thus, the project boundary for this VPA includes all individual households, which receive an ICS. The target area consists of households residing in urban and peri-urban areas across the federal member states and Banadir Regional Administration (BRA) of the Federal Republic of Somalia. The fuel production and collection area is considered to be the same as the project boundary. Using a tabular approach, the sources and gases has been correctly identified in VPA-DD /01-f/. The flow diagram in section B.3 of GS VPA-DD has been provided which includes the equipment, systems, emission sources and gases included in the boundary as well as the monitoring parameters in the VPA boundary. The physical delineation of the VPA and the description of the emission sourcesand GHGs that are included in the VPA boundary are appropriate for the purpose of calculating project and baseline emissions for the VPA. This is in conformance with section 2.0 of the applied methodology TPDDTEC version 3.1 /B03/ and §194 of CDM VVS for PoAs (version 02.0) /B01-1/ and GS4GG requirements.

D.4.3. Baseline scenario

Means of validation	DR,I
Findings	--
Conclusion	The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the VPA-DD /01-f/. As prescribed by section 2 of the methodology TPDDTEC version 3.1 /B03/, baseline scenario is defined by the typical baseline fuel consumption patterns in a population that is targeted for adopting the new project technology. Hence, this "target population" is a representative baseline for the project activity. A baseline survey along with a KPT to determine the baseline and project fuel consumption was conducted by the CME. The baseline surveys/KPTs resulted in an average charcoal consumption of 0.459 kg/per capita/day (equivalent to 1.028 t/household/year). The approved baseline methodology /B03/ has been correctly applied to identify a realistic and credible baseline scenario, and the identified baseline scenario most reasonably represents what would occur in the absence of the proposed VPA. Thus, the above baseline scenario is considered to be accurate and in conformance with the registered PoA- DD/B11/, requirements of section 2.2 of the applied methodology /B03/ and §195 of CDM VVS for PoAs (version 02.0) /B01-1/.

D.5. Estimation of emission reductions or net anthropogenic removals

D.5.1. Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals

Means of validation	DR,I
Findings	--
Conclusion	The equations and choices provided in the applied methodology /B03/, PoA-DD /B07/ are correctly quoted in the VPA-DD /01-f/. The emission reductions of the VPA of the PoA would be calculated using the formulae mentioned in the applied methodology) TPDDTEC version 3.1 /B03/. The parameters and equations presented in the VPA-DD /01-f/ and ER spread-sheets /02/ have been compared with the information and requirements presented in the methodology /B03/. Validation team based on the review of VPA-DD /01/ and the ER spread sheets /02/ and other supporting documents, confirms that the formula are correctly presented for the determination of emission reductions at VPA level and the values of the input parameters used are accurate, appropriate and consistent. Thus, the equations and parameters applied to calculate the emission reductions are considered to be accurate and in conformance with the requirements of §197 (a) of CDM VVS for PoAs (version 02.0) /B01-1/.

D.5.2. Data and parameters fixed ex ante

Means of validation	DR,I
Findings	CL 01 had been raised in this regard and successfully closed. Please refer appendix 4 for details.
Conclusion	Ex-ante parameters provided under section B.4.2 of the VPA-DD /01-f/ are found to be appropriate and in line with the applied methodology TPDDTEC version 3.1 /B03/. Ex-ante parameters of the proposed VPA are as follows:

Parameter	Description	Verified Value	Verified Source
$EF_{b,CO2}$	CO2 emission factor arising from use of fuel wood in baseline scenario	112	IPCC Default value for fuel wood is applied /B08/
$EF_{b,non-CO2}$	Non-CO2 emission factor arising from use of fuel wood in baseline scenario	8.4 tCO2e/TJ for methane and 1.06tCO2e/TJ for N2O CH4 = 0.3 tCH4/TJ * 28 (GWP) N2O = 0.004 tN2O/TJ * 265 (GWP)	Default value form table 2.5, volume 2, chapter 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories has been applied /B08/
$EF_{p,CO2}$	CO2 emission factor arising from use of fuel wood in project scenario	112	Default IPCC value for fuel wood is applied. /B08/

	$EF_{p,non-CO2}$	Non-CO2 emission factor arising from use of fuel wood in project scenario	8.4 tCO2e/TJ for methane 1.06tCO2e/TJ for N2O CH4 = 0.3 tCH4/TJ * 28 (GWP) N2O = 0.004 tN2O/TJ * 265 (GWP)	Default value form table 2.5, volume 2, chapter 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories has been applied /B12/
	$EF_{ch,prod,CO2}$	CO2 emission factor arising from production of charcoal	1.57	Validation team confirms that the default value has been applied form the published emission factors of IPCC 2019 default value (Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories), volume 2, chapter 4, Table 4.3.3".
	$EF_{ch,prod,non-CO2}$	Non-CO2 emission factor arising from production of charcoal	0. 0403tCO2e/ton of charcoal for methane 0. 00008 tCO2e/ton of charcoal for N2O	Validation team confirms that the default value has been applied form the published emission factors of IPCC 2019 default value (Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories), volume 2, chapter 4, Table 4.3.3
	NCV_b	Net calorific value of the fuel wood used in baseline	0.0156	IPCC default 2006, volume 2, chapter 1 (Table 1.2) /B08/
	NCV_p	Net calorific value of the fuel wood used in project scenario	0.0156	IPCC default 2006, volume 2, chapter 1 (Table 1.2) /B08/
	$f_{NRBi,y}$	Non-renewability status of woody biomass fuel in scenario i during yeary	0.99	Refer assessment below.
	Wood-to-charcoal conversion factor	Conversion factor for transforming fuel wood into charcoal	6	IPCC default value /B08/
	$P_{b,y}$	Quantity of charcoal that is consumed in baseline scenario b during year y	1.028	Validation team confirms that value is based on baseline KPTs carried out with 119 end-users. The baseline KPT has followed the procedures as outlined in the methodology in

			section 7 and Annex 4. /B03/ /16/

Asssessment of $f_{NRBi,y}$

PP has contracted an Independent party "C4Ecosolutions" for a study and calculation of f_{NRB} as per CDM Methodological Tool: "Calculation of fraction of non- renewable biomass" (v03.0). Validation team confirms that it has checked f_{NRB} calculation report/spread sheet /04/ prepared by C4Ecosolutions.

As per the applied methodological tool, In the case of ex ante calculation of $f_{NRB,}$ the parameter f_{NRB} shall be estimated using the most recent historical year for which data is available. Review of f_{NRB} report /04/ prepared by C4Ecolution revealed that all the data used for the calculation is latest available data at the time of validation.

Review of f_{NRB} calculation report/spread sheet /04/ prepared by C4Ecosolutions reveals that the The estimation of domestic consumption was derived from the UN Statistics Division wood consumption, and population statistics, in combination with the national average per capita woody biomass consumption (Table 1). Charcoal consumption has been converted to the equivalent wood biomass by the IPCC12 default factor and the wood volume converted to metric tonnes using the FAO13 default conversion factor (Table 2). The UN Statistics Division domestic consumption data (13,483,660 t/yr) are more conservative (by almost half) than domestic consumption calculated based on per capita statistics reported in the literature (23,472,125 t/yr). The more conservative estimate has been applied. The non-domestic fuelwood consumption estimates provided by the UN Statistics Division have been conservatively applied (Table 2), disregarding the additional deforestation likely occurring as a result of shifting agriculture and from informal or illegal harvesting. Other categories of non-domestic consumption reported by UN Statistics Division have been conservatively excluded due to apparent double accounting with domestic consumption. The total woody biomass consumption for Somalia is estimated to be 19,207,405 t/yr, which is as per the f_{NRB} report /04/ prepared by C4Ecolution.This is deemed appropriate to the VVB.

In Somalia four ecological zone has been found i.e. tropical desert, tropical moist forest, troupcal mountain system and tropical shrubland and the same was verified by referring the FAO data through web-research. VVB has noted that in the report /04/ geospatial data products for Somalia were analysed in R16–20 to estimate Somalia's renewable biomass. The woody cover from all areas defined as "forest" (>10%) cover "other wooded land" (5-10% cover) as well as "other land" (<5% cover), according to the FAO definitions for 2000 and 2020 was estimated using Hansen/UMD/Google/USGS/NASA spatial data, which is derived from Hansen et al.

As no woody cover was excluded from the analysis based on a threshold of minimum cover, disaggregation into the FAO forest categories would have been superfluous. The woody cover was disaggregated according to the FAO global ecological zones and the total woody cover extent was calculated for each ecological zone, within the protected areas and within areas that are either accessible or geographically remote. The woody cover is estimated as a percentage for the whole country within 30 x 30 m resolution grid cells. The woody cover extent for each cell is therefore calculated as the woody cover percentage multiplied its area (0.9 ha).

The default age-weighted mean annual increment (MAI) estimates of each ecological zone, as reported by the IPCC, was used for the study, checked and confirmed by the VVB. The proportion of forest stand ages above and below 20 years old were estimated for each ecological zone by extrapolating the observed forest gain extents between 2000 and 2012 to a 20-year period. Where primary forest growth rates are available, they were applied based on the primary forest extent data published by

Turubanova et al. The resulting average MAI estimates for Somalia are 2.89, 2.90, 5.49 and 0.45 t/ha/year for the tropical desert, tropical moist forest, tropical mountain system, and tropical shrubland zones, respectively.

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

Ecological Zone	Total forest cover (ha)	Protected cover (ha)	Remote cover (ha)	MAI (t/ha/yr)	Renewable biomass (t/yr)
Tropical desert,	19,981	--	11,578	2.89	24,277
Tropical moist forest	92,372	--	54,514	2.90	109,768
Tropical mountain system	6,507	--	5,943	5.49	3,096
Tropical shrubland	734,170	--	545,479	0.45	84,966

The difference between woody biomass consumption and renewable biomass is considered to be non-renewable. Non-renewable biomass utilisation in Somalia is, therefore, validated as 18,985,297t/yr. The fraction of non-renewable biomass is the quotient of the non-renewable and the total biomass. The fraction of non-renewable biomass for Somalia is, therefore, validated as 0.99.

From the review of this report/spread sheet /04/ and interviews with the CME and C4 EcoSolutions (Pty) Ltd, validation team's confirms the following:

- The report has been prepared by an independent party (i.e., C4 EcoSolutions (Pty) Ltd.), who is experienced in conducting such study.
- The detailed methodology (including the calculation) of conducting the study has been provided in the report /spread sheet /04/.
- The study has been done in accordance with the CDM Methodological Tool: "Calculation of fraction of non- renewable biomass" (v03.0) including the equitation used and the data source as required by the tool.
- All the reference and data source used for the calculation/study has been listed and assessed by the VVB.

