Validation report form for validation of voluntary project activities

Gold Standard for Global Goals

BASIC INFORMATION		
Title and GS reference number of the programme of activities (PoA)	GS10963: UpEnergy – Social and Climate Impact Programme	
Version number of the validation report	1.4	
Completion date of the validation report	20/12/2022	
Title and reference number of each VPA to be included	**VPA Ref. no.**	**Title**
	GS 10967	Community Carbon Efficient Cooking Programme – VPA-1
	GS 10968	Community Carbon Safe Water Drinking Programme – VPA-2
	GS 10969	UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-3
	GS 10970	UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4
	GS 10971	UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-5
	GS 11007	UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-6
	GS 11008	UpEnergy Group – Social and Climate Impact Programme-Water filtration devices VPA-7
Version numbers of the VPA-DDs to which this report applies	VPA 01: Version 5.0 VPA 02: Version 5.0 VPA 03: Version 5.0 VPA 04: Version 3.0 VPA 05: Version 5.0 VPA 06: Version 4.0 VPA 07: Version 4.0	
Applied methodologies and standardized baselines for each CPA	**VPA no.**	**Applied methodologies**
	VPA 01 & VPA 03-06	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 03.1

	VPA 02 & VPA 07	Emission Reduction from safe drinking water supply v1.0
Coordinating / managing entity (CME)	UpEnergy Group	
Host Parties	VPA 01: Uganda VPA 02: Uganda VPA 03: Madagascar VPA 04: Malawi VPA 05: Mexico VPA 06: Zambia VPA 07: Bangladesh	
Estimated SDG Impacts	SDG13: Climate Action SDG 1: No Poverty SDG 3: Good Health and well being SDG 5: Gender Equality SDG 6: Clean water and sanitation SDG 7: Affordable and Clean Energy SDG 8: Decent Work and Economic Growth SDG 12: Responsible Consumption and Production SDG 15: Life on Land	
Name of the VVB	Earthood Services Private Limited	
Name, position and signature of the approver of the validation report	 Dr. Kaviraj Singh Managing Director	

SECTION A. Executive summary

The purpose of the VPAs is to provide efficient cookstove and water purifier with the help of local partners & the VPAs Implementer Community carbon (VPA 1 & 2), UpEnergy Malawi Limited (VPA 4), UpEnergy Zambia Limited (VPA 6) & UpEnergy Group (VPA 3 ,5 & 7), UpEnergy Group is the Coordinating and Managing Entity (CME) for this Project activity. Under the VPAs GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS 10971 (VPA 05), GS 11007 (VPA 06) & GS 11008 (VPA 07) the VPA Implementer will distribute ICS and WPS in Uganda (VPA01&2), Madagascar, Malawi, Mexico, Zambia and Bangladesh respectively. These VPAs focus on reduction of greenhouse gas emissions from the burning of non-renewable woody biomass and/or charcoal for cooking and boiling of water for drinking purpose. Improved Cookstoves (ICS) improve heat transfer efficiency as compared to the baseline conventional stoves, and the water purification systems also reduce the dependency of boiling water using non-renewable woody biomass, thereby reducing the GHG emissions from the burning of non-renewable woody biomass and/or charcoal for treating the water, fulfilling the requirements of the applied methodology TPDDTEC Version 3.1/5/ and Emission Reduction from safe drinking water supply v1.0 /57/ respectively.

The VPAs are being submitted to GS4GG for validation and the Coordinating/managing entity of the PoA is UpEnergy Group.

Parameter	Validated information
GS ID of the VPAs to be included	GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS 10971 (VPA 05), GS 11007 (VPA 06) & GS 11008 (VPA 07)
Title of the VPAs	Community Carbon Efficient Cooking Programme – VPA-1 Community Carbon Safe Water Drinking Programme – VPA-2 UpEnergy – Social and Climate Impact Programme- Cooking Devices VPA-3 UpEnergy – Social and Climate Impact Programme- Cooking Devices VPA-4 UpEnergy – Social and Climate Impact Programme- Cooking Devices VPA-5 UpEnergy – Social and Climate Impact Programme- Cooking Devices VPA-6 UpEnergy Group – Social and Climate Impact Programme- Water filtration devices VPA-7
Methodology applied	VPA 01 & VPA 03-06: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 03.1 VPA 02 & VPA 07: Emission Reduction from safe drinking water supply v1.0
Crediting period	5 years, Renewable

These VPAs aim at the availability of efficient cooking system and clean drinking water to the people of Uganda, Madagascar, Malawi, Mexico, Zambia and Bangladesh by distributing ICS and WPS, implemented by Community carbon (VPA 1 & 2), UpEnergy Malawi Limited (VPA 4), UpEnergy Zambia Limited (VPA 6) & UpEnergy Group (VPA 3 ,5 & 7). The households in these countries traditionally use non-renewable biomass/Charcoal for cooking and to purify the water. Thus, baseline for this Project is the amount of non-renewable biomass consumption in the absence of project activity for cooking and water filtration purposes.

Start date of the PoA is 01/01/2021 for VPA01, 30/11/2020 for VPA02, 01/10/2022 for VPA 03 , 25/10/2021 for VPA 04, 01/01/2023 for VPA05, 10/12/2021 for VPA06 and VPA07 is envisaged to start on 01/01/2023. The certification cycle of the VPAs is considered as 15 years, which is in line with the crediting period under Community Services Activity Requirements ver 1.2. The start date and length and type of the crediting period is also consistent with the PoA description in PoA-DD/4/.

All the VPAs i.e., GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS 10971 (VPA 05), GS 11007 (VPA 06) & GS 11008 (VPA 07) envisage an estimated annual GHG emission reduction and other SDG impacts over the crediting period as given in the table below.

SDG Impacts	VPA01	VPA02	VPA03	VPA04	VPA05	VPA06	VPA07
SDG13: Climate Action	838,987 tCO_2 (eq)	43,371 tCO_2 (eq)	48,703 tCO_2 (eq)	61,923 tCO_2 (eq)	64,827 tCO_2 (eq)	75,873 tCO_2 (eq)	30,270 tCO_2 (eq)
SDG 1: No Poverty	100%	100%	100%	100%	100%	100%	100%
SDG 3: Good Health and well being	100%	100%	100%	100%	100%	100%	100%
SDG 5: Gender Equality	95 %	95 %	95 %	95 %	95 %	95 %	95 %
SDG 6: Clean water and sanitation	-	90,710	-	-	-	-	96,084
SDG 7: Affordable and Clean Energy	133,710	-	10,000	10,100	15,400	12,400	-
SDG 8: Decent Work and Economic Growth	70	70	40	40	40	40	40
SDG 12: Responsible	55%	100%	55%	55%	55%	55%	100%

Consumption and Production							
SDG 15: Life on Land	1163.88 tonnes eq fuelwood/ day	100%	76.23 tonnes eq fuelwood/ day	99.99 tonnes eq fuelwood/ day	87.07 tonnes eq fuelwood/ day	101.82 tonnes eq fuelwood/ day	100%

Scope of Validation

The scope of the services provided by Earthood Services Private Limited is to perform validation of the VPAs GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS 10971 (VPA 05), GS 11007 (VPA 06) & GS 11008 (VPA 07) under the PoA. The scope of validation is to assess the claims and assumptions made in the VPA-DDs against the GS4GG criteria and UNFCCC's CDM, including but not limited to GS4GG Programme of Activities Requirements ver. 2/2/, Community Services Activity Requirements ver 1.2/3/, applied methodology TPDDTEC version 3.1 and Emission Reduction from safe drinking water supply v1.0/5//57/, GS4GG Principle & Requirements ver.1.2/1/, GHG Product Requirements/8/, GHG emissions reductions sequestration and product requirements v2/27/ and CDM PS for PoA version 3.0/14/, CDM VVS for PoA /7/version 3.0.

Validation Process
The validation process is undertaken by the validation team that involves the following:

1. The desk review of documents and evidence submitted by the project participant in the context of GS4GG criteria along with the reference CDM rules and guidelines issued by CDM EB,

2. A remote audit to assess the baseline practices followed by interviews with CME and the VPA Implementers,

3. Reporting audit findings concerning clarifications and non-conformities and the closure of the findings, as appropriate,

4. Preparing a draft validation report for the inclusion of VPA complying with the Gold Standard requirements.

An independent Technical Review team reviews the validation report prepared by the validation team. The final validation report that is accepted by Technical Reviewer is then approved on behalf of Earthood Services Private Limited and processed further as per GS4GG procedures.

Conclusion
The review of the VPA DDs, supporting documentation and subsequent follow-up actions have provided Earthood with sufficient evidence to determine the fulfilment of stated criteria. Earthood is of the opinion that the VPAs titled "Community Carbon Efficient Cooking Programme – VPA-1,Community Carbon Safe Water Drinking Programme – VPA-2, UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-3, UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4, UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-5, UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-6 and UpEnergy Group – Social and Climate Impact Programme- Water filtration devices VPA-7 as described in the VPA DDs/9/ meet all relevant requirements of GS4GG, meets host country criteria and has correctly applied the methodology GS TPDDTEC v3.1 and Emission Reduction from safe drinking water supply v1.0/5//57/ for application to efficient cooking system and safe drinking water

system distributed through UpEnergy group and partner organisation. Therefore, the VPAs are being recommended to GS4GG for inclusion.