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

Based on the above assessment, it is confirmed that the data and parameters fixed ex-ante are considered to be accurate and in conformance with the requirements of §197(b) of CDM VVS for PoAs (version 02.0) /B01-1/, the applied methodology /B03/.

Assessment on methodological choices/approaches for estimating the SDG outcome:

Methodological choices/approaches related to SDG 1

The contribution of the project to SDG 1 will be confirmed by a random sample survey with a representative number of households in which the money spent for charcoal for preparing meals in the project scenario will be compared to the baseline scenario. It will be checked on whether households achieve indeed monetary savings using the improved charcoal cookstove, which would provide evidence that the project positively contributes to SDG 1.

Methodological choices/approaches related to SDG 3

The contribution of the project to SDG 3 will be confirmed by a random sample survey

	with a representative number of households in which pollution-related inconveniences (such as smoke levels, itchy eyes and breathing problems) in the project scenario will be compared to the baseline scenario. In case that households confirm that due to the project there is less pollution-related inconveniences compared to the baseline scenario, it provides evidence that the project positively contributes to SDG 3. **Methodological choices/approaches related to SDG 7** The contribution of the project to SDG 7 will be confirmed by the number of distributed improved charcoal stoves which are in use. This is reflected by the the following: Np,y * Up,y **Methodological choices/approaches related to SDG 8** The contribution of the project to SDG 8 will be confirmed by the number of jobs created. Section B.6.1 of the GS VPA-DD /01-e/ describes the which equations will be used in calculating net benefit as required by the GS4GG VPA DD template.

D.5.3. Exante calculation of GHG emission reductions or net anthropogenic GHG removals

Means of validation	DR,I
Findings	CL 02, CL 04, CAR 01, had been raised in this regard and successfully closed. Please refer appendix 4 for details.
Conclusion	The estimation of ER values is carried out based on equations given in the applied methodology TPDDTEC version 3.1 /B03/ and confirms to the requirements of section 8.3.4 (titled "estimation of Emission reductions") of CDM VVS for PoAs (version 02.0). The ex ante average annual emission reductions are estimated to be 904,974tCO_2. The appropriateness of this value has been cross-checked through review of ER spreadsheet /02/ and VPA-DD /01-f/. The annual emission reductions as described in the section B.6.4 of the VPA-DD /01-f/ and ER spread sheet /02/ are calculated as: $ERy = BEy - PEy - LEy$ $= 1.461.859 - 556.885 - 0$ = 904,974CO_2/year So, ER_y = 904,974tCO_2e Validation team confirm that all assumptions and data used by the CME are listed in the VPA-DD /01-f/ (including their references and sources). All documentation used as a basis for assumptions and sources of data are confirmed as correctly quoted and interpreted in the VPA-DD /01-f/. The values stated in the VPA-DD /01-f/ are considered reasonable and the baseline methodology /B03/ and applicable tools have been correctly applied to calculate the emission reductions. Validation team confirms that the steps taken and the equations and parameters applied in the VPA-DD /01-f/ to calculate emission reductions comply with the requirements of the selected methodology including applicable tools and PoA-DD /B08/.

D.5.4. Summary of exante estimates of GHG emission reductionsor net anthropogenic GHG removals

Means of validation	DR,I
Findings	--
Conclusion	The ex-ante estimation of ER values is carried out based on equations given in the applied methodology TPDDTEC version 3.1 /B03/ and conforms to the requirements of § 197 of CDM VVS for PoA (version 02.0) /B01-1/. The total ex ante emission reductions resulting from the VPA for the entire crediting period of five years is estimated to be 5.611.075tCO_2. The validation team reviewed the ER spread-sheets calculations /02/ and confirms the same to be correct.

D.6. Monitoring plan

D.6.1. Data and parameters to be monitored

Means of validation	DR,I
Findings	CL 05 had been raised in this regard and successfully closed. Please refer appendix 4 for details.
Conclusion	The monitoring plan presented in the VPA-DD /01-f/ complies with the requirements of the PoA-DD /B07/ and the applied monitoring methodology /B03/. Validation team has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found. Validation team through a document review and interviews with the relevant stakeholders has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME. The parameters that are to be monitored ex-post are:

Parameter	Data unit	Description	Frequency
Np,y[1]	Number of project cookstove credited (units)	Cookstoves in the project database for project scenario p through year y	Continuously
Up,y	Percentage	Usage rate in project scenario p during year y	Annual
Pp,y	t/household/year	Quantity of fuel that is consumed in project scenario p during year y	Every 2 years or in case that aging test approach (as per Annex 8 of the applied methodology) is applied, once prior to 1st issuance.
LEp,y	tCO2e per year	Leakage in project scenario p during year y	Every two years
new,i	Fraction	Efficiency of the ICS of each type i being deployed as part of the project activity	Annual (Only applicable if the ageing test approach is chosen instead of the biennial project KPTs to account for changes

[1] As per the VPA DD, any multiple use of the same BURN ICS as well as the lag time between sale/shipping and actual usage is conservatively taken into account.

				in the project scenario over time as project technologies age)
	μy	Fraction	Adjustment to account for any continued use of preproject devices (baseline stove) in the project scenario during the year y	Annual (Only applicable if the ageing test approach is chosen instead of the biennial project KPTs to account for changes in the project scenario over time as project technologies age)

In summary, the parameters to be monitored have been presented correctly according to requirements and are considered in accordance with the applied methodology /B03/ and PoA-DD /B08/. This is in conformance with the requirements of §198(a) of CDM VVS for PoAs (version 02.0) /B01-1/.

D.6.2. Description of the monitoring plan

Means of validation	DR,I
Findings	--
Conclusion	The monitoring plan presented in the VPA-DD /01-f/ comply with the requirements of the PoA-DD /B11/ and the applied monitoring methodology /B03/. Validation team of CCIPL has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found. Validation team through a document review and interviews with the relevant stakeholders has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME. The responsibilities and institutional arrangements for data collection and archiving have been clearly provided. The information provided in the VPA-DD/01-f/ could be confirmed based on the interviews. Based on the same, it can be confirmed that the CME will be able to implement the monitoring plan and the achieved emission reductions can be reported ex-post and verified.

D.7. Start date, crediting period type and duration

Means of validation	DR,I
Findings	-
Conclusion	The start date for the VPA is 01/07/2019 as stated in the VPA-DD /01-f/. when the distribution of ICS under this VPA started. /10/. The definition of the project start date is in compliance with section 3.4.3 of the GS4GG Principles & Requirements. Furthermore, start date of the VPA crediting period is 02/10/2019 with renewal period of 5 years, The crediting period may be renewed twice in line with the Community Services Activity Requirements.. The validation team confirms that the crediting period applied are as per GS4GG Principles and Requirements, version 1.2 /B01/.

D.8. Environmental impacts

Means of validation	DR,I
Findings	--
Conclusion	As mentioned in the section A.1.1 eligiblity criteria 8 of the VPA-DD /01-f/, no EIA is required by the host country for ICS project activities. /20/ This is in conformance with the requirements of §210, §211 and §233 of CDM VVS for PoAs (version 02.0) /B01-1/ and deemed appropriate to the validation team.

D.9. Local stakeholder consultation

Means of validation	DR,I
Findings	--
Conclusion	The CME has conducted the LSC on 20/10/2020. 21/10/2020/ and 22/10/2020 as checked from LSC attendance sheet and LSC photos /14/. The LSC has been conducted at VPA level as per section F of the PoA-DD /B08/. Sample stakeholders who attended the meeting were also interviewed during the remote audit and their feedback on the project was positive. Furthermore, they have also confirmed that they have attended the LSC meeting. The summary of the comments /14/ received during the meeting is complete and CME has taken appropriate steps to address each query/concern and gathered feedback. The Stakeholder Feedback Round started on 19/01/2021 and ended on 19/03/2021, a chance to provide comments and raise questions. PP had invited /14/ all participants who attended the LSC meeting for further comments and also to those who have been invited for the LSC meeting and also included more stakeholders involved in policy-making and representatives from NGOs working in the region of project. PP used different invitation methods like invitation in person, advertisement in local news paper, Email, phone calls and SMS .The same was confirmed by the validation team during the remote interviews. All the comments received during the SFR period have been provided in the LSC report /14/. Validation team based on review of LSC report /14/ confirms that the feedback from the SFR has been appropriately addressed by the PP. Furthermore, as per the interviews, validation team confirms that there is a effective continuous consultation/grievance mechanism process so any stakeholders can access, approach and provide feedback to PP if they want. The grievance register /14/ has been placed in BURN offices in Somaliland as confirmed by the validation team during the remote interviews. This is deemed appropriate and acceptable to the validation team.

D.10. Eligibility for inclusion

Means of validation	DR,I
Findings	CAR 03 had been raised in this regard and successfully closed. Please refer appendix 4 for details.
Conclusion	All the eligibility criteria required for the inclusion of the VPA under the PoA have been addressed in the VPA-DD /01-f/. The stated confirmation against each eligibility criteria have been checked / assessed and found acceptable by the validation team and complete assessment is provided in Appendix 5.

D.11. Eligibility criteria as as per the section 3 of the GS Principles and Requirements

The project activity is eligible to apply the “Community Services Activity Requirements” since it meets the criteria as outlined in sections “Eligible Project Types” and “General Eligibility Criteria” of those “Community Services Activity Requirements”.

Eligibility criterion	Project Compliance with the criterion	Assessment
All CSA Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to services/resources at the household or community or institution level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	The proposed project activity leads to climate change mitigation by providing access to improved cookstoves at the household level.	As per the review of GS VPA-DD, the validation team confirms that the project activity lead to climate change mitigation by providing access to improved cookstoves at the household level.
In relation to the above, all Projects shall, therefore, conform to the Principles & Requirements (and associated documents).	The project activity is in conformance with all GS Principles & Requirements.	As per the review of VPA-DD, the validation team confirms that the is in conformance with all GS Principles & Requirements.

Types of project – Pre-identified CSA project types are noted below. Project Developers may submit new project types to Gold Standard for approval following the Principles & Requirements. (a) Renewable energy: Renewable energy types such as solar (photovoltaic and solar thermal electricity generation), tidal/wave, wind, hydropower, geothermal, waste to energy and renewable biomass that are connected to mini grid3 or off grid solutions for targeted users and/or applications. • Renewable projects supplying electricity to a national or a regional grid shall refer to Gold Standard Renewable Energy Activity Requirements. • Additional eligibility criteria for specific projects (e.g. Hydropower, biomass resources, etc.), are prescribed in Annex A of this document. (b) End-use energy efficiency: Project activities that reduce energy requirements as compared to baseline scenario without affecting the level and quality of services or products, where the end-user of the products and services are clearly identified and when the physical intervention is required at the user end. For example, efficient cooking, heating, lighting, etc. (c) Waste management and handling: All waste management activities that deliver energy or a usable product with sustainable development benefits such as composting, biogas etc. (d) Water, sanitation and hygiene (WASH): WASH activities contributing to climate change mitigation and/or adaptation benefits.	The VPA is an end-use energy efficiency project mentioned as eligible project type under section 3.1.1 of the Community Services Activity Requirements. The VPA is composed of isolated distributed energy efficiency units (energy efficient cookstoves) where the users of the technology/measure are households and where each unit is smaller than or equal to 1,800 MWh/stove/year of thermal energy savings.	As per the review of VPA-DD the validation team confirms that the VPA is composed of isolated distributed renewable energy units where the users of the technology/measure are households and where each unit is smaller than or equal to 1,800 MWh/stove/year of thermal energy savings.

Project area, boundary and scale: Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies and Product Requirements. The definition of scale is the same for all Projects, except Microscale which is defined as: (a) CSA Project issuing emission reductions less than or equal to 10,000 tCO2eq per annum (b) CSA Project seeking any Gold Standard Certified Impact or Product other than emission reductions and meeting one of the following criteria: • Installed capacity less than equal to 2 MWel /6 MWth that employs renewable energy as the primary technology • Energy savings at a scale of no more than 20 GWh per year where energy efficiency is the primary activity • Achieve GHG emissions reductions at a scale of no more than 20,000 tCO2eq per annum where project activity type is not included in the above two criteria. (c) For the purpose of applying UNFCCC methodologies for quantification of GHG reductions, 'small scale' is defined as in CDM Modalities and Procedures for three projects types; Renewable Energy, Energy Efficiency and Others. Please refer to the GHG Emission Reductions and Sequestration Product Requirements for more information on the definition of 'small scale'.	The project boundary is defined in section B.3. of this VPA-DD. The VPA is considered as a large-scale project, which is allowed as per the applied methodology TPDDTEC.	The validation team as per the review of section B.3. of the VPA-DD confirms that the VPA is a large scale project as per the applied methodology TPDDTEC
Certain Impact Quantification methodologies allow projects to account Suppressed Demand scenario when establishing a baseline. In such cases, the application of Suppressed Demand baseline is limited to Small Scale and Microscale Projects. Where a Suppressed Demand baseline is applied, it is not possible to 'stack' Gold Standard Certified Impact Statements or Products as the definition of the baseline may be contradictory.	The applied methodology TPDDTEC does not take into account a suppressed demand scenario for improved cookstoves.	N/A

Legal ownership: (a) Projects involving the distribution of a large number of devices for services such as heating, cooking, lighting, electricity generation, water treatment technology such as water filter, etc. shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with the FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided. (b) The transfer of Product ownership shall be discussed during local stakeholder consultations for projects.	a) The project activity involves the distribution of large number of devices (improved cookstoves). End-users are aware of and willing to give up their rights on carbon credits. The transfer of carbon credit rights from end-users to the CME is mentioned by a strap on ICS box and warranty booklet, both handed over when purchasing the improved cookstove. b) The transfer of carbon credit ownership has been discussed during the local stakeholder consultation (see Non-Technical Summary of the LSC report).	As per the review of Description of the transfer of carbon credit rights from end-users to entity to whom the rights are assigned to the validation team confirms that full and uncontested legal ownership is demonstrated.

SECTION E. Internal quality control

>>

Before the assessment begins, members of the team covering the technical area(s), sectoral scope(s) and relevant host country experience for evaluating the PoA/VPA are appointed. The VPA validation report underwent a technical review before requesting inclusion (upload) of the VPA. A technical reviewer qualified in accordance with Carbon Check (India) Private Ltd.'s qualification scheme for GS validation and verification performed the technical review.

SECTION F. Validation opinion

>>

VVB (Carbon Check (India) Private Ltd.) hereafter referred as CCIPL, has been appointed /06/ by the CME, BURN Manufacturing Co. to perform the validation for inclusion of their proposed Voluntary Project Activity (VPA) "GS10789 VPA1: Efficient and Clean Cooking for households in Somalia" to the programme of activity "ECOA_BURN multi-country Clean Cooking Programme". The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and GS4GG requirements.

The scope of the validation is defined as an independent and objective review of the programme of activities design document (PoA-DD) /B08/, VPA DD /01/, the project's baseline establishment and monitoring plan and other relevant documents. CDM Validation and Verification Standard for Programme of Activities /B01-1/, GS4GG PoA requirement /B06/, the applied methodology /B03/ and article 12 of the Kyoto Protocol, paragraph 37 of the CDM modalities and procedures and the subsequent decisions by the COP/MOP and CDM Executive Board

The report is based on the assessment of the VPA-DD /01-f/ (and PoA-DD /B08/) undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews and on-site stakeholder interviews, review of the applicable/applied methodology/B03/ and its underlying formulae and calculations.

The Validation team confirms the contractual relationship signed on 30/10/2020 between the VVB, Carbon Check (India) Private Ltd. and the CME, BURN Manufacturing Co. The team assigned for the validation meets the CCIPL's internal procedures including the UNFCCC/ GS4GG requirements for the team composition and competence.

<u>Validation methodology and process</u>

The validation has been performed as described in the VVS for PoAs /B01-1/ and constitutes the following steps:

- Receipt of VPA-DD /01-b/
- Desk review of VPA-DD /01-b/
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report
- Interview with the CME
- Follow up actions (interviews) for cross checking data
- Review of responses for CARs/CLs
- Receipt of final revised VPA-DD /01-f/
- Issue of the final validation report

Validation criteria

The following CDM/GS4GG requirements have been considered:

- Article 12 of the Kyoto Protocol,
- Modalities and procedures for CDM (CDM M & P)
- Subsequent decisions by the COP/MOP and CDM Executive Board
- Host country criteria
- Criteria given to provide for consistent project operations, monitoring and reporting.

The VPA correctly applies the baseline and monitoring methodology namely TPDDTEC version 3.1 /B03/.

The validation did not reveal any information that indicates that ODA contributes to the financing of the VPA. This is further confirmed from the declaration provided by the CME /03/.

The VPA-DD /01-f/ contains monitoring plan for the monitoring of the emission reductions from the project. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is CCIPL's opinion that the project participants are able to implement the monitoring plan.

The proposed large-scale voluntary project activity has been developed under Programme of Activities (PoA) titled: "ECOA_BURN multi-country Clean Cooking Programme" which involves highly efficient improved charcoal cookstoves (ICS), known as
'Jikokoas' reducing woody biomass consumption for urban and peri-urban households in the Federal Republic of Somalia. The annual average emission reduction ensuring from this VPA is estimated to be 904,974tCO_2 over the crediting period of 5 years. The project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and provide long-term benefits to the mitigation of climate change.

The validation protocol describes a total of 08 findings, which include:

- 03 Corrective Action Requests (CARs);
- 05 Clarification Requests (CLs);
- 00 Forward Action Requests (FARs);

All the above findings are closed.

The single purpose of this report is its use during the inclusion process (of the specific VPA). The review of the VPA-DD /01-f/, subsequent follow-up interviews and further verification of references have provided CCIPL, with sufficient evidence to determine the fulfilment of stated criteria in the PoA-DD /B08/ and the VPA-DD /01-f/. In the opinion of CCIPL, the VPA meets all relevant UNFCCC/GS4GG requirements for the GS if the underlying assumptions do not change. CCIPL recommends the VPA for inclusion in the PoA /B08/.

Appendix 1. Abbreviations

Abbreviations	Full Texts
BE	Baseline Emission
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
VPA	Voluntary Project Activity
VPA-DD	Voluntary Project Activity Design Document
CER	Certified Emission Reduction
CL	Clarification Request
CME	Co-ordinating or Managing Entity
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COP/MOP	Conference of Parties/ Meeting of Parties
DNA	Designated National Authority
VVB	Validation and Verification Body
DR	Document Review
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas
GSC	Global Stakeholders Consultation
I	Interview
ICS	Improved Cookstove
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MOC	Modalities of Communications
NGO	Non-Government Organisation
ODA	Official Development Assistance
OSV	On Site Visit
PE	Project Emission
PoA	Programme of Activities
PoA-DD	Programme of activities design document
PP	Project Participant
PS	Project Standard
PCP	Project Cycle Procedure
T	Tonne
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
PoA-DD	Programme of activities design document

Appendix 2. Competence of team members and technical reviewers

Carbon CHECK

Carbon Check (India) Private Ltd.

Vikash Kumar Singh

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

For following functions:

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

In the following Technical Areas:

TA 1.1	☒	**TA 3.1**	☒	**TA 5.2**	☐	**TA 9.2**	☐	**TA 13.2**	☒
TA 1.2	☒	**TA 4.1**	☒	**TA 8.1**	☐	**TA 10.1**	☐	**TA 14.1**	☐
TA 2.1	☐	**TA 5.1**	☐	**TA 9.1**	☐	**TA 13.1**	☒		

Mr. Amit Anand
CEO

Date of Approval	**Valid Till**
24/12/2020	24/12/2021

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2017	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision
01/03/2020	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision

[1] India, South Africa

CARBON CHECK (INDIA) PRIVATE LIMITED
CIN: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh
Tel: +91 120 4373114 | **URL:** www.carboncheck.co.in | **e-mail:** info@carboncheck.co.in

Carbon Check (India) Private Ltd.