SECTION B. Validation team, technical reviewer and approver

B.1 Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection*	Interviews	Validation findings
1.	Team Leader and Meth. Expert	IR	Garg	Shreya	Central office	Y	N	Y	Y
2.	Technical, Meth Expert (TA3.1)	IR	Garg	Shreya	Central office	Y	N	Y	Y
3.	Trainee Verifier (OLD)	IR	Kunj	Shreya	Central office	Y	N	N	Y
4.	Local Expert	ER	Sam Khaukha	Julius	Uganda	Y	N	N	Y
5.	Local Expert	ER	Kanavalona Dafy Noely	Randrianja	Madagascar	Y	N	N	Y
6.	Local Expert	ER	Katundu	Enea	Malawi	Y	N	N	Y
7.	Local Expert	ER	Lopes	Ricardo	Mexico	Y	N	N	Y
8.	Local Expert	ER	Biswas	Amresh	Bangladesh	Y	N	N	Y
9.	Local Expert	ER	Chipompwe	Selwyn	Zambia	Y	N	N	Y

*Remote Audit was conducted because of Covid as described in detail under section C.2 of this report.

B.2 Technical reviewer and approver of the validation report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g.name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	Guleria	Shifali	Central office
2.	Expert to TR	IR	Guleria	Shifali	Central office
3.	Approver	IR	Singh	Kaviraj	Central office

SECTION C. Means of validation

C.1 Desk/document review

The validation of the Voluntary Project Activities (VPAs) is performed primarily as a document review of the VPA design documents for VPAs GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS10971 (VPA 05), GS11007 (VPA 06) and GS11008 (VPA7) /9/, SDG Outcome Calculation sheets/28/, fNRB calculation sheets/44/, the baseline survey forms/30/ and independent research on several platforms. The cross checks between information provided in the VPA-DDs/9/ and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

The complete list of documents/evidence assessed by validation team is included under Appendix 3

C.2 On-site inspection

Duration of on-site inspection: NA				
No.	Activity performed on-site	Site location	Date	Team member
1.	-	-	-	-

During the current validation, the on-site visit was not possible due to the outbreak of COVID-19 global pandemic and also the host countries of the VPAs were facing increased number of cases at the time of validation assessment was being carried out/26/. The Indian Government has several restrictions on international travel due to global pandemic Covid-19. Although international travel is allowed to some extent on a case-to-case basis, as per WHO guidelines it is advised to restrict the avoidable travel due to which the validation team didn't take risk and plan a physical onsite assessment.

It is important to note that the GS4GG has provided alternative measures relating to mandatory on-site visits for VVBs audits.

Alternative Measures relating to mandatory on-site visits for VVBs audits include:

a. A VVB may postpone site visits for on-site inspections, taking into account the rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB (if any) and other relevant travel restrictions and guidance (for example, a requirement to self-isolation upon return from specific countries).

b. 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.

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. Therefore, in this validation due to the commitment of the project developer as per the delivery timeline, the site-visit could not be postponed, and the on-site visit was replaced by remote audit.

The remote audit included the interviews with the CME representatives and the CPA implementers through video call via Zoom meeting app. The VVB also interviewed the end-users on sampling basis as discussed under section C.3. of this report.

C.3 Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Karthik Rajgopalan	Anantha	Program Manager – Community Carbon	02/08/2021	Program design, Baseline scenario, ex-ante and	Shreya Garg, Rahi Sahni

					monitored parameters	
2.	CK	Kumarswamy	Program Officer – UpEnergy Group	02/08/2021	Monitoring plan, baseline scenario, Technical description, Additionality, Project boundary, Ex-ante and Ex-post parameters	Shreya Garg, Rahi Sahni
3.	Anayo	Sheila	Data Associate	02/08/2021	Program design, Baseline scenario, ex-ante and monitored parameters	Shreya Garg, Rahi Sahni
4.	Gaurav	Ankit	Program Officer – UpEnergy Group	02/08/2021	Monitoring plan, baseline scenario, Technical description, Additionality, Project boundary, Ex-ante and Ex-post parameters	Shreya Garg, Rahi Sahni
5.	-	Emmanuel	Upenergy Group	12/06/2021	Baseline scenario, Implementation Grievance mechanism SDG impacts Safeguarding principles Monitoring plan Management system	Shreya Garg
End-users: Water purification system. (Uganda)						
1.	Betty	Namono	Baseline user (WPS) from Linda, Sironko	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
2.	Majorine	Nakiguddde	Baseline user (WPS) from Kabalagala, Kampala	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
3.	Kakyo	Florence	Baseline user (WPS) from Nyakagongo, Kabarole	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
4.	Jackie	Auma	Baseline user (WPS)	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni

5.	Wilson Ssebagala	Mugirya	Baseline user (WPS) from Lukusi A, Bugiri	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
6.	Jowali	Nteyeka	Baseline user (WPS) from Kasubi, Kampala.	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
7.	Susan	Nabagesere	Baseline user (WPS) from Kikoni A, Kampala	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
8.	Namusisi	Betty	Baseline user (WPS) from Mpumude, Jinja	02/08/2021	VVB baseline survey	Shreya Garg, Rahi Sahni
End User: Improved Cookstove. (Uganda)						
1.	Acnayo	Rose	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
2.	Achiro	Agnes	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
3.	Akwee	Lusy	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
4.	Akongo	Betty	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
5.	Achayo	Jenet	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
6.	Knight	Atto	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
7.	Lunyolo	Samali	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg
8.	Nakitende	Margret	Baseline user	12/06/2021	VVB baseline surveys	Shreya Garg

Type of questions asked by the Team member

No.	Questions asked by Team Leader to baseline users (WPS)
1.	Number of people in the household
2.	Baseline water source
3.	Baseline water purification method
4.	Suppressed water purification method
5.	Baseline cookstove type
6.	Fuel type
7.	Baseline waterborne illness incidences
8.	Baseline time taken to fetch water
9.	Effect of season on fuel source and type
10.	Fuel price
11.	Percentage of women involved in the process of fetching and purifying water

No.	Questions asked by Team Leader to baseline users (ICS)

1.	What is /are the present cooking Device /s in the households?	Positive
2.	Number of cooking devices?	Positive
3.	Does the device have a chimney or grate?	Positive
4.	What is the fuel type?	Positive
5.	What is the source of Wood/fuel?	Positive
6.	Number of meals cooked in a day?	Positive
7.	What was the baseline device in use?	Positive
8.	Person responsible for wood collection?	Positive
9.	What is the size of Household?	Positive

C.4 Sampling approach

CME Approach:

CME will follow sampling procedures given in Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1 and Emission Reduction from safe drinking water supply v1.0 /5/ for determining the sample size of each parameter. A confidence precision of 90/10 will be ensured by CME for meeting the annual/biennial monitoring criteria. The sampling approach undertaken by CME is duly explained under section B.7.2 of the VPA-DDs/9/, which has been assessed by the validation team and found to be correct and in-line to the TPDDTEC v3.1/5/.

VVB's Sampling approach:

The Sampling and surveys for CDM project activities and programmes of activities (Version 9.0) /13/states under paragraph 28 that "When the project participants or the coordinating/managing entity have applied a sampling approach, the DOE may apply acceptance sampling as described in the steps indicated below as part of validation/verification activities". The validation team has conducted acceptance sampling for the baseline consumption of the fuel with the help of baseline survey in line with paragraph 30 and 31 of the sampling standard version 9.0/13/.

As per para 39 of the sampling standard version 9.0/13/, "A DOE may select a different sample size than the one indicated in paragraph 32 above either by choosing a different value for the consumer risk and producer risk (e.g. 20 per cent for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:
(a) The estimated volume of annual GHG emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 t CO2eq.;
(b) The security conditions in the project region prevents inspection of many samples (eg. conflict zones); or
(c) The project activity or the PoA is located in a least developed country or a host party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified."

The PoA is located in Uganda, Madagascar, Malawi, Mexico, Zambia and Bangladesh, which are LDCs. Thus, the validation team can choose a different sample size than one indicted in para 32 of the sampling standard/13/.

The validation team selected random sample of CME's sampled records to check the acceptability (or otherwise) of the data for each such record with CME's sample records and determined if the CME's sample records meet the requirements.
The validation team selected the sample size as 8 households from Uganda with 3 households extra as backup for the purpose of remote on-site inspection to check the acceptability of CME's sampling results or otherwise. The values for baseline in Uganda has been based on surveys and the survey forms in procedure has been validated. Though, for the rest of the five countries the value has been based on literature review & were taken from official sources which have been

used for only estimation the actual value will be fixed prior to verification using baseline surveys. PD has assured that once the Covid situation resolves surveys will continue according to the applied methodology

Sample Size: (Per region)

PoA Ref no.	AQL	UQL	Producer Risk	Consumer Risk	Sample Size; Min	Acceptance No.
GS 10963	0.5%	20%	10%	20%	8	0

The Validation team covered a total of 8 samples and observed a few typographical errors related to erroneous reporting of data from the baseline survey forms into the baseline survey calculation sheet. It has now been ensured that all the data is now consistent between the baseline survey forms and SDG calculation sheet. There were no material errors identified that might have resulted in the overestimation of the SDG impacts.