Sanjay Agarwalla

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

For following functions:

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

In the following Technical Areas:

TA 1.1	☒	**TA 3.1**	☒	**TA 5.2**	☒	**TA 9.2**	☒	**TA 13.2**	☐
TA 1.2	☒	**TA 4.1**	☒	**TA 8.1**	☐	**TA 10.1**	☐	**TA 14.1**	☐
TA 2.1	☒	**TA 5.1**	☒	**TA 9.1**	☒	**TA 13.1**	☒		

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2020

Valid Till
24/12/2021

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2017	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision
01/03/2020	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision

[1] India

CARBON CHECK (INDIA) PRIVATE LIMITED
CIN: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh
Tel: +91 120 4373114 | **URL:** www.carboncheck.co.in | **e-mail:** info@carboncheck.co.in

Appendix 3. Documents reviewed or referenced

No.	Author	Title
/01/	CME	a) VPA DD version 1.0, dated 30/06/2021 b) VPA DD version 1.1, dated 03/09/2021 c) VPA DD version 1.2, dated 11/06/2021 d) VPA DD version 2.0, dated 08/08/2021 e) VPA DD version 2.1, dated 23/08/2021 f) VPA DD version 4.0, dated 13/10/2021
/02/	CME	Emission reductions calculation spread sheet corresponding to /01-f/
/03/	CME	CME declaration for non-involvement of any public funding from Annex I countries for the PoA and the VPA
/04/	C4EcoSolutions	fNRB records Somalia_fNRB Report_22 September 2021 Somalia_fNRB Calculation Sheet_22 September 2021
/05/	CME	VPA inclusion Letter BURN dated 30/06/2020
/06/	CME	Contractual agreement between BURN and stove distributor, dated 12/01/2019
/07/	CME	Carbon waiver_strip on box
/08/	CME	Warranty Booklet Somaliland
/09/	CME	Cover-Letter_BURN_PoA10789 dated 30/06/2020
/10/	CME	Evidence for project start date 01/07/2019
/11/	CME	GS10789_GS10790_Preliminary Review comments
/12/	CME	BURN BoD Meeting Minutes 21 May 2019
/13/	CME	BURN Terms and Conditions
/14/	CME	Documents pertaining of local stakeholder consultation done for the VPA: a) Media (emails with list of invitees, news paper advertisement) used for inviting comments b) Acknowledgemnt letter samples c) Local stakeholder consultation report
/15/	CME	Jikokoa BURN Manufacturer Specifications
/16/	CME	Baseline survey and KPT records
/17/	CME	Letter of affirmation: Burn Manufacturing distribution partner letter of affirmation compliance with Gold standard foundation 's safe guarding principles
/18/	CME	SOM technical days projectation calculation sheet
/19/	CME	1. Sefety Audit report in accordance with the Occupational Safety and Health Act, 2007, and occupational Safety and Health (Safety and Health Committee), Rules of 2004 2. Summary of the Health & Safety measures implemented at BURN ("Workers Health & Safety")
/20/	CME	EIA exemption • PUNTLAND GOVERNMENT OF SOMALIA

		• SOMALILAND ENVIRONMENTAL MANAGEMENT ACT
/21/	CME	SDG 8 - Equal Pay: Somali Poverty Profile 2016
/22/	CME	WBT records • 3SEP2021 POA 10789 WBT Results Summary • 3SEP2021 WBT ANALYSIS-JIKOKOA CLASSIC • 3SEP2021 WBT ANALYSIS-JIKOKOA XTRA • 20210922 WBT Report Final_v1.2 clean • 20210922 WBT Report Final-MMJ • MMJ WBT Results Summary • WBT ANALYSIS-JIKOKOA MMJ
/B01/	UNFCCC	a) CDM Validation and Verification Standard for Programme of Activities (Version 02.0). b) CDM Project Standard for Programme of Activities (Version 02.0) c) CDM Project Cycle Procedure for Programme of Activities (Version 02.0) d) Standard: Sampling and surveys for CDM project activities and programme of activities, version 09.0
/B02/	GS4GG	Community Services Activity Requirements (version 1.2) under GS4GG
/B03/	GS4GG	Gold Standard Methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) version 03.1
/B04/	GS4GG	GS4GG PRINCIPLES & REQUIREMENTS version 1.2
/B05/	GS4GG	GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2
/B06/	GS4GG	GS4GG PROGRAMME OF ACTIVITY REQUIREMENTS version 1.2
/B07/		GS PoA-DD for GS Ref. No. 10789, version 3.0 dated 08/08/2021
/B08/	IPCC	IPCC https://www.ipcc-nggip.iges.or.jp/public/2006gl/ https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/

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

Summary of <u>likely</u> Corrective Action Requests (CARs) during the preliminary review:		**VVB Assessment**
Likely CAR # 1:	Follow the Covid-19 interim measures by GS, if stakeholder meeting is postponed, then the physical meetings and SFR have to be conducted before the project is submitted for design review. Any comment during the postponed physical stakeholder consultation meeting shall be accounted for and discussed in the document submitted for design review.	VVB confirms that a physical stakeholder consultation meeting has been conducted and comments have been accounted for. The LSC report along with relevant supporting documentation had been

		assessed by the VVB during course of validation.
Likely CAR # 2:	The baseline report and raw data are requested to be submitted for reviewing during design certification.	As per the CME, the baseline data had been uploaded to SC website. A summary about the baseline survey/KPT had been provided in section B.4 of the VPA-DD. There is no requirement to provide a separate baseline report.
Likely CAR # 3:	The VVB shall validate and evaluate the PP's approach in ER calculation for charcoal production component whether it follows the guidance, formulae in the applied methodology TPDDTEC v3.1. In particular, the VVB shall confirm the double counting of ER when the wood to charcoal production ratio was already applied in the fuel use calculation.	Validation team confirm that all assumptions and data used by the CME are listed in the VPA-DD /01-f/ (including their references and sources). Charcoal production component has been removed from the ER sprad sheet.
Likely CAR # 4:	The VVB shall check the fNRB calculation to confirm whether it is followed the latest version of fNRB tool available at: https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v2.0.pdf.	The updated fNRB calculation, using now version 03 of the fNRB tool has been submitted by the CME for assessment. The fNRB increased from 98% to 99%. The assessment in this regard has been provided in section D.5.2 of this FVR.

Table 1. CLs from this validation

CL ID	01	**Section no.**	D.5.2	**Date:** 20/07/ 2021
Description of CAR				

Validation of fNRB

- Review of " 5-Domestic Consumption_By pop" reveals inconsistencies form the data source mention in the spreadsheet as below.

Variable/ Parameter		**fNRB Calculation Sheet**	**UN Statistics Division website**
Population	Urban (Value 2018)	67,49,317	6,749,349
	Rural (Value 2018)	82,58,837	8,258,876
Total		15,008,154	15,008,225

- Review of worksheet "4. Total consummation Fuelwood" reveals that Fuelwood production is also not consistent with the data source provided.

CME is requested to clarify

CME response	**Date:** 08/08/2021

The data was updated in correspondence to the latest version of the UN Statistics Division database (and making corresponding changes to the report). See for more details revised excel spreadsheet and fNRB report.

Documentation provided by the CME

Somalia_fNRB Calculation Sheet_27 July 2021.xlsx
Somalia_fNRB Report_27 July 2021.pdf

VVB assessment	**Date:** 12/08/2021

Based on the review of revised fNRB Calculation Sheet and fNRB Report, the validation team confirms that CME has used the latest values from UN Statistics Division database. CL is closed.

CL ID	02	**Section no.**	D.5.3	**Date:** 20/07/ 2021
Description of CAR				
SDG 13: In the baseline situation, the household also uses wood and LPG as fuel, however, the ER calculation only consider charcoal as the baseline fuel. Please clarify.				
CME response				**Date:** 08/08/2021
The GS methodology does not allow to claim carbon credits from LPG to biomass fuel switch. The CME decided to conservatively not claim carbon credits from fuelwood. Since the fuelwood use in the baseline is not significant.				
Documentation provided by the CME				
--				
VVB assessment				**Date:** 12/08/2021
Based on the review of ER Calculation sheet, the validation team confirms that CME is only claiming carbon credits from replacement of woody biomass consumption (charcoal) following methodology. Furthermore, CME has applied most conservative approach and not claiming carbon credits form fuelwood or LPG. CL is closed				

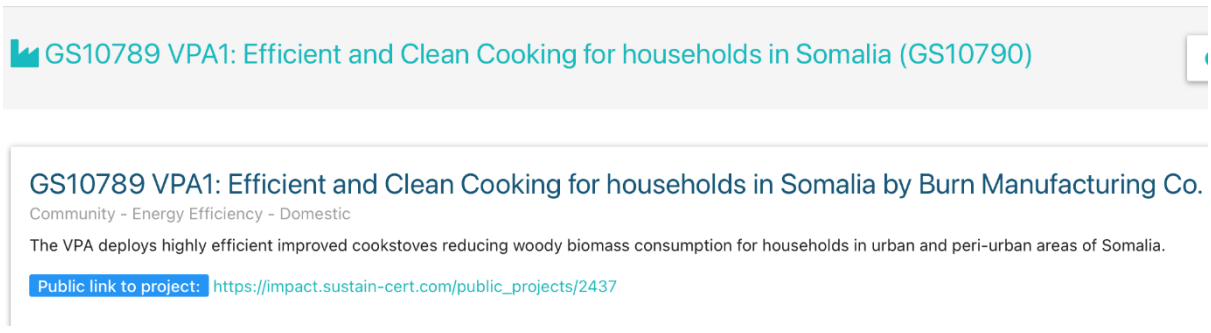
CL ID	03	**Section no.**	Appendix 7	**Date:** 20/07/ 2021
Description of CAR				
As per appendix 1 “SAFEGUARDING PRINCIPLES ASSESSMENT” of the VPA-DD, the CME has provided justification for each of the safeguarding principles for its design/management for each of the safeguarding principles. In none of the principle any mitigation measure has been planned to be monitored. The justification is acceptable to the VVB, however it is noted that the project is implemented on the ground by BURN in collaboration with local distribution partners, like Al Sadiq General Trading Co. Clarification is requested as how the CME will ensure that the local partner adheres to the justification provided (by CME) in this appendix.				
CME response				**Date:** 08/08/2021
Signed letters from the local distribution partners have been submitted to the VVB, confirming that local distributors will adhere to all Safeguarding Principles as outlined in the VPA-DD.				
Documentation provided by the CME				
2AUG2021 Letter of Attestation Compliance with Safeguarding Principles OPEC.pdf alsadiq confirmation letter.pdf				
VVB assessment				**Date:** 12/08/2021
CME has provided letter of attestation from local distribution partners which confirms that local distributors will adhere to all Safeguarding Principles. CL is closed				