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

Areas of validation of compliance	No. of CL	No. of CAR	No. of FAR
Proposed VPAs and corresponding generic VPAs	CL#02	CAR#05	-
Compliance with VPA-DD form	CL#01	CAR#03, CAR#06, CAR#07	-
General description of the VPAs	CL#04	CAR#01, CAR#11	-
Assessment of the eligibility of the VPAs under Gold Standard	-	CAR#16	FAR#03
Application of methodologies and standardized baselines	CL#03,	CAR#18	FAR#01, FAR#02
• Reference of methodologies and standardized baselines	-	-	-
Project boundary, sources and GHGs	-	-	-
Baseline scenario	-	CAR#09	FAR#04, FAR#05
• Ongoing financial need	-	-	-
• Prior consideration	-	-	-
Demonstration of additionality	-	-	-
SDG outcome assessment	-	-	-
• Data and parameters	CL#05	CAR#08 CAR#10 CAR#17	-
Estimation of SDG impacts or net anthropogenic removals	-	-	-
• Equations and parameters applied to calculate SDG impacts	-	-	-
• Ex ante calculation of SDG impacts or net anthropogenic GHG removals	-	-	-
Start date, crediting period type and duration	-	-	-
Environmental impacts	-	-	-
Local stakeholder consultation (Interviews)	-	CAR#13, CAR#14, CAR#15	-
Sustainability Assessment	-	-	-
• Safeguarding principles assessment	-	CAR#02, CAR#04 CAR#12	-
• Gender Sensitive requirements	-	-	-
Total	05	18	05

C.6 Proposed CPAs and corresponding generic VPAs

VPA title and reference number	Version number of the VPA-DD	Host Party	Version number of the PoA-DD into which the VPA is included
GS10967 Community Carbon Efficient Cooking Programme – VPA-1	5.0	Uganda	Version 4.0
GS10968 Community Carbon Safe Water Drinking Programme – VPA-2	5.0	Uganda	Version 4.0
GS10969 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-3	5.0	Madagascar	Version 4.0
GS10970 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4	3.0	Malawi	Version 4.0
GS10971 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-5	5.0	Mexico	Version 4.0
GS11007 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-6	4.0	Zambia	Version 4.0
GS11008 UpEnergy Group – Social and Climate Impact Programme- Water filtration devices VPA-7	4.0	Bangladesh	Version 4.0

C.7 Compliance with VPA-DD form

Means of validation	The VPA DDs/9/ have been prepared using the applicable version of GS4GG VPA-DD template, i.e., version 1.1/10/. It has been checked from the GS website that the form used is appropriate and applicable for the VPAs. Each section of the VPA-DDs/9/ were also checked with the guidelines stated in the form/10/ and found to be fulfilling it.
Findings	CL#01, CAR#03, CAR#05, CAR#06 and CAR#07 were raised and resolved.
Conclusion	The VPA-DDs /9/ are found to be complying with the applicable form and all the sections filled are in line with the form guidelines.

C.8 Assessment of the eligibility of the VPA(s) under PoA

Means of validation	Applicability Criteria as per Gold Standard	Required Condition	CME's Justification	Means of Validation
	a. Location of the VPA	The VPAs are located within the geographical boundary of the countries included in the PoA.	Improved Cookstoves (ICS) and Water purification system (WPS) will be distributed to residential/commercial users within the geographic	The aim of the VPAs is provide efficient cooking system and water purification system to the communities in Uganda, Madagascar, Malawi, Mexico, Zambia and Bangladesh as declared by CME under

			boundary of the countries included under the PoA.	Section A.2 of the PoA-DD/4/ and confirmed from the geo coordinates of the baseline users/29/ as cross-checked against https://www.latlong.net / and this is in line with para 3.1.1 (d) of Community Service Activity Requirements (Version 1.2)/3/. Thus, the VPAs are eligible to be included under GS4GG. This is also in accordance with GS4GG Principles and Requirements paragraph 3.1.1 (a)/1/.
	b. Type of project	Projects will involve the distribution of energy- efficient cooking technologies and safe drinking water systems (HWT and IWT technologies) to residential/ commercial users.	VPAs include distribution of ICS and WPS to residential/ commercial users. Detailed information on technology are given in Section A.3 of VPA-DDs.	The VPAs included under the PoA will involve the distribution of energy efficient cookstoves and safe drinking water technologies/33/ to household setups in the various host countries of the VPAs.
	c. No Double counting of Clean Energy Products (CEPs) and VPAs within this PoA and across other PoAs	A unique numbering or identification system for the CEP installed is applied. This shall ensure no double counting of stoves within the PoA and ensure that stoves can be identified as belonging to this PoA and not to a PoA managed by any other CME.	Each clean energy product (WPS and ICS) distributed under the PoA will have the UpE logo or Brand name (Smart Home or similar) and unique serial number on the product. The unique serial number along with the customer details (name, address, is also stored in the sales	The project is located in Multiple countries including Uganda, Madagascar, Malawi, Mexico, Zambia and Bangladesh and is confirmed by the VVB during the remote survey conducted on 02/08/2021/17/. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1 (b)/1/. The various carbon registries have been checked by the

			database along with the unique serial number assigned to each product and the VPA assigned to it.	Validation team to confirm that the VPAs exclusively belong to the PoA.
	d. No Double counting of VPA	The VPA is exclusively bound to the PoA. The VPA shall not be proposed as an individual Gold Standard or CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits. A statement shall be included in the VPA-DD that the specific VPA will not be part of another single Gold Standard or CDM project activity or VPA under another PoA and confirmed by the Partner Organization (PO) implementing the VPA.	The VPA is not part of another project/programme of activities under any carbon standards. The carbon standard registries including UNFCCC, GS and VERRA have been checked and it is confirmed that the VPA has not been registered as an individual Gold Standard or CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits.	A declaration/24/ has been provided by the CME confirming about the provision to eliminate double counting. At the time of implementation, each product will be assigned a unique serial ID to enable the identification of the product belonging to the VPAs.
	e. Awareness and agreement of those operating a VPA on PoA subscription	Contractual provisions to ensure that those operating the VPA are aware and have agreed that their activity is being subscribed to the PoA.	UpEnergy Ltd, a subsidiary of UpEnergy Group and will be implementing the project. Contractual agreement is in place between VPA	The CME has submitted contractual agreements/50/ with the implementing entities to ensure their part under the PoA. The agreement covers in detail the points related to carbon ownership, concerned

	In the case that the CME is not responsible for implementing the VPA, the organization responsible for VPA implementation has signed a contractual agreement with the CME to participate in the PoA. This agreement: Defines the ownership of the carbon emission reduction rights - Covers the distribution and monitoring related responsibilities of the parties involved - Confirms that the CEPs to be distributed under the VPA have not and will not be distributed under any other carbon project (CDM project, PoA or Gold Standard project) - Cedes the rights to the carbon credits generated from VPAs under the PoA to the CME.	implementer and CME.	responsibilities and avoidance of any double counting. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.
f. Non-diversion of ODA in case of public funding	The CME and the VPA operator (in case of being different from	It is confirmed that there is no diversion of ODA. An ODA	The purpose of the project is to provide efficient cooking system and water purification

	the CME) shall confirm that there is no public funding or in the case of public funding, the annex I party will confirm that funding is not a diversion of Official Development Assistance.	declaration confirming the same has been submitted.	system to the communities in Uganda, Madagascar, Mexico, Malawi, Zambia and Bangladesh. The CME has provided an ODA declaration/15/ that shows that no diversion of funds took place. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.
g. VPA Crediting Period	VPA crediting period not to exceed the PoA end date and the starting date of the crediting period of a VPA shall be on or after: (i) the VPA crediting period start date is either the VPA Start Date or two years prior to the date of Design Certification whichever is later.	The crediting period start date of the VPA will be retroactive i.e 01/01/2021 for VPA01 and VPA02, 01/10/2022 for VPA03, 01/11/2021 for VPA04, 01/01/2023 for VPA05 and VPA07 and 01/01/2022 for VPA06 . The VPA will have a crediting period of 5 years which can be renewed twice, i.e. in total a maximum period of 15 years. The VPA crediting period will not exceed the end date of the registered PoA.	The CME will ensure that VPA crediting period does not go beyond the end date of the PoA. The crediting period of the VPAs will either be the start date or two years prior to the date of Design Certification whichever is later. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.
h. Approval of VPA by CME	CME approves each VPA to be included into its registered PoA.	CME approves to include the VPA-DDs into its registered PoA. CME Declaration on this is shared.	The CME has given its approval to the inclusion of the VPAs under the PoA. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.
i. Methodology Requirement	Each ICS VPA will comply with	The VPAs comply with all	It has been assessed in the further sections of

		the applicability criteria of the applied methodology TPDDTEC, version 03.1 and Safe drinking water VPA will comply with the applicability criteria of methodology emission reduction from safe drinking water supply-version 1.0	applicability criteria of TPDDTEC version 03.1 and Emission reduction from safe drinking water version 1.0. A detailed justification is provided in Section B.2 of respective VPA-DDs.	this report that the ICS technology to be distributed will comply with TPDDTEC, version 03.1/5/ and Safe drinking water VPAs will comply with the applicability criteria of methodology emission reduction from safe drinking water supply-version 1.0/57. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.
	j. Additionality	Option-1: Projects located in LDC, LLDC, SIDS according to 4.1.9 (b) of 'Community Services Activity Requirements'. Option-2: All 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', Version 1.2. All VPAs will be solely composed of isolated units (CEPs) where the users of the technology/ measure are households or communities and where each	The project is implemented in several countries which are LDCs/LLDCs and according to 4.1.9(b) of the 'Community Services Activity Requirements" deemed additional.	The VPAs are considered to be automatically additional according to para 4.1.9 (b) of 'Community Services Activity Requirements'/3/. Otherwise, the VPAs will be in accordance with item 1.1.3 of Annex B – positive list mentioned in the 'Community Services Activity Requirements', Version 1.2./3/ wherein all the VPAs will only be composed of micro-scale units. This demonstration has been confirmed from the ER sheets/28/. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.

	unit results in <= 600 MWh/1.8GWhth of thermal energy savings per year or <= 600 tonnes emission reduction per year		
k. Scale of the VPA	VPAs included under the PoA can be either small or large scale. In case of large scale VPAs, CME shall confirm that there is no suppressed demand claim. In case of small-scale threshold of 60,000 tCO2/crediting year for safe water VPAs and 180 GWhth for ICS VPAs will be adhered.	VPA-DDs are large scale and small scale VPAs and will not make any claim for suppressed demand.	According to ER sheets/28/, VPA-DDs/9/ the total emission for the VPAs (VPA03, VPA04, VPA05, VPA06 are small scale VPAs so the threshold will be 180 GWhth and VPA02, VPA07 are small scale VPAs with threshold of 60kt CO2e qualifying them as small scale.VPA01 is a large scale VPA.
l. Project Technology	Specification of technology or measures, such as the level and type of service, as well as performance specification based on, intra alia, testing/certification	Project technology along with technical specifications is given under section A.1 of the respective VPAs.	The manufacturer's specifications /33/ were checked for the technology related details to be distributed under the VPAs.
m. Sampling	Sampling approaches are set out in each VPA and will follow the TPDDTEC v3.1 and emission	Sampling method is described in VPA-DDs as per applied methodology requirements.	Sampling approaches are set out in each VPA and will follow the TPDDTEC v3.1 and emission reduction from safe drinking water

	reduction from safe drinking water supply-version 1.0 methodology. For safe water cross-VPA sampling a maximum of 10 VPAs can be grouped.		supply-version 1.0 methodology. For safe water cross-VPA sampling a maximum of 10 VPAs can be grouped. Since VPA01, VPA03-VPA-06 and VPA02 & VPA07 are similar in nature and lie in different countries, the CME will conduct cross VPA and country wise sampling and follow the guidelines of Sampling and surveys for CDM project activities and programme of activities" (Version 04.0)/13/ & Guidelines for sampling and surveys for CDM project activities and programmes of activities" (Version 04.0)/32/.
n. Multi-country PoA	In accordance with 17.1.2 "Programme of Activity Requirements", an exception is approved for the development multi-country PoA. The VPA-DD developed should be part of this approved deviation request (Deviation reference- "POA-17.003") batching. As per 17.1.4 of "PoA Requirements", one VPA shall be submitted at the time of design certification and subsequent	The VPA-DDs are developed for multiple countries which are registered under the PoA.	The CME has sought a deviation from GS for the development of multi-country PoA. In accordance with PoA Requirements para 17.1.4, one VPA shall be submitted at the time of design certification and subsequent VPAs for other countries shall be included at a later stage.

		VPAs for other countries shall be included at a later stage.		
	o. SDG outcomes	A minimum of two SDG outcome to be included in addition to SDG-13	All VPA-DDs will include a minimum of three SDG impact assessment including SDG-13. SDG targets and impact are described in section A.4 of the respective VPA-DDs.	It has been confirmed from the ER sheets/28/ that the VPAs cover the mandatory SDG 13 and other SDGs including SDG1, 3, 5, 6, 7, 8, 12 and 15.

Findings	FAR#06 was raised and resolved. Hence the FAR#06 is converted into CAR#16. CL#02 was raised and resolved.
Conclusion	The VVB has validated and accepted the general eligibility criteria that applies to all VPAs seeking Gold Standard Certification. The eligibility of the VPAs is found to be valid in accordance with the section 3.1.1 of GS4GG principles and requirements version 1.2/1/.

SECTION D Validation Findings for VPAs including Improved Cookstoves

D.1 General description of the VPAs

Means of validation	The reporting for this validation has been done technology-wise, thus section D shall be dealing with distribution of ICS and its compliance with registered PoA-DD, VPA-DDs and applicable standard. The 05 VPAs to be included in the PoA involve the distribution of ICS in Uganda, Madagascar, Malawi, Mexico and Zambia. The VPAs will provide efficient cooking system to locals which will be maintained by partner organisation and UpEnergy Group/50/. The CME of the VPA is UpEnergy Group. There are 5 VPAs that are to be implemented under the improved cookstoves technology. The geographical boundary of VPAs is confined to Uganda, Madagascar, Malawi, Zambia and Mexico. The VPAs take forward the same goal as that of the PoA under which they seek inclusion. The 5 VPAs which will ditribute ICS are included and implemented under the PoA are as follows: GS10967 Community Carbon Efficient Cooking Programme – VPA-1 GS10969 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-3 GS10970 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4 GS10971 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-5 GS11007 UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-6 The key information related to the technology to be installed has been confirmed from the manufacturer's specifications/33/.

Technology:

The type of systems distributed under the VPAs are as follows:

Technology	Description			
	Product Model	**Dimension**	**Avg. unit weight, kg**	**Thermal Efficiency, %**
Improved Cookstoves (Biomass)	Smart Home Pro	(Ø 28 x 26 H) cms	12	37.90
	Community Cookstoves	(Ø 28 x 26 H)	12.00	38.70
	RH Stove	(Ø 26.5 x 22 H) cms	12	36.30
	TG Stove	(Ø 27 x 23.5 H) cms	12.50	35.90
	SpendSmart Stove (SST)	(Ø 23.9 x 24.4 H) cms	6.87	36.30
	EE Stove	(Ø 23.93 x 24.43 H) cms	8.4	33.0

The improved cookstoves reduce fuel consumption through use of a ceramic liner that increases combustion efficiency and retains heat. The stoves consist of a metal frame (called cladding) with interior ceramic liner for thermal insulation. The ICS has a provision that allows ash collection at the base. The chosen technologies will be in compliance with the host country norms. The ICS will be distributed & maintained by CME & Partner Organisation.

Implementation status:

The implementation date of the VPAs GS10967 (VPA 01), GS10969 (VPA03), GS10970 (VPA04), GS10971 (VPA05), GS11007 (VPA06) lies between 30/11/2020-19/12/2021 (Including both days). The crediting cycle length is 5 years and type of the crediting period is renewal twice for the VPAs, as per Paragraph 4.1.40 of Principles & Requirements (Version 1.2)/1/.

The VPAs cover an estimated annual GHG emission reduction and other SDGs goals as per the table given below.

SDG Impacts	VPA01	VPA03	VPA04	VPA05	VPA06
SDG13	838,987 tCO_2 (eq)	48,703 tCO_2 (eq)	61,923 tCO_2 (eq)	68,827 tCO_2 (eq)	75,873 tCO_2 (eq)
SDG1	100%	100%	100%	100%	100%
SDG3	100%	100%	100%	100%	100%
SDG5	95%	95%	95%	95%	95%
SDG7	133,710	10,000	10,100	15,400	12,400
SDG8	70	40	40	40	40
SDG12	55%	55%	55%	55%	55%
SDG15	1163.88 tonnes eq	76.23 tonnes eq	99.99 tonnes eq	87.07 tonnes eq	101.82 tonnes eq

fuelwood/day	fuelwood/day	fuelwood/day	fuelwood/day	fuelwood/day	fuelwood/day

No-ODA

The VPAs are not being funded by any Annex-I party which could be verified through the no ODA declaration provided by CME to the validation team/15/.

Grievance Mechanism:

According to GS4GG principle and requirements v1.2/1/ para 4.1.28, "If the Consultation is conducted after the start date, the Project Developer shall provide further explanation of how comments received during the consultation are taken into account and implement a Grievance Mechanism in line with the Stakeholder Consultation & Engagement Requirements." CME has established the grievance mechanism at the VPA level, and the following means can be used by the stakeholders to submit their grievances:

1. info@upenergygroup.com; anantha@communityco2.org

There is also an Expression process book placed at the office at the following address:

1. UpEnergy (Uganda) Limited Plot 3848 Rwakiseta Road (Off Kironde Road) P.O. Box 24480 Muyenga, Kampala Uganda - Contact number: +256 393-516-685
2. UpEnergy (Malawi) Limited, Area 47/5/449, Lilongwe, Malawi
3. UpEnergy (Zambia) Limited, Plot 35368, off Zambezi Road, Near St. Joseph UCZ Church, Roma, Lusaka, Zambia

All the details related to the management system and the grievance mechanism were confirmed from the CME representatives during the remote audit conducted on 02/08/2021/17/.

Findings

FAR#01 was raised and resolved. FAR#01 has been converted into CAR#11
CAR#01 was raised and resolved.

Conclusion

The validation team confirms that the information provided is complete and correct concerning the description of technology(ies) and/or measures to be used, the description is as per the VPA DDs/9/ and is following the GS4GG principles and requirement/1/ including a description of the purpose of the VPAs and explanation how the VPAs will reduce GHG emissions.

The validation team confirms that:

1. The validation team has conducted a thorough and independent assessment of the implementation of the included VPAs against the GS4GG principles and requirements.
2. The validation team has assessed both quantitative and qualitative information on GHG emission reduction or net anthropogenic GHG removals provided in the programme documentation.
3. The validation team has assessed that the implementation and operation of the registered PoA and included VPAs, and the steps taken to report GHG emission reductions or net anthropogenic GHG removals comply with the relevant GS4GG principles and requirements.
4. The validation team has assessed that the data collection system meets the requirements of the registered monitoring plan as per the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents.

	5. The coordinating/managing entity has addressed the FARs identified during the validation or previous verification(s). Please refer to appendix 4. Thus, the implementation of the VPAs are meeting the requirements of VVS for PoA version 3.0/7/ and GS4GG Principles and Requirements/1/.

D.1.1. Assessment of the Eligibility criteria of the VPAs with GS4GG Principles & Requirements

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
1. Types of Projects	Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	Project is already one of the pre identified types as per section 3.1.1 (b) and automatically eligible for Gold Standard Certification as per section 4.1.3 of GS4GG Principles & Requirements/1/.
2. Location of Project	Projects may be located in any part of the world.	Location of the VPAs is in Uganda, Madagascar, Malawi, Mexico and Zambia.
3. Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the Project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects)	The boundary for the VPAs in terms of a geographical area is defined as the territorial boundary Uganda, Madagascar, Malawi, Mexico and Zambia. All voluntary programme activities (VPAs) associated with this PoA will be implemented within the geographical boundary of the PoA. To avoid any double counting, all devices under this programme shall have a unique ID number, either inscribed or retained by the buyer, to uniquely identify the device avoiding any double counting and support traceability. The CME has also provided a declaration stating that it will be ensured there is no double counting at any stage of implementation/22/.
4. Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	The VPAs comply with the legal, environmental and ecological and social regulations of the host countries they are based in. None of the Host countries have mandatory regulation around the ICS distribution system which was confirmed from the

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
		independent research and local expert opinion/61/.
5. Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	Name and Contact details of Project Participants are given under the Appendix 2 of each VPA-DD/9/. Legal registration details: UpEnergy Group is duly incorporated under the provisions of the Companies Act 2001 as Category 1 Global Business Company by Republic of Mauritius on 7th May, 2013. Company Registration No: C116159. Relevant document is submitted.
6. Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	Criteria for transfer of carbon credit ownership: • For regular cycle VPA, the carbon credit ownership will be ensured through relevant provisions for example disclaimer on warranty/information cards, stove packaging, customer agreements / sales receipts /25// consent form or may be collected via monitoring app etc/18/. or collecting stakeholder feedback on this issue during local stakeholder consultation (LSC) • For retroactive VPAs, this provision shall be ensured through disclaimer on warranty cards, stove packaging, customer agreements / sales receipts/25// consent form or may be collected via monitoring app, etc. or stakeholder feedback collected during Stakeholder Feedback Round (SFR).
7. Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example,	Not applicable

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
	access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.	
8. Official Development Assistance (ODA) Declaration	All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	No ODA is involved in any of the VPAs included under the PoA. The CME has also provided a declaration meeting the stipulated criteria/15/.