CL ID	04	**Section no.**	D.5.3	**Date:** 20/07/ 2021
Description of CAR				
Section B.6.2: PP has described their own proposed approach for calculating baseline and project outcomes separately in calculating net benefit as required by the GS4GG VPA DD template. However, for the SDG 8, it is only written that the contribution of the project to SDG 8 will be confirmed by the number of jobs created. It is unclear to the validation team as how the proposed VPA shall contribute to this SDG knowing the fact the stove production (which is significant source of employment) is in Kenya and not the host country of the VPA.				
CME response				**Date:** 08/08/2021
The CME would like to clarify that 25 jobs are estimated to be created in Somalia for amongst others the distribution, sale, follow-up, sensitization and monitoring activities. The 25 jobs do not include any jobs which are created in Kenya as part of the production.				
Documentation provided by the CME				
-				
VVB assessment				**Date:** 12/08/2021
Based on the justification provided by CME, the validation team confirms that number of jobs claimed by CME does not consider production only, but also includes.distribution, sale, follow-up, sensitization and monitoring activities. CL is closed				

CL ID	05	Section no.	D.6.1	Date: 20/07/ 2021
Description of CAR				
As per paragraph 19 b of VVS for PoA , version 02.0, "*Assess the accuracy, conservativeness, relevance, completeness, consistency and transparency of the information provided by the coordinating/managing entity;*." Based on the review of monitoring plan assessment the validation team has identified that value of the parameter Pp,y determined through KPT is inconsistent in the ER sheet, section B.7.1. Kindly clarify				
CME response				**Date:** 08/08/2021
The value for parameter Pp,y has been corrected in section B.7.1. to be in line with the ER sheet.				
Documentation provided by the CME				
VVB assessment				**Date:** 12/08/2021
Based on the review of revised VPA DD and ER sheet, validation team confirms that value of the parameter Pp,y is consistent with the ER sheet. CL is closed.				

Table 2. CARs from this validation

CAR ID	01	Section no.	D.5.3	Date: 20/07/ 2021
Description of CAR				
As per preliminary review by GS, the PP shall use the actual sales to date and the forecast of the following months for ER calculation, as the ICS was already distributed under the proposed VPA.				
CME response				**Date:** 08/08/2021
The ex-ante ER estimates are now based on the actual sales to date and the forecast of the following months. ER calculation spreadsheet and VPA-DD have been revised accordingly.				
Documentation provided by the CME				
BURN GS PoA_VPA 1_Somalia_ER calculation including baseline and project KPT results_v.2.0.xlsx VPA-Design-Document_BURN10790_v2.0_clean				
VVB assessment				**Date:** 12/08/2021
The required corrections have been done in the ER sheet; checked and confirmed by the validation team. CAR is closed.				

CAR ID	02	Section no.	Titles of the VPAs	Date: 20/07/ 2021
Description of CAR				
The GS ID of the VPA in the KPI in row "Title of project" is incorrect.				
CME response				**Date:** 08/08/2021
The title of the project is correct. The prefix refers to the GS ID of the PoA. See in the following the screenshot from the SustainCert Impact Registry.  				
Documentation provided by the CME				
VVB assessment				**Date:** 12/08/2021

Based on the review of SustainCert screenshot, validation team confirms that Title of the project is correct. CAR is closed

CAR ID	03	**Section no.**	D.10	**Date:** 20/07/ 2021
Description of CAR				
As per Section B.5 the project activity is eligible to apply the “Community Services Activity Requirements”. However, PP has not confirmed how it meets the criteria as outlined in sections “Eligible Project Types” and “General Eligibility Criteria” of those “Community Services Activity Requirements”.				
CME response				**Date:** 08/08/2021
The compliance with the “Eligible Project Types” and “General Eligibility Criteria” of the “Community Services Activity Requirements” has been demonstrated in section B.5. of the VPA-DD.				
Documentation provided by the CME				
VPA-Design-Document_BURN10790_v2.0_clean				
VVB assessment				**Date:** 12/08/2021
Based on the review of revised VPA DD, the validation team confirms that required corrections have been done; checked and confirmed by the validation team.				

Table 3. FARs from this validation

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

Appendix 5. Assessment of the response to the requirements of the eligibility criteria for inclusion of VPA into the PoA

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
1.	Geographical Boundary	ICS distributed under any of the VPAs will be located in any of the countries mentioned under Table 1 of the PoA-DD.	ICS are distributed to urban and peri-urban households all over the territory of Somalia. For more details see section A.4. of this document.	Based on the review of the VPA-DD /01-f/ and remote interviews, validation team is able to confirm that the VPA is located within Somaila. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.
2.	Double-counting of project activities	All VPAs will be checked to prevent double counting and are not registered as a separate GS project activity, nor included as part of another registered GS (or other carbon standard) PoA nor that the project activity has been deregistered.	All carbon standard registries (UNFCCC, GS and VERRA) have been checked and it is confirmed that the VPA has not been registered as a separate GS project activity, nor included as part of another registered GS (or other carbon standard) PoA nor that the project activity has been deregistered. The same has been confirmed by a letter signed by the VPA implementer submitted to GS.	Based on the review of the VPA-DD /01-f/ review of (UNFCCC, GS and VERRA) sites, and signed letter by the VPA implementer /05/, the validation team is able to confirm that the VPA has not been registered as a separate GS project activity, nor included as part of another registered GS (or other carbon standard) PoA nor that the project activity has been deregistered. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.

3.	Technology	Each VPA will implement improved biomass cook stoves.	The VPA implements highly efficient cookstoves known as 'Jikokoas'. Detailed manufacturer's technology specifications are listed in section A.5 of this document.	Based on the review of the section A.5 of the VPA-DD /01-f/ validation team is able to confirm that the detailed manufacturer's technology has been provided. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.
4.	Conditions to check the start date of the VPA through documentary evidence	The start date of a project activity is the date on which the first ICS has been distributed under the VPA. The start date of retroactive VPAs (with a start date prior to date of first submission of PoA) can be at the earliest 1 year prior to submission of documents for GS preliminary review.	The start date is defined as 01/07/2019, i.e. the day when the first ICS was distributed to a household under this VPA. The start date of the VPA is confirmed by electronic registrations done on EcoMobile which have been submitted to GS.	Based on the review of the VPA-DD /01-f/, it is confirmed that the CME has selected start date as the date on which first ICS was distributed to a household which was confirmed via screeshot of electronic registrations done on EcoMobile Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.
5.	Methodology	Each VPA will comply with the applicability criteria of the applied methodology (TPDDTEC, version 03.1)	The VPA complies with all applicability criteria of TPDDTEC as further outlined in section B.2 of this document.	Based on the review of the section B.2 of VPA-DD /01-f/ the validation team confirms that VPA complies with all applicability criteria of applied methodology TPDDTEC version 03.1 /B03/ Conclusion: Based on the above assessment, validation team

				concludes that the subject VPA comply with this eligibility criterion of the PoA.
6.	Financial Additionality & Ongoing Financial Needs .	Projects (VPAs) to be included under the PoA will be in compliance with item 1.1.3 of Annex B – positive list mentioned in the 'Community Services Activity Requirements' or located in LDC, SIDS, LLDC. A VPA will be solely composed of isolated units (efficient cookstoves) where the users of the technology/measure are household/SMEs/institutions and where each unit results in <= 1,800 MWh of thermal energy savings per year. Hence, according to paragraph 4.1.9 of the 'Community Services Activity Requirements', a VPA, regardless of the host country in which the project activity is being implemented, is deemed additional and therefore is not required to prove financial additionality at the time of Design Certification; OR a VPA is located in LDC, SIDS, LLDC.	The project is located in the Federal Republic of Somalia, being an LDC. Hence paragraph 4.1.9, (b) as per the Community ervices Activity equirements is met	Based on the review of VPA-DD, the validation team confirms that the the project is located in the Federal Republic of Somalia which is LDC. Hence paragraph 4.1.9, (b) as per the Community services Activity is met. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.
7.	Stakeholder inclusivity	Local stakeholder consultation is done at VPA level, as described in section F of the PoA-DD. Local stakeholder consultation report must be provided along with VPA-DD. A single Stakeholder consultation can be conducted for a group of VPAs as long as convincing justification is provided.	A local stakeholder consultation report for the VPA has been submitted to GS. The physical LSC meeting and stakeholder feedback round has been conducted (see LSC report for more details). The Local Stakeholder Consultation would be also valid for any other Voluntary Project Activities (VPAs) implemented in Somalia under BURN's Gold Standard PoA 'ECOA_BURN multicountry Clean Cooking Programme', provided that	Based on the review of section F of the VPA-DD and LSC records the validation team confirms that the LSC was conducted at VPA level. Furthermore, validation team also confirmed it during the remote interview with few stakeholders. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.

			they are homogeneous, i.e. deploy the same stove type(s), target the same endusers and consist of the same project boundary as VPA.	
8.	Conditions related to environmental Impact Analysis	The VPA has to fulfil host country requirements (if any) concerning environmental impact analysis.	No EIA is required by the host country for ICS project activities.	Based on the review of VPA-DD and host counter requirements, the validation team confirms that no EIA is required by the host country for ICS project activities.
9.	CME approval	Each VPA has a project implementer that is either the Coordinating/Managing Entity or another entity that has signed a contractual agreement with the CME. Those agreements include all rights and responsibilities of both parties, e.g. approval procedures by the CME, monitoring requirements, carbon credit rights transfer. This eligibility criterion is not relevant if the CME is the VPA implementer.	This eligibility criterion is not relevant for this VPA since the CME is the same entity as the VPA implementer.	Based on the review of VPA-DD, the validation team confirms that this eligibility criterion is not relevant for this VPA since the CME is the same entity as the VPA implementer.
10.	Transfer of carbon credit ownership	The transfer of carbon credit ownership all along the investment chain is clearly described and communicated to all project participants and end-users so that they are aware of to give up their rights on emission reductions. For technology producers and the retailers of the improved technology, this must be communicated by contract or clear written assertions in the transaction paperwork. The end-users will need to be informed and notified that they cannot claim for emission reductions from the project.	The end-users permanently waive any claim or rights on carbon credits to the VPA implementer (at the same time CME of the PoA). This is confirmed by strap on ICS box and warranty booklet. Supporting documentation related to strap and warranty booklet has been submitted to GS. There is a contractual agreement between distributors/retailers in which distributors/retailers waive any claim or rights on carbon credits to the VPA implementer (at the same time CME of the PoA). A sample	Based on the review of strap on ICS box and warranty booklet, the.validation team confirms that the end-users permanently waive any claim or rights on carbon credits to the VPA implementer (at the same time CME of the PoA). Validation team has also reviewed the contractual agreement between distributors/retailers and BURN. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this

			agreement has been submitted to GS.	eligibility criterion of the PoA.
11.	Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of ODA	In case that any of the VPA receives ODA, it is ensured that there is no diversion of ODA, i.e. that no ODA is provided under the condition that all or part of the carbon credits have to be returned to the donor country/entity providing ODA.	The VPA implementer has signed an ODA declaration confirming that there is no diversion of ODA. The same has been submitted to GS.	Based on the review of the VPA-DD /01-f/, interviews and a self declaration letter from the CME /03/, validation team is able to confirm non involvement of any ODA funds in the VPA. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.
12.	Target Group and distribution mechanism	The VPA serves households, institutions or SMEs either in urban, peri-urban and/or rural areas, and distributes the cook stoves through adequate distribution channels.	This VPA targets households in urban and peri-urban areas across the entire territory of Somalia. ICS are distributed through direct sale/distribution and/or a variety of retail outlets across the country to endusers.	Based on the review of the VPA-DD /01-f/ and interviews, the validation team confirms the target group as households in urban and peri-urban areas across the entire territory of Somalia. ICS are distributed through direct sale/distribution and/or a variety of retail outlets across the country to endusers. Conclusion: Based on the above assessment, validation team concludes that the subject VPA comply with this eligibility criterion of the PoA.
13.	Conditions related to sampling requirements for the PoA	The VPA complies with the sampling plan as outlined in the PoA-DD, section B.3 and VPA-DD, section B.7.2	The VPA-DD outlines the sampling plan in section B.7.2 which is in line with the one stipulated in the PoA-DD. The	Based on the review of the VPA-DD /01-f/ and interviews, the validation team is able to confirm that the VPA follows monitoring

			VPA will make part of a single sampling covering a group of VPAs, as soon as there are other homogenous VPAs. In case of a grouped sampling approach, the CDM Project Standard for PoAs will be followed.	plan/sampling plan as described in section B.7.2 of the VPA-DD /01-f/. The sampling and survey methods will be applied for monitoring as per the approved methodology /B03/ and Standard: Sampling and surveys for CDM project activities and programmes of activities, version 09.0 /B01-d/. Conclusion: Based on the above assessment, validation team concludes that the subject VPA complies with this eligibility criterion of the PoA.
14.	Double counting of emission reductions	Each VPA will implement a unique identification system for every efficient cooking unit distributed to avoid double counting of emission reductions.	The unique identification system is explained in detail in section A.5. of this document. The VPA is in adherence to the CME Management System as outlined in Section C of the PoA-DD.	Validation team based on the review of the section A.5 of the VPA-DD /01-f/ and also during the remote interview confirms that the proposed VPA is in adherence to the CME Management System as outlined in Section C of the PoA-DD. Conclusion: Based on the above assessment, validation team concludes that the VPA comply with this eligibility criterion of the PoA.
15.	Crediting Period	The duration of the crediting period of the VPA does not exceed the end date of the registered PoA or shall be capped by the end date of the PoA. The final date for which ERs can be credited shall be no later than 20 years after the start date of the PoA.	The VPA will have a crediting period of 5 years which can be renewed twice, i.e. in total a maximum issuance of 15 years. The VPA will not exceed the end date of the registered PoA.	Based on the review of the VPA-DD /01-f/, the validation team is able to confirm that the VPA has credition period of 5 years which can be further renewed maximum twice i.e. in total a maximum

				issuance of 15 years. Conclusion: Based on the above assessment, validation team concludes that the subject VPA complies with this eligibility criterion of the PoA.

Appendix 6. Sampling Protocol for Validation of Programme of Activities (PoA)/Project Activities (PA)

Sl. No.	Checklist Questions	Assessment
1.	Does the PoA/PA opt for sampling for determination of any ex-ante parameters?	Yes, the VPA has opted for sampling for determination of the baseline fuel consumption and the proportion. Please refer to the assessment in section C.4 of this report.
2.	Was the sample chosen by PP for determination of ex-ante parameters representative? P.S.: The justification on representativeness shall address at the minimum the following: (a) Religious diversity (b) Ethnic diversity (c) Gender diversity (d) Economic diversity (e) Regional diversity (f) Seasonal fluctuations/variations (g) Diverse age-groups	A baseline survey along with a KPT to determine the baseline woody biomass consumption was conducted between October and November, 2020 and March and April 2021 in 119 urban/peri-urban households across the 6 federal member States and Banadir Regional Administration (BRA) of the Federal Republic of Somalia included in the project boundary. sample size in each of those Cities was calculated based on the urban population size in each of the States/BRA. This means, that the sample size in each of the Cities was directly proportional to the population size in the States/BRA, resulting in a higher sample in a City, if the corresponding State is highly populated and resulting in a lower sample size in a City if the corresponding State is lower populated.10 The following table illustrates how the total sample of 119 households was distributed amongst the respective Cities of the States. Validation team confirms that the sample chosen by CME are representative.
3.	Has VT applied acceptance sampling approach to validate that sampling/survey efforts undertaken by PP to determine the ex-ante parameters were determined correctly? If yes, please provide a detailed justification of the approach adopted including information on (but not limited to): (a) Selected AQL Level (b) Selected UQL Level	Yes, validation has applied the acceptance sampling approach to validate that sampling/survey efforts undertaken by CME. Please refer to the assessment in section C.4 of this report.

	(c) Selected Consumer Risk Level (d) Selected Producer Risk Level (e) Sample Size chosen for acceptance sampling (f) Acceptance number (c) (g) Approach adopted by VT to in case value of greater than c discrepant records were observed in the sample	
4.	Does the PoA-DD/PDD opt for sampling approach for monitoring of ex-post parameters?	Not applicable
5.	Does the PoA-DD/PDD provide a sampling plan for determination of ex-post parameters?	NA
6.	**Sampling Design:**	
6.1.	Does the PoA-DD/PDD clearly define the objective of the proposed sampling plan? P.S.: Identification of parameter of interest	An annual usage survey determines the drop off rates as project technologies age and users switch back to the baseline technology Along with the usage survey, a monitoring survey is carried out annually to assess end-user characteristics such as technology use, fuel consumption and seasonal variation.
6.2	Does the PoA-DD/PDD clearly define the reliability requirement (confidence and precision levels) to be achieved through the sampling effort and for the type of sampling effort (single VPA or across VPA sampling)? P.S.: reliability requirements shall be in accordance with the requirements of applied methodologies or Guideline: Sampling and surveys for CDM project activities and programmes of activities(Version 04.0) or Sampling and surveys for CDM project activities and programmes of activities (Version 07.0).	Since an unpaired sampling approach has been chosen, taking into account the results of the project KPT. Hence, the 90/30 confidence/precision level for the unpaired sampling approach as required by TPDDTEC is met.
6.3	Does the sampling plan clearly define the target population and describes any particular features associated with it?	The project's target group is households using charcoal.
6.4	Does the sampling plan clearly select and describe sampling method to be applied? a) Simple Random Sampling b) Stratified random Sampling c) Cluster Sampling d) Systematic Sampling e) Multi-stage Sampling	Simple random sampling has been selected
6.4.1.	Does the method agree with the description of the population? Are there clusters or strata, and if so, does it state what they are?	NA
6.5	Is the selected sampling method appropriate for the project type, sampling objective and target population?	NA
6.6	Has correct formula been applied for calculation of sample size? P.S.: Sample size calculation shall be in accordance with the type of sampling method and Guideline: Sampling and surveys for CDM project activities and programmes of activities(Version 04.0)	The sample size was sufficient to achieve a precision level of 12.3% at 90% confidence.
6.6.1	Is the proposed sample size adequate to achieve the minimum confidence/precision requirements?	The sample size was sufficient to achieve a precision level of 12.3% at 90% confidence. Hence, the 90/10 confidence/precision level

		for large-scale project activities as mentioned in paragraph 10 of the Standard 'Sampling and surveys for CDM project activities and PoAs' was met.
6.6.2	Is the ex-ante estimate of the population variance needed for the calculation of the sample size adequately justified?	NA
6.6.3	Is the target value for the population parameter reasonably anticipated?	NA
6.6.4	Does the estimate of variability seem reasonable?	NA
6.7	Does the sampling plan provide clear description of the sampling frame to be used? P.S.: This shall agree with the information about the target population and sampling design.	NA
6.7.1	Does the Plan indicate that the sampling frame will be kept (e.g. in hard copy or a computer file of screen shot copy), and that random numbers will be generated, and these random numbers will then be used to select the sample?	NA
6.7.2	Does the sampling frame contain the information necessary to implement the sampling approach?	The sampling frame for the KPTs consist of all households using the project ICS.
7	**Data Collection**	
7.1	Is the data collection/measurement method likely to provide reliable data given the nature of the parameters of interest and project, or is it subject to measurement errors?	Yes, the data collection/measurement method likely to provide reliable data given the nature of the parameters of interest and project.
7.1.1	Are the methods of data collection clear and unambiguous? P.S.: Some questions like "How much money do you spend on heating?") can be subject to respondent error due to sensitivity or lack of recall viz., "How many times did you buy fuel last year?"), etc.,	Yes, the methods of data collection clear and unambiguous.
7.1.2	Are there questions that could be subject to measurement error? P.S.: For example, is a particular measurement method known to under-record key data, such as the weight of bricks?	Yes, the methods of data collection clear and unambiguous .
8	**QA/QC Procedure:**	
8.1	Are the procedures for the data measurements well defined and do they adequately provide for minimizing non-sampling errors?	Yes, the procedures for the data measurements well defined and do they adequately provide for minimizing non-sampling errors.
8.1.1	Is the quality control and assurance strategy adequate?	Yes, the quality control and assurance strategy adequate .
8.1.2	Are there mechanisms for avoiding bias in the answer? P.S.:Mechanisms for avoiding non-sampling errors (bias) include good questionnaire design, well-tested questionnaires, possibly pilot testing the data collection.	Yes, ther are mechanisms for avoiding bias in the answer.
8.2	Are the proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling adequate?	A local team of 45 surveyors, well aware about the local culture, language and with previous survey experience, received training by the carbon consultant mkaarbon safari, adequately tailored to the baseline surveys and KPTs. Thus it is confirmed that