D.2 Application of methodologies and standardized baselines

D.2.1 Reference to methodologies and standardized baselines

Means of validation

The methodology applied for the VPAs are Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) version 3.1./5/

The applicability conditions of both the methodologies TPDDTEC version 3.1 are validated below:

Applicability Criteria as per methodology	Justification from CME	Assessment
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	This VPA includes distribution of efficient improved cookstoves (ICS) reducing greenhouse gas (GHG) emissions from thermal energy consumption due to burning of non-renewable woody biomass and/or charcoal for cooking in host countries for residential/ commercial users.	The VPAs aim at distributing ICS in for residential/ commercial setups in different countries including Uganda, Madagascar, Mexico, Malawi, and Zambia The distribution of the improved cookstoves will reduce the dependency of the end-users on non-renewable

			woody biomass or charcoal Thus, this criterion is applicable.
	The project activity is implemented by a project proponent and can include additional project participants. The individual households do not act as project participants.	This VPA is implemented by UpEnergy, which is also the CME of the PoA. The individual households do not act as project participants.	The CME acts as the implementing entity and the beneficiaries do not act as the project participants.
	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.	The geographical project boundary of this VPA is defined as the country of Uganda (also detailed in Section A.2 of this document). The carbon standard registries including UNFCCC, GS and VERRA have been checked and it is confirmed that the VPA has not been registered as an individual Gold Standard or CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits. Hence, it can be confirmed that double counting is being avoided. Each ICS distributed under the PoA will have the UpE logo and unique serial number on the	The project is located in Multiple countries including Uganda, Madagascar, Malawi, Mexico, and Zambia and is confirmed by the VVB during the remote survey conducted on 02/08/2021/17/. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1 (b)/1/. The various carbon registries have been checked by the Validation team to confirm that the VPAs exclusively belong to the PoA. A declaration/24/ has been provided by the CME confirming

		product. The unique serial number along with the customer details (name, address, is also stored in the sales database along with the unique serial number assigned to each product and the VPA assigned to it.	about the provision to eliminate double counting. At the time of implementation, each product will be assigned a unique serial ID to enable the identification of the product belonging to the VPAs.
	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 distributed under this VPA have a capacity of less than the maximum 150kW per unit. The same has been demonstrated in the ER sheet.	It has been cross-checked from the demonstration in the ER sheet/15/ that the ICS distributed will have a capacity less than 150 kW per unit.
	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 provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the	As such, users will be encouraged to discontinue and remove the baseline stoves. However, if some of the users still continue to use the baseline stoves, the same shall be captured during the annual monitoring surveys and will be accounted for in the emission reduction calculations as part of the project	It has been ensured that the end-users are discouraged to use the baseline stove. The distributed ICS will replace the traditional Cookstove and it will reduce the consumption of fuel. However, in case there are any end-users who continue to use the baseline stove, then this factor will be

	baseline technology is still in use after the introduction of the improved technology.	Kitchen Performance Test.	accounted for through the annual surveys as part of the Kitchen performance test
	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. For technology producers and the retailers of the improved technology or the renewable fuel in use, this must be communicated by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end users, the end users will need to be informed and notified that they cannot claim for emission reductions from the project.	UpEnergy will ensure that all local partners (if any) and end users are aware of the fact that UpEnergy is claiming ownership rights of and selling the emission reductions resulting from the project activity. It will be communicated to end users at the time of installation/ distribution as part of sales receipt.	The CME has submitted contractual agreements/50/ with the implementing entities to ensure their part under the PoA. The agreement covers in detail the points related to carbon ownership, concerned responsibilities and avoidance of any double counting. This is in accordance with GS4GG Principles and Requirements paragraph 3.1.1/1/.
	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 to both plantations established for the project activity AND existing plantations that were	Not applicable since this criterion is applicable only in case of shift of fuel. Here, in the project the fuel is same as the baseline.	Not Applicable

	established in the context of other activities but will supply biomass feedstock.		
	Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove combination may include instances in which the project stove is a baseline stove.	Not applicable since this criterion is applicable only in case of introduction of a new biomass feedstock. CME will still capture the reduction in indoor air pollution qualitatively through annual monitoring surveys by asking end users if the indoor air pollution has improved since the introduction of ICS.	Not applicable. But the CME will monitor the reduction in the indoor air pollution after using the improved cookstoves.
	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 2.0 of the 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 non-renewable fuels used in mixed combustion or seasonal variation of fuel types), (b) GHG emissions, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	Not applicable since this criterion is applicable only in case of introduction of a new biomass feedstock.	Not applicable.
Findings	CAR#01 was raised and resolved. CL#03 was raised and resolved.		
Conclusion	The validation team confirms that the VPAs i.e., VPA 01, VPA03-06 meet all the applicability conditions of the applied methodology /5/.		

D.3 Project boundary, sources and GHGs

Means of validation	The project boundary basically defines the physical and geographical boundary of the project facility, and it is well defined in the VPA-DDs/9/ (section B3). The project boundary includes the community households to provide clean drinking water and efficient cooking system to locals of the countries Uganda, Madagascar, Malawi, Mexico, and Zambia. Therefore, the project boundary covers the national boundary of all the countries included in the PoA. The project boundary is clearly defined in the VPA-DDs/9/ as per the applied methodology/5/. Emissions sources included in the project boundary have been appropriately included in the VPA-DDs. CO2, CH_4 and N_2O emissions due to use of non-renewable biomass in the traditional stove for baseline scenario (for all the project sites) and the project scenario has reduced emissions, thus CO2, CH_4 and N_2O GHGs are included. This is in line with Equation 13 of Annex 3 of the applied methodology/5/, where nonCO2 emission factor of fuels (EFb, fuel, nonCO2) is taken into consideration.
Findings	None.
Conclusion	The project boundary, sources and GHGs have been determined in-line with the applied methodology/5/.

D.4 Baseline scenario

Means of validation	The baseline scenario in all the VPAs is same as the one set at PoA level. CME has applied an approved baseline and methodology TPDDTEC Version 3.1/5/ which is approved under GS4GG programme. These VPAs involve distribution of ICS to provide efficient cooking system to locals of the countries included under the PoA. According to the applied methodology, the baseline scenario is that non-renewable biomass is used for cooking in the absence of the project activity. According to remote survey conducted by the VVB to confirm that all the baseline users do not have access to efficient cooking systems and most of the users in the countries where the VPA is implemented reported that they often travel long distances and spend around 1-2 hours on an average in a day collecting firewood for cooking. The assessment team has reviewed the VPA-DDs/9/ in line with the applied methodology/5/ and it is confirmed that the CME has correctly identified the baseline scenario.
Findings	None
Conclusion	The validation team based on the description provided above with regard to the assessment of the requirements confirms that: (a) All the assumptions and data used by the project participants are listed in the VPA-DDs/9/ and or its annexures, including their references and sources; (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the VPA-DDs/9/. (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.

	(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the VPA-DDs/9/. (e) The approved baseline methodology has been correctly applied to identify the most plausible baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed PoA. The validation team confirms that it has taken other steps and other sources of information used to cross-check the information contained in the PoA-DD/04/, wherever applicable, as listed above.

D.5 Demonstration of Additionality

Means of validation	Applicability conditions	Justification by the Project proponent	Means of validation
	Specify the methodology or activity requirement or product requirement that establish deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	Community Services Activity Requirements (Version 1.2), paragraph 4.1.9: "Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification: (a) Positive list (Annex B) (b) Projects located in LDC, SIDS, LLDC (c) Micro-scale projects"	The VPAs aim to distribute Improved Cookstoves to Households of the countries Uganda, Madagascar, Malawi, Mexico and Zambia which falls under LDC list of UNCTAD/40/. Therefore, in accordance with Paragraph 4.1.9(b) of Community Service Activity Requirements (Version 1.2)/3/, the VPAs are not required to demonstrate additionality.
	Describe how the proposed project meets the criteria for deemed additionality.	Project activities under the VPA are solely composed of isolated units where the users of the technology/measure are households or communities and where each unit results in – ICS: <= 600 MWh/1.8 GWhth of energy savings per year or WPS: <=600 tonnes of emission reductions per year. Therefore,	The VPAs will be in accordance with item 1.1.3 of Annex B – positive list mentioned in the 'Community Services Activity Requirements', Version 1.2./3/ wherein all the VPAs will only be composed of microscale units. This demonstration has been confirmed from the ER sheets/28/. This is in accordance with

		4.1.9, (a) as per the Community Services Activity Requirements is met. Moreover, the VPA includes distribution of ICS in host countries which is a LDC/LLDC, therefore condition (b) is also met.	GS4GG Principles and Requirements.
Findings	No findings		
Conclusion	The VPAs were found to be additional.		