		the skill sets, qualifications and experience of the personnel engaged to conduct sampling was adequate.
9.	**Assessment of survey and data collection methods proposed for the PoA/PA**	
9.1	Please specify which survey method has been used by PP? a) Hard-copy questionnaires b) smartphone or tablet app modules c) Data Sensor d) Telephone Interview e) E-mail or web-based platform or SMS f) Mailing (post) (questionnaires sent by regular mail)	Hard-copy questionnaires and recording of KPT results on a standardised hard copy format.
9.1.1	Is the selected method compliant with the requirements of the CDM methodology?	The KPT protocol published at Clean Cooking Alliance website17 and the survey questionnaire outlined in Appendix 2 of the applied methodology TPDDTEC methodology were followed.
9.2	Does the proposed data collection method match the available sampling frame? P.S.:A sampling frame is a complete listing of all individual units (elements, members) that can be considered as a representation of the whole population, and which can be used as a basis for selectinga sample.	NA
9.2.1	What measures are in place to ensure that non-participating households are excluded from survey and data collection methods that do not rely on physical on-site visits?	NA
9.2.2	What mechanisms are in place to ensure that the intended recipient of the survey is the same person who completes the questionnaire? P.S.: This is relevant to all survey and data collection methods;	NA
9.3	Is the proposed survey and data collection method approach clear and suitable?	The KPT protocol published at Clean Cooking Alliance website and the survey questionnaire outlined in Appendix 2 of the applied methodology TPDDTEC methodology were followed.It is confirmed that the proposed survey and data collection method approach clear and suitable
9.3.1	Is there a mechanism for ensuring that the data collected are of high quality? Have these mechanisms been tested in pilot telephone interviews? P.S.: For example, during a telephone interview, the interviewer relies on the respondent giving an accurate answer to the question that is being asked.	Prior to conducting KPT measurements, the householder was asked a few questions in regard to household size, cooking patterns and fuels and cooking devices used. None of the 119 households stated a difference in fuel consumption and cooking patterns between dry and rainy season, hence seasonal variation was not relevant. The surveyors verified the response given by the householder related to the cooking devices by an on-site kitchen observation
9.3.2	Does the chosen data collection method suit the capability of the intended recipients? P.S.: For example, a mail-based questionnaire method would be unsuitable for a target population with a low literacy rate;	Yes.
9.4	Is the stated anticipated response rate reasonable for the selected survey and data collection method?	NA

9.4.1	Is the planning information described above contained in the data collection plan? P.S.: This is essential, as some methods afford weak control over the achievable response rate	Yes,
9.4.2	Is the anticipated response rate too low to match the number of required valid returns?	NA
9.5	Is the selected survey and data collection method likely to yield results that are representative of the entire target population? P.S.: Some survey and data collection methods (e.g. web-based surveys) are known to suffer from respondent self-selection, so yielding results that are not representative of the entire population.	A local team of 45 surveyors, well aware about the local culture, language and with previous survey experience, received training by the carbon consultant mkaarbon safari, adequately tailored to the baseline surveys/KPTs. The training included both a theoretical part by having an interactive discussion of questions with surveyors, going through the questions of the baseline survey questionnaire (data collection form) and KPT protocol, role plays as well as interview techniques. The theoretical training was followed by a practical training in which the carbon consultant accompanied the surveyors to households to conduct the first test surveys and KPTs. Surveyors were instructed not to survey households which are less than 300 m distance from each other to ensure a certain geographic representativeness.
9.5.1	Is a mechanism for redressing the bias proposed? If so, is it clearly explained and supported by existing endorsed methods?	Yes.
9.5.2	Does the data collection plan indicate that the existing sampling frame is fit for the intended purpose?	Yes
9.5.3	What mechanisms are in place to maximize the accuracy of the sampling frame? P.S.:For example, a sampling frame with telephone numbers of many digits is prone to recording errors, thus excluding eligible households whose telephone number is incorrect.	Yes, please refer assessmeng in later section.
9.6	Is the survey and data collection method likely to provide reliable data given the nature of the parameters of interest or is it subject to measurement errors by its very nature?	Yes, please refer assessmeng in later section.
9.6.1	Are there questions whose answer could be subject to respondent error due to the delivery mechanism of the data collection method itself? P.S. For example, the answer “forty” units as opposed to “fourteen” units, in a telephone interview when the respondent is asked to read a meter.	NA
9.6.2	Is a mechanism for mitigating the effect of under-coverage proposed? If so, is it clearly explained and supported by existing endorsed methods? P.S.: Some data collection methods are known to suffer from under-coverage, which occurs when sections of the target population do not appear in the sampling frame. For example, do all eligible households have reliableaccess to the Internet?	NA

9.7	Are the procedures for the selected survey and data collection method unambiguously defined and do they adequately provide for minimizing non-sampling errors?	Yes, there are procedures for the selected survey and data collection method unambiguously defined and do they adequately provide for minimizing non-sampling errors . Please refer the assessment below.
9.7.1	Is the quality control and assurance strategy adequate?	Yes, the quality control and assurance strategy are adequate. Please refer the assessment below.
9.7.2	Have potential sources of bias inherent in the selected data collection method, such as self-selection and under-coverage, been anticipated? Have mechanisms for mitigating these been considered?	Yes, mechanisms for mitigating the potential sources of bias inherent in the selected data collection method has been applied. Prior to conducting KPT measurements, the householder was asked a few questions in regard to household size, cooking patterns and fuels and cooking devices used. None of the 119 households stated a difference in fuel consumption and cooking patterns between dry and rainy season, hence seasonal variation was not relevant. The surveyors verified the response given by the householder related to the cooking devices by an on-site kitchen observation.
9.8	Does the proposed data collection plan contain the information necessary to implement the selected survey and data collection method?	The KPT protocol published at Clean Cooking Alliance website and the survey questionnaire outlined in Appendix 2 of the applied methodology were followed. The households were visited on 4 consecutive days, avoiding weekends or any holiday. A brand-new weighing scale with a precision of 10 g was used, hence no calibration was necessary. The average charcoal, firewood and LPG consumption was measured in kg over 3 days and then converted to TJ to determine the proportion in % of the different fuels. There was no firewood use. LPG (3%), kerosene (0%) and electricity (0%) use was insignificant and since those are non woody biomass fuels, they have been ignored when determining the baseline fuel consumption (as confirmed by “Summary” worksheet in the ER calculation spreadsheet./02/ None of the households used electricity or kerosene for cooking. All surveys and KPTs were carried out in person visiting the households.
9.8.1	Are the proposed skill sets, qualifications and experience of the personnel/institutions engaged to conduct the standardized tests/data collection exercise adequate?	Yes, skill sets, qualifications and experience of the personnel/institutions engaged to conduct the standardized tests/data collection exercise was adequate. This was also confirmed during the remote audit interviews.
9.9	Does the PP have a process in place to ensure data quality is maintained to a high standard? This should include: a) Are the personnel trained and experienced? b) What is the level of supervision and guidance provided to staff? c) Is there a standardized system for data entry and analysis to produce final result?	A local team of 45 surveyors, well aware about the local culture, language and with previous survey experience, adequately tailored to the baseline surveys/KPTs. The training included both a theoretical part by having an interactive discussion of questions with surveyors, going through the questions of the baseline survey questionnaire (data collection form) and KPT protocol, role plays

	d) Is there a system or process in place to minimize the introduction of errors? e) Is there a system in place to ensure all collected data is processed; f) Are quality checks performed on data entered, for example range checks, g) inconsistency checks, checking of subsamples of data by supervisors; h) is there a system to check for errors, record and report errors reported anddocument the remedial action taken; i) What is the level of security and type of backup processes to guarantee data integrity, forexample methods to prevent fraud and accidental deletion?	as well as interview techniques. The theoretical training was followed by a practical training in which the carbon consultant accompanied the surveyors to households to conduct the first test surveys and KPTs. Validation team based on interview of personnel responsible for carrying out KPT and baseline survey through remote interviews (through video call) confirms the following: ✓ the personnel involved in the KPT and baseline survey are trained and experienced. ✓ there exists a standardized system for data entry and analysis to produce final result. ✓ there exist a system or process in place to minimize the introduction of errors. ✓ there a system in place to ensure all collected data is processed. ✓ there exists a quality checks of data entered.

Appendix 7: Sustainability Validation Report

1. **Project type eligibility screen**

The proposed VPA “GS10789 VPA1: Efficient and Clean Cooking for households in Somalia” (GS10790) is a large-scale project in Republic of Somalia. The project is applying methodologies TPDDTEC version 3.1

The VPA is a “End-use energy efficiency” project, mentioned as eligible project type under section 3.1.1 of the Community Services Activity Requirements. The household/SMEs/institutions and where each unit results in

<= 1,800 MWh of thermal energy savings per year. Hence, according to paragraph 4.1.9 of the 'Community Services Activity Requirements', the VPA is deemed additional.

Hence, the project is eligible under the Gold Standard. CL 03 had been raised in this regards and successfully closed. Please refer appendix 4 for details.

2. Preliminary review under Gold Standard for the Global Goals

Gold standard has carried out a preliminary review of the project before listing the project.