D.5.1 Ongoing financial need

Means of validation	It has been confirmed from the no ODA declaration/15/ that there is no provision for public funding available for the VPAs.
Findings	No finding was raised.
Conclusion	The CME has provided the ODA declaration which confirms that there was no provision for public funding available for the VPAs.

D.5.2 Prior consideration

Means of validation	The required documents were submitted to Gold Standard for preliminary review (time of first submission) within one year of the project start date. The documentation was found meeting the requirement of retroactive projects since these were submitted within one year from the project start.
Findings	No finding was raised
Conclusion	The Gold Standard requirement have been met.

D.6 SDG outcome assessment

Means of validation

The monitoring plan in the VPA-DD /9/ is correctly applied to the VPAs. The monitoring plan has been found to be in compliance with the requirements of the applied methodology TPDDEC Version 3.1 /5/.

Sustainable Development Goals Targeted		SDG Impact Indicator (Proposed or SDG Indicator)	VVB Assessment
13 Climate Action (mandatory)	Not Applicable.	Emission Reductions	The reduction in the use of fossil fuel for cooking purposes will result in emission reductions and eventually reduce the effects of Climate change in the host countries which are LDCs.

1 End poverty in all its forms everywhere	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	Percentage of households with clean energy products	Through he provision of improved cookstoves to the end-users, the VPAs aim to give access to basic services like efficient cooking to the people in least developed countries.
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	Percentage of households confirming less smoke with the use of improved stove	By implementing these VPAs, the quality of lives of the people in the host countries will improve significantly as fewer people will fall sick due to less indoor pollution/34/.
5: Gender Equality	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	Percentage of household reporting time saving associated with cooking and fuel collection	The access to improved cookstove will decrease the amount of time women & girls of the community set aside to fetch firewood and hence will give them an equal opportunity for progress.

7: Affordable and Clean Energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	Number of beneficiaries with operational stove	The VPAs will aim to provide access to beneficiaries to clean and affordable energy in the form of improved cookstoves.
8: Decent Work and Economic Growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	Total no of jobs created	The VPAs will also create employment and offer jobs to people in the underdeveloped countries and promote entrepreneurship and formalization of small enterprises.
12: Responsible Consumption and Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	Reduction in use of non-renewable biomass per household	The VPAs aim to disseminate improved cookstoves under which the dependency on the use of non-renewable biomass per household will significantly reduce.
15: Life on Land	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	Reduction in use of non-renewable biomass per household	The VPAs aim to disseminate improved cookstoves under which the dependency on the use of non-renewable biomass per household will significantly reduce eventually leading to reduction in the extent of deforestation.

Findings	No findings.

Conclusion	The SDGs chosen by CME are accurate & the monitoring of all the parameter align with the methodology of TPDDTEC version 3.1/5/

D.6.1 Data and parameters:

Means of validation

The monitoring plan in the PoA-DD/04/ is correctly applied to the PoA. The monitoring plan has been found to be in compliance with the requirements of the applied methodology TPDDEC Version 3.1 /5/.

The values of ex-ante parameter and monitored parameters for both electric cookstove and ICS can be found in the table given below.

Parameter(s) fixed ex-ante: Improved Cookstoves

Relevant SDG Indicator	Parameter	Value in VPA-DDs	Assessment
SDG 13	CO_2 emission factor arising from use of fuels in baseline Scenario, $EF_{b,CO2}$	Fuelwood (Residential): 112 tCO_2/TJ Fuelwood (Commercial) : 112 tCO_2/TJ	The value for this parameter has been applied as 112 for both residential and it has been obtained through IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.4 and 2.5)/56/. The applied value has been cross-checked from the SDG data recording sheet for baseline survey/29/ and each parameter value was further cross-checked for consistency against the baseline survey forms/30/.
SDG 13	Non-CO2 emission factor arising from use of fuels in baseline scenario, $EF_{b,non-CO2}$	Fuelwood (Residential): 37.25 Fuelwood (Commercial) : 37.25	The value for this parameter has been applied as 37.25 for both residential and and it has been sourced from IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories /56/. The applied value has been cross-checked from the SDG data recording sheet for baseline

				survey/29/ and each parameter value was further cross-checked for consistency against the baseline survey forms/30/.
	SDG 13	CO_2 emission factor arising from use of fuels in project Scenario, $EF_{p,CO2}$	Fuelwood (Residential/ Commercial): 112	The value for this parameter is 112 tCO2/TJ for both residential and it has been sourced from IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories /56/. The applied value has been cross-checked from the SDG data recording sheet for baseline survey/29/ and each parameter value was further cross-checked for consistency against the baseline survey forms/30/.
	SDG 13	Non-CO_2 emission factor for methane arising from use of fuels in project Scenario, $EF_{b,non\text{-}CO2}$	Fuelwood (Residential/ Commercial): 37.25	The value for this parameter has been applied as 37.25 for both residential and it has been sourced from IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories /56/. The applied value has been cross-checked from the SDG data recording sheet for baseline survey/29/ and each parameter value was further cross-checked for consistency against the baseline survey forms/30/.
	SDG 13	Emission factor for electricity generation for source j in year y, $EF_{el,y}$	VPA01-0.1158 VPA03-0.567 VPA04-0.243	The value of this parameter has been applied as 0.1158, 0.567, 0.243, 0.359,

			VPA05-0.359 VPA06-0.197	0.197 which has been sourced from UNFCCC Harmonization of Standards for GHG accounting dated December 2021. List of Grid Emission Factors version 10.1/36/.
	SDG 13	Average technical transmission and distribution losses for providing electricity to source j in year y, $TDL_{j,y}$	20%	The value of this parameter has been applied as 20% which is the default value from CDM Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0/60/.
	SDG 13	Net calorific value of the fuels used in the baseline, NCV_b	Fuelwood: 0.0156 TJ/ton	The value of this parameter has been applied as 0.0156 TJ/ton which is the default value from IPCC default 2006, volume 2, chapter 1 (Table 1.2)/56/.
	SDG 13	Net calorific value of the fuels used in the project, NCV_p	Fuelwood: 0.0156 TJ/ton	The value of this parameter has been applied as 0.0156 TJ/ton which is the default value from the IPCC default value for Wood: IPCC 2006 Guidelines for National Greenhouse gas Inventories/56/.
	SDG 13	Fraction of biomass used that can be established as non – renewable biomass in the project scenario i during year y, $f_{NRB,i,y}$	VPA 01: 0.89 (Uganda) VPA 03: 0.75 (Madagascar) VPA 04: 0.78 (Malawi) VPA 05: 0.67 (Mexico) VPA 06: 0.70 (Zambia)	The value of this parameter has calculated using CDM Tool 30 “Calculation of the fraction of Non-renewable Biomass” (Version 03.0)/43/. The calculations have been verified from the fNRB calculation sheets/44/ and

				Published reports for all the countries where this VPA is implemented. Thus, the values are acceptable on the basis of the credibility of its source.
	SDG 13	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day, $P_{b,y}$	Fuel wood tonnes/day: 0.01591 (Uganda) 0.01386 (Madagascar) 0.018 (Malawi) 0.01028 (Mexico) 0.01493 (Zambia)	The value of this parameter has been applied as Fuel wood: 0.01591 tonnes/day which is based on Kitchen Performance tests conducted for 3 consecutive dates by measuring fuel and moisture in fuel. The final value is obtained from the compiled data and averaged the data of 3 days for specific fuel consumption/28/. Thus, the value has been validated for Uganda which has been fixed ex-ante. For the following countries the values have been based on baseline surveys conducted by World Bank and Demographic and Health Survey for estimation of ERs and baseline surveys will be conducted prior to fixing the values ex-ante a) University studies for Madagascar b) Modern Cooking for Healthy Forests for Malawi c) Available literature For Mexico and Zambia

SDG 1	% HH reporting money saving due to reduced fuel consumption in baseline, HHSbaseline	0 %	The value for this parameter has been applied as 0 since there is no money saving in the baseline.
SDG 3	% HH reporting reduction in smoke/PM emissions while cooking on improved stove in baseline, HHsmoke baseline	0 %	The value for this parameter has been applied as 0 since there is no smoke reduction in the baseline.
SDG 5	HH reporting time savings for cooking /fuel collection; HHtime baseline	0	The value for this parameter has been applied as 0 since there is no time saving in the baseline.
SDG 7	Access to affordable and clean energy (Number of ICS operating), HHclean baseline	0	The value for this parameter has been applied as 0 since there is no access to clean energy in the baseline.
SDG 8	Quantitative Employment and income generation, EG baseline	0	The value for this parameter has been applied as 0 since there is no employment generation in the baseline.
SDG 12	Fuel consumption in baseline, FC baseline	VPA01-5.807 tonnes/year VPA03-5.06 VPA04-6.57 VPA05-3.75 VPA06-5.45	The value for this parameter has been applied as 5.84 and has also been validated by the means of the baseline survey/29/.
SDG 15	Average Fuel consumption per HH in baseline, FC baseline	VPA01-0.01591 tonne-eq,fuelwood/HH/day VPA03-0.01386 VPA04-0.018 VPA05-0.01028 VPA06-0.01493	The value for this parameter has been validated on the basis of baseline survey results/29/ and applied as 0.01591 tonne-eq,fuelwood/HH/day which has been calculated through the baseline survey.