Sustainable Development Goals (SDG) outcomes

As per the VPA DD /01-f/, the relevant SDG targets are:

SDG	Chosen SDG target
Goal 1 – No poverty	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
Goal 3 – Good health and well being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Goal 7 – Affordable and clean energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services 7.B By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support
Goal 8 – Clean water and sanitation	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
Goal 13 - Climate	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

3. Safeguarding principle Assessment

According to GS4GG Safeguarding Principles and Requirements document for detailed guidance on carrying out assessment as summarized below:

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/ potentially/ no)	Justification including mitigation measures	Assessment by the validation team
Social & Economic Safeguarding Principles				
1. Human Rights	1. 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.	No	1. The project is implemented on the ground by BURN in collaboration with local distribution partners, like Al Sadiq General Trading Co. The project developer takes care that the project respect internationally proclaimed human rights and is no	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with:

			complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. Somalia has ratified many UN Human Rights Conventions	• Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
	2. The Project shall not discriminate with regards to participation and inclusion.	No	2. The project will not discriminate with regards to participation and inclusion as the improved cookstoves (ICS) can be purchased and used by everybody within the project boundary willing to participate in the program.	
2. Gender Equality and Women's Rights	1.The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women	No	1. The Project will not directly or indirectly lead or contribute to adverse impacts on gender equality or the situation of women. In fact, the access to improved cookstoves are foreseen to improve the general conditions of women and not to lead to any risk of contributing issues like sexual harassment/ exploitation, violence or human trafficking. The project is not foreseen to reproduce or deepen discrimination against women. On the contrary, it will improve womens' situation by replacing dirty, inefficient traditional cookstoves which are hazardous to womens' health by highly efficient cookstoves burning the fuel much cleaner compared to baseline devices. Improved project cookstoves can be purchased and used by any of the women within the project boundary willing to participate in the program. For sale, marketing, sensitization, distribution or any other eventual paid or volunteer work the	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A

			principle of the equal pay for equal work will be applied and organized in way to provide the conditions for equitable participation of men and women. It is envisaged that women will be at the center of the project developer's marketing, education and distribution chain. It is planned that women in selected communities will demonstrate and educate consumers on the stove and its benefits, resulting in empowerment, knowledge transfer and generation of jobs for women.	
	2. Projects shall apply the principles of nondiscrimination, equaltreatment, and equal pay for equal work	No	2. The Project applies the principles of non discrimination and equal treatment and, in fact, improved project cookstoves can be purchased and used by any of the women within the project boundary willing to participate in the program. For sale, marketing, sensitization, distribution or any other eventual paid or volunteer work the principle of the equal pay for equal work will be applied and organized in way to provide the conditions for equitable participation of men and women. It is envisaged that women will be at the center of the project developer's marketing, education and distributionchain. It is planned that women in selected communities will demonstrate and educate consumers on the stove and its benefits, resulting in empowerment, knowledge transfer and generation of jobs for	

			women.	
	3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks	No	3. The project is in line with Somalia's constitution. Somalia has ratified the principle of equality into its respective constitution (Article 11), which shall guarantee equal gender rights. Article 3 of the constitution emphasize the necessity to include women in an effective way, in all national institutions, in particular all elected and appointed positions across the three branches of government and in national independent commissions. Article 24 mentions that all workers, particularly women, have a special right of protectionfrom sexual abuse, segregation and discrimination in the work place. Every labour law and practice shall comply with gender equality in the work place.33 It will be ensured that the project is committed to equal gender rights and women empowerment following Somalia's constitution.	
	4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	No	4. Not applicable, since not required.	
3. Community Health, Safety and Working Conditions	1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the	No	The project activity doesn't expose the community to increased health risks and is not adversely affecting thehealth of workers and the community. Cooking with improved cookstoves is actually safer than any other open flame stove use or traditional stoves. The workers participating in the project activity are not exposed to unsafe or unhealthy work environments as the	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders

			sale/distribution of efficient cookstoves or the monitoring activities of the project will not include any hazardous chemicals or other hazardous material.	• Audit report as well as a summary of the Health & Safety measures implemented at BURN ("Workers Health & Safety") /19/ Mitigation measure: N/A
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	The project activity doesn't include sites, structures or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. The Project will introduce efficientcookstoves in urban and periurban households in the Federal Republic of Somalia and it does not require alteration, damage or removal of any historical, artistic, traditional, religious or cultural heritage issues.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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	The project activity will introduce portable improved cookstoves in urban and periurban households in the Federal Republic of Somalia and therefore no physical or economic relocation of people is involved. The use of efficient cookstoves is voluntarily.	
4.3 Land Tenure and Other Rights	a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? b. For Projects involving land use tenure, are there anyuncertainties with regards to land tenure, access rights, usage rights or land ownership?	No	The project doesn't require any change to land tenure arrangements and/or other rights. The project does not involve land-use tenure.	

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	There are no indigenous people present within the area of influence nor the project is located on territory claimed by indigenous people.	
5. Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The Project doesn't involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects. The project is, in fact, implemented on the ground by BURN. The ethical codes of BURN and other project partners are against corruption.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
6.1 Labour Rights	1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. 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 forpayment of overtime), AND d) Modalities on health insurance, AND e) Modalities on termination of the		1. The project is implemented on the ground by the enterprise BURN in collaboration with other project partners. The employees' rights are a cross-cutting issue and respected in all of the projects of BURN and other project partners. Somalia has ratified many ILO Conventions, amongst others convention 87 (Freedom of Association and Protection of the Right to Organise Convention) and convention 98 (Right to Organise and CollectiveBargaining Convention).34 All employees will work voluntarily for the project, no forced labour is used and all employment is in compliance with national laws and consistence with the principles and standards of the ILO conventions. In fact,	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A

	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. 4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. 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		Somalia has ratified many ILO Conventions, amongst others convention 29 (Forced Labour Convention) and 105 (Abolition of Forced Labour Convention).35 2. The workers are able to establish and join labour organizations. 3. The working agreements with the individual workers will be documented and implemented and the minimum requirements stated in section 3.6.1. of GS4GG Safeguarding Principles & Requirements (version 1.2) will be respected whenever applicable. 4. All the possible staff hired has a minimum age of 18. Somalia has ratified ILO Convention 182 (Worst Forms of Child Labour Convention).36 5. All the works will be made by using appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency	
6.2 Negative Economic Consequences	Does the project cause negative economic consequences during and after project implementation?		The project is based on a commercial model selling improved cookstoves in order to ensure the economic durability of the project. Carbon revenues are amongst others used for sensitizing end-users and awareness raising, fortify the distribution/supply chain and upscale the project. Improved cookstoves can be purchased and used by everybody within the project boundary willing to participate in the program. There are not expected any direct	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A

			economic impact or potential risks to the local economy.	
7.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?		The project will reduce the GHG emissions as it will be monitored and verified in line with the GS4GG.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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?		The project does not use energy from a local grid or power supply. Biomass use (charcoal) will be significantly reduced by introducting highly efficient charcoal stoves.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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?		The project activity will not negatively affect natural or pre-existing pattern of watercourses, ground-water and/or watersheds.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders

				Mitigation measure: N/A
8.2 Erosion and/or Water Body Instability	a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?		a. The project will not cause additional erosion and/or water body instability of or disrupt the natural pattern of erosion. b. Not applicable	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
9.1 Landscape Modification and Soil	Does the Project involve the use of land and soil for production of crops or other products?		The Project itself does not involve the use of land and soil for production of crops or other products.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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 extr		The Project will not be susceptible to or will lead to increased vulnerability to any extreme climatic conditions.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant

				• Local Stakeholders Mitigation measure: N/A
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)?		The Project is not negatively impacted by the use of genetically modified organisms or GMOs.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS version 1.2, /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
9.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?		The Project does not release any different pollutants to the environment which would not be released in the baseline already. The release of PM and carbon monoxide are significantly reduced by the introduction of efficient cookstoves.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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?		The Project is not involving the manufacture, trade, release, and/or use of hazardous chemicals and or materials.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with:

				• Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
9.6 Pesticides & Fertilisers	Will the Project involve the application of pesticides and/or fertilisers?		The Project doesn't involve the application of pesticides and/or fertilisers.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
9.7 Harvesting of Forests	Will the Project involve the harvesting of forests?		No harvesting of forests is involved.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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?		The Project doesn't modify the quantity or nutritional quality of food available.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/

				and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
9.9 Animal husbandry	Will the Project involve animal husbandry?		The Project doesn't involve animal husbandry.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
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?		The project is not located in an area within a high conservation value area or within critical natural habitats. Furthermore, the aim of the project is to reduce biomass consumed in the project area for cooking which may save the natural resources.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS, version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A
9.11 Endangered Species	a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? b. Does the Project potentially		a. physical, geographical sites of the distributed cookstoves. There are no endagered species identified as potentially being present the project boundary.	Appropriateness for this safeguarding principle was validated and confirmed through review of GS4GG SAFEGUARDING PRINCIPLES & REQUIREMENTS,

	impact other areas where endangered species may be present through transboundary affects?		b. The distributed cookstoves are not expected to potentially impact other areas where endangered species may be present through transboundary affects.	version 1.2 /B05/ and remote interviews with: • Representatives of Project Participant • Local Stakeholders Mitigation measure: N/A

In summary, CCIPL has validated and concluded that the DNHA for the project has been conducted appropriately, according to GS4GG requirements, based on accurate information with all the reference sources as indicated in the PoA-DD /B08/. Therefore, in CCIPL's opinion the project has no harmful impact according to DNHA.

4. Data and parameters to be monitored

Relevant SDG Indicator	**SDG 1 Monetary savings related to the purchase of charcoal**
Data/parameter - Description	Monetary savings related to the purchase of charcoal
Unit/Value	62% (for ex-ante estimate)
Source of data /frequency	Survey , at least once in every two years
VVB Assessment	Based on review of the section B.7.1 of GS VPA-DD, validation team confirms that survey will be carried out to check on the money spent for purchasing charcoal in the project scenario compared to the baseline scenarioThe frequency as well as target value of the parameter is deemed appropriate.

Relevant SDG Indicator	**SDG 3: Perceived air quality**
Data/parameter - Description	Smoke levels, itchy eyes and breathing problems
Unit/Value	80% perceive an improved air quality
Source of data /frequency	Survey , at least once in every two years
VVB Assessment	Based on review of the section B.7.1 of GS VPA-DD, validation team confirms that survey will be carried out to check on the pollution-related inconveniences (such as smoke levels, itchy eyes and breathing problems) in the project scenario compared to the baseline scenario.The frequency as well as target value of the parameter is deemed appropriate.

Relevant SDG Indicator	**SDG 7: Number of sold/distributed ICS in use**
Data/parameter - Description	Number of sold/distributed ICS in use
Unit/Value	140,274 full year stoves will be credited in average per year.. The usage rate is expected to be 90%.
Source of data /frequency	Project database/Continuously

VVB Assessment	Based on review of the section B.7.1 of GS VPA-DD, validation team confirms project database will be managed by monitor the sold/distributed stoves. Sales records (like e.g. sales receipts) will be used to double check the figure mentioned in the database. The frequency as well as target value of the parameter is deemed appropriate.

Relevant SDG Indicator	**SDG 8: Number of jobs created**
Data/parameter - Description	Number of jobs created
Unit/Value	25 jobs expected to be created
Source of data /frequency	Project records like contracts, payment slips, employee list or others/ Annually
VVB Assessment	Based on review of the section B.7.1 of GS VPA-DD, validation team confirms that number of jobs created will be monitored and cross checked with the project records like contracts, payment slips, employee list or others./21/ The frequency as well as target value of the parameter is deemed appropriate.