Data and parameters to be monitored: Improved Cookstoves

Relevant SDG Indicator	Parameter	Value in VPA-DD	Frequency	Assessment
SDG 13	Specific fuel consumption for an individual technology in project scenario p during year y converted to tonnes/day, $P_{p,y}$	VPA01-0.01591 for fuel wood VPA03- 0.01386 Fuel wood VPA04-0.018 Fuel wood VPA05-0.01028 Fuel wood VPA06-0.006718 Fuel wood	Every two years	The CME has applied the value as per the rated thermal efficiency of the stove and the baseline stove in the project area. However, the actual value will be calculated through the annual monitoring surveys as part of the project Kitchen performance Test. The applied frequency and calculation method is in line with the applied methodology/5/.
SDG 13	Usage rate in project scenario p during year y, $U_{p,y}$	90%	Annual	The CME has anticipated the highest possible value of 90% for the parameter but the actual value will be calculated ex-post using monitoring and survey methods. The applied frequency and calculation method is in line with the applied methodology/5/.
SDG 13	Technologies in the project database for project scenario p through year y , $N_{p,y}$	VPA01- 133,710 VPA03- 10,000 VPA04- 10,100 VPA05- 15,400 VPA06- 12,400	Continuous	The total number of appliances deployed will be monitored continuously and captured in the project database. The applied frequency and

					calculation method is in line with the applied methodology/5/.
	SDG 13	Leakage in project scenario p during year y, $LE_{P,Y}$	0 tCO_2/Yr	Every two years	The CME has estimated the potential leakage to be quite low and has estimated a value as 0. The actual value will however be captured using baseline and monitoring surveys. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 13	Efficiency of the project cookstove, $\eta_{new,i}$	35%	Annually	The CME has estimated a value of 35% for the cookstove efficiency based on the performance report but the actual efficiency will be calculated using WBT tests. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 13	Adjustment to account for any continued use of pre-project devices (baseline stove) in the project scenario during the year y, μ_y	0	Annually	Any continued use of pre-project devices will be captured using monitoring surveys. The applied frequency and calculation method is in line with the applied methodology/5/.

	SDG 13	Quantity of electricity consumed by the project electricity consumption source j in year y, $EG_{P,d,y}$	VPA01-1095 MWh/Yr VPA03-1095 VPA04-1095 VPA05-2190 VPA06-2190	Annually	The quantity of electricity consumed by the project will be calculated by multiplying the wattage of the electric stove with the average numbers of hours stove is sued per day. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 3	Project technology-hours in the project database for project scenario p through year y, Hp,y	VPA01-912,500 Hours VPA03-912,500 VPA04-912,500 VPA05-1,825,000 VPA06-1,825,000	Annually	The number of hours used will be determined annually through simple random sampling. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 1	Percentage of households with clean energy products, HHSproject	100%	Continuous	An elaborate database will be maintained which will capture the details related to all clean energy products distributed as part of the VPAs. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 3	Percentage of households confirming less smoke with the use of improved stove;	100%	Biennially	An elaborate database will be maintained which will capture the details related to percentage of households confirming less

		HHsmoke project			smoke with the use of project stove. as part of the VPAs. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 5	Percentage of household reporting time saving associated with cooking and fuel collection; HH time project	95%	Biennially	An elaborate database will be maintained which will capture the percentage of HH reporting time saving with the use of project stove. as part of the VPAs. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 7	Number of persons using ICS within the project area during year y; HHclean project	90%	Continuous	The total number of persons using ICS within the project area will be captured in the project database. The applied frequency and calculation method is in line with the applied methodology/5/.
	SDG 8	Total number of jobs created, EGproject	VPA01-70 VPA03-40 VPA04-40 VPA05-40 VPA06-40	Continuous	The total number of jobs created will be cross-checked through the employee list, contracts and pay slips.
	SDG 12	Consumption of non-renewable biomass per household, FCproject	VPA01-2.63 Tonner/HH/Annum VPA03-2.28 VPA04-2.96 VPA05-1.69 VPA06-2.45	Annually	Consumption of non-renewable biomass per household will be recorded during Kitchen

				performance test conducted in HH
SDG 15	Average Fuel consumption per HH in project scenario, FC project	VPA01-0.0072054 tonnes-eq.fuelwood/day VPA03-0.006237 VPA04-0.0081 VPA05-0.00462 VPA06-0.006718	-	Average Fuel consumption per HH in project scenario will be calculated on the basis of Monitoring survey which will be conducted by the CME.

Sampling Plan

According to the requirements of TPDDTEC version 3.1., the CME will conduct Usage survey and Monitoring Survey.

For usage survey the usage parameter will be weighted to be representative of the quantity of project technologies of each age being credited in each project scenario. The minimum total sample size is 100 randomly selected households, with at least 30 samples for project technologies of each age being credited.
For Monitoring Survey, a survey is carried out annually to assess end-user characteristics such as technology use, fuel consumption and seasonal variation. The sample size are appropriately sampled from each age group and enough so that the results comply with the 90/10 rule. In case of not meeting the required confidence/precision, lower bound value will be used. The WBT shall be carried out along with the project KPTs prior to 1st issuance and then subsequently WBTs shall be carried out annually to monitor the degradation in the efficiency of the ICS.

Sampling Plan for monitoring parameters

The objective of the sampling plan for this VPA is to determine:

(i) $\eta_{new,i}$: Efficiency of the project cookstove. This parameter will be monitored with 90% confidence and 10% precision annually for each VPA, or 95/10 in case of cross-VPA sampling or biennial monitoring (when applicable).

(ii) $U_{p,y}$: Usage rate in project scenario p during year y. This would be based on usage survey, to be conducted upon the representative sample of operational stoves.

(iii) μ_y: Adjustment to account for any continued use of pre-project devices (baseline stove) in the project scenario during the year y. Survey questionnaires administered to a sample of end users will elicit visual inspections of the household and if necessary an interview to confirm whether they are still using a baseline stove

	and, in that case, to obtain self-reported estimates of the amount of non-renewable biomass consumed per day in traditional stoves in parallel to the project stove. (iv) $P_{p,y}$: Specific fuel consumption for an individual technology in project scenario. The actual value will be determined based on the Kitchen Performance Test to be carried out in accordance with Annex 4 of the applied methodology TPDDTEC version 3.1. (v) $EG_{P,d,y}$: The monitoring of quantity of electricity consumed by project activity will be done for 3-consecutive days similar to kitchen performance test in which the energy meter will be fixed to the device to monitor the consumption of electricity for entire day. On the fourth day the final reading will be captured. (vi) $H_{p,y}$: Project technology-hours for project database for project technology. This parameter will be monitored with 90% confidence and 10% precision annually for each VPA, or 95/10 in case of cross-VPA sampling or biennial monitoring (when applicable). (vii) $P_{ep,y}$: Quantity of fuel consumed by a baseline technology y in project scenario. This will be based on survey questionnaire, to be conducted upon the representative sample of project technologies. The assessment team confirmed that the monitoring parameters are sufficient to calculate the emission reductions in accordance with the methodology. The parameters will be calculated or measured as mentioned above section. The validation team confirms that list of parameters identified by the CME and as mentioned in the PDD/04/are in line with the monitoring methodology and SDG monitored parameters will be assessed on the basis of monitoring frequency mentioned.
Findings	CL#05, CAR#10 and FAR#07 were raised and resolved. FAR#07 is converted into CAR#17
Conclusion	The SDGs chosen by CME are accurate & the monitoring of all the parameter align with the methodology of TPDDTEC version 3.1/5/

D.7 Estimation of SDG impacts or net anthropogenic removals

D.7.1 Equations and parameters applied to calculate SDG impacts

Means of validation	The VPAs applies methodology, for ICS. The methodological choices have been explained below: The applied methodology TPDDTEC version 3.1/5/ defines the methodological steps to determine the project emissions, baseline

emissions, leakages and anthropogenic emissions by the proposed project activity.

(1) SDG 13:

Baseline Scenario Fuel Consumption Calculation

The baseline emissions in case of different fuel in project and baseline scenario is calculated using the below equation:

Baseline Emissions

$BE_{b,y} = B_{b,y} *((f_{NRB,b,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,non-CO2}) * NCV_{b,fuel}$

Where:

$BE_{b,y}$	Emissions for baseline scenario b during the year y in tCO_2e
$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during year y, in tons
$f_{NRB,y}$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{b,fuel,co2}$	CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{b,fuel,nonco2}$	Non-CO2 emission factor of the fuel that is substituted or reduced

$$B_{b,y} = N_{p,y} * P_{b,y}$$

Where:

$N_{p,y}$	Project technology-days in the project database for project scenario p through year y
$P_{b,y}$	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day

Project Scenario Fuel Consumption Calculation

$PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,non-CO2}) * NCV_{p,fuel}$

$$B_{p,y} = N_{p,y} * ((P_{p,y} * U_{p,y}) + (P_{b,y} * (1 - U_{p,y})))$$

Where:

$PE_{p,y}$	Emissions for project scenario p during the year y in tCO2e
$B_{p,y}$	Quantity of fuel consumed in project scenario p during year y, in tons, and as derived from the statistical analysis conducted on the data collected during the project performance field tests
$N_{p,y}$	Project technology-days in the project database for project scenario p through year y
$P_{p,y}$	Specific fuel consumption for an individual technology in project scenario p during year y converted to tons/day
$P_{b,y}$	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day

$U_{p,y}$	Cumulative usage rate for technologies in project scenario j during year y, based on cumulative installation rate and drop-off rate
$EF_{p,fuel,co2}$	CO2 emission factor of the fuel that is substituted or reduced.
$EF_{p,fuel,nonco2}$	Non-CO2 emission factor of the fuel that is substituted or reduced in project scenario
$NCV_{p,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$f_{NRB,y}$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass

Emission Reductions

The overall GHG reductions achieved by the project activity are then calculated as follows:

$ER_y = \Sigma BE_{,b,y} - \Sigma PE_{,p,y} - \Sigma LE_{p,y}$

Where:

ER_y	Emission reduction for total project activity in year y (tCO2e/yr)
$BE_{p,y}$	Baseline emissions for baseline scenario b in year y (tCO2e/yr)
$PE_{b,y}$	Project emissions for project scenario p in year y (tCO2e/yr)
$LE_{p,y}$	Leakage for project scenario p in year y (tCO2e/yr)

Calculation for units including electric stoves:

The baseline emissions are calculated using equation in TPDDTEC v3.1 as the baseline scenario for improved cookstove and electric stoves are the same.

The leakage emission from project is zero as there is no net increase in electricity consumption other than project activity need which is accounted as project emissions.

Project emissions due to electricity consumption from the grid is given as

$$PE_y = \sum_d EG_{p,d,y} \times EF_{el,y} \times \left(1 + TDL_{j,y}\right)$$

$PE_y = B_{ep,y} * ((f_{NRB,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}$

Where

PE_y	Project emissions from electricity consumption in year y (t CO_2/yr)
$EG_{P,d,y}$	Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/yr).
$EF_{el,y}$	Emission factor for electricity generation for source j in year y (t CO_2/MWh)

$TDL_{j,y}$	Average technical transmission and distribution losses for providing electricity to source j in year y
j	Sources of electricity consumption in the project
$B_{ep,y}$	Quantity of fuel consumed in project scenario p during year y, in tons
$f_{NRB,y}$	Fraction of biomass used in year y that can be established as non-renewable biomass
$NCV_{p,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{p,fuel,CO2}$	CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{p,fuel,nonCO2}$	Non-CO2 emission factor of the fuel that is reduced

(2) SDG 1

The contribution of the VPA to SDG 1 will be confirmed through a random sample survey (in conjunction with the annual monitoring survey for the project) with a representative number of households. Households will be asked to confirm if there has been monetary savings through use of product as compared to the baseline scenario. In case that households confirm, the same can be used to confirm that the project contributes positively to SDG 1.

(3) SDG 3

The contribution of the VPA to SDG 3 will be confirmed through a random sample survey (in conjunction with the annual monitoring survey for the project) with a representative number of households. Households will be asked to confirm if there has been reduction in smoke with the use of improved stove in the project scenario as compared to the baseline scenario. In case that households confirm, the same can be used to confirm that the project contributes positively to SDG 3.

(4) SDG 5

The contribution of the VPA to SDG 5 will be confirmed through a random sample survey (in conjunction with the annual monitoring survey for the project) with a representative number of households. Households will be asked to confirm if there has been reduction in time spent on domestic work by women in the project scenario as compared to the baseline scenario. In case that households confirm, the same can be used to confirm that the project contributes positively to SDG 5.

(5) SDG 7

The contribution of the VPA to SDG 7 will be confirmed through the number of ICS distributed and in operation.

	(6) SDG 8 The contribution of the VPA to SDG 8 will be confirmed by the number of jobs or new entrepreneurship activities created due to the project. (7) SDG 12 and 15 The contribution of the VPA to SDG 12 and 15 will be confirmed by the reduction in use of non-renewable biomass per household calculated during the estimation of emission reductions.
Findings	None
Conclusion	The methodological choices are justifiable and appropriate as per GS4GG requirements. All the values applied, and calculations are reviewed from the SDG calculation sheet/28/, baseline survey sheet/29/ and fNRB calculation sheet/44/ and were found to be acceptable by the assessment team.

D.7.2 Ex ante calculation of net anthropogenic GHG removals

Means of validation	The VPAs applies methodology TPDDTEC version 3.1/5/; for ICS distribution in Uganda, Madagascar, Malawi, Zambia and Mexico, to provide efficient cooking system. The methodological choices have been explained below: The applied methodology TPDDTEC version 3.1/5/ defines the methodological steps to determine the project emissions, baseline emissions, leakages and anthropogenic emissions by the proposed project activity. Baseline emissions are calculated as follows: $BE_{b,y} = B_{b,y} *((f_{NRB,b,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,non-CO2}) * NCV_{b,fuel}$ Where: $BE_{b,y}$ Emissions for baseline scenario b during the year y in tCO_2e $B_{b,y}$ Quantity of fuel consumed in baseline scenario b during year y, in tons $f_{NRB,y}$ Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass $NCV_{b,fuel}$ Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton) $EF_{b,fuel,co2}$ CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel $EF_{b,fuel,nonco2}$ Non-CO2 emission factor of the fuel that is substituted or reduced $B_{b,y} = N_{p,y} * P_{b,y}$ Where: $N_{p,y}$ Project technology-days in the project database for project scenario p through year y

	$P_{b,y}$ Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day **Project Scenario Fuel Consumption Calculation** $PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,non-CO2}) * NCV_{p,fuel}$ $B_{p,y} = N_{p,y} * ((P_{p,y} * U_{p,y}) + (P_{b,y} * (1 - U_{p,y})))$ Where: $PE_{p,y}$ Emissions for project scenario p during the year y in tCO2e $B_{p,y}$ Quantity of fuel consumed in project scenario p during year y, in tons, and as derived from the statistical analysis conducted on the data collected during the project performance field tests $N_{p,y}$ Project technology-days in the project database for project scenario p through year y $P_{p,y}$ Specific fuel consumption for an individual technology in project scenario p during year y converted to tons/day $P_{b,y}$ Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day $U_{p,y}$ Cumulative usage rate for technologies in project scenario j during year y, based on cumulative installation rate and drop-off rate $EF_{p,fuel,co2}$ CO2 emission factor of the fuel that is substituted or reduced. $EF_{p,fuel,nonco2}$ Non-CO2 emission factor of the fuel that is substituted or reduced in project scenario $NCV_{p,fuel}$ Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton) $f_{NRB,y}$ Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass. **Emission Reductions** $ER_y = \Sigma BE_{,b,y} - \Sigma PE_{,p,y} - \Sigma LE_{p,y}$ Where: ER_y Emission reduction for total project activity in year y (tCO2e/yr) $BE_{p,y}$ Baseline emissions for baseline scenario b in year y (tCO2e/yr) $PE_{b,y}$ Project emissions for project scenario p in year y (tCO2e/yr) $LE_{p,y}$ Leakage for project scenario p in year y (tCO_2e/yr)
Findings	None
Conclusion	The formulae and approach used for ex ante calculation of baseline emissions has been correctly presented and implemented as per methodology TPDDTEC Version 3.1/5/. They have been given consistently within the ER sheet/28/ and VPA-DDs/9/.

D.8 Start date, crediting period type and duration

Means of validation	According to GS4GG Principles and Requirements version 1.2 para 4.1.40/1/, "For distributed technology projects, the start date is the date of distribution of the first unit under the project". VPAs 01, VPA03, VPA04, VPA05 & VPA06 have the crediting period of 5 years renewable twice. The VPA start date and start date of the crediting period of GS10967 (VPA01) is 01/01/2021, GS10968 (VPA02) is 30/11/2020, GS10969 (VPA03) is 01/10/2022 ,GS10970 (VPA04) has start date as 25/10/2021 and crediting period start date as 01/11/2021, GS10971 (VPA05) is 01/01/2023, GS11007 (VPA06) has start date as 10/12/2021 and crediting period start date as 01/01/2022 and GS11008(VPA07) has 01/01/2023 as VPA start date and crediting period start date. The expected certification cycle of the VPA is 15 years.
Findings	No findings
Conclusion	The lifetime and crediting period of the VPAs lies within the crediting period of the PoA and is in accordance with GS4GG Principles and Requirements/1/.

D.9 Environmental impacts

Means of validation	EIA is not required.
Findings	Not Applicable
Conclusion	Not Applicable

D.10 Stakeholder consultation

Means of validation	UpEnergy Group conducted physical Local stakeholder meeting for Uganda (VPA01), Malawi (VPA04) and Zambia (VPA06) on 18/09/2021, 25/09/2021 and 13/12/2021 respectively as per GS4GG Local stakeholder consultation requirements. The SFR round for Zambia is pending along with the LSC for VPA03 and VPA05. UpEnergy group has not been able to hold a consultation with End-users, due to the outbreak of worldwide pandemic COVID-19, and rising cases of infected people in Host countries, the governments of host countries have released different guidelines in this context. The COVID-19 virus poses an increased risk of contracting infection due to travel. The stakeholder consultation meeting could not be conducted due to several Covid related restrictions in the host countries. However, in line with para 2.1.1 of "COVID-19: Interim Measures (Version 3)/12/", "The project developer may postpone physical stakeholder consultation meetings and the Stakeholder Feedback Round (SFR) for Gold Standard project/POA/VPAs until the COVID-19 situation eases". The CME has shared a public link for all the stakeholders to record their comments and a detailed stakeholder consultation report including all the invitation list has also been submitted by the CME. It was confirmed during the remote audit that the LSC shall be conducted as soon as the Covid situation eases in the host countries of the VPAs.
Findings	FAR#03 was raised and resolved. Hence, FAR#03 is converted into CAR#13 and FAR#04 was raised and resolved. Hence, FAR#04 is coverted into CAR#14
Conclusion	Uganda's LSC meeting was held on 18/09/2021, for Malawi, it was held on 25/09/2021 and for Zambia on 13/12/2021. The Stakeholder Feedback Round for Uganda and Malawi has been successfully completed and SCR report has been submitted. SFR for Zambia is still under process and report will be compiled once the feedback round is concluded. For other countries, PD has elected to

	follow GS4GG rule update with respect to the Rule Update-COVID Interim Measures/12/ and ensure stakeholder consultation is completed before first performance review submission. PP has submitted all the supporting documents including LSC report/62/, sample invitation letter/63/, 4-5 representative samples of the evaluation form and blind development assessment for Uganda to VVB/64/.

D.11 Sustainability Assessment

D.11.1 Safeguard principles assessment

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Assessment team's Opinion/ justification for the mitigation measure
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	The project will be implemented in collaboration with local partners and CME will 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 Right. The project will not discriminate with regards to participation and inclusion and will not lead to violations of human rights or discrimination of any kind.	The CME and the VPAs have to respect related laws of the host countries and will not lead to violations of human rights or discrimination of any kind. Host countries have ratified UN Human Rights Conventions/49/.
2. The Project shall not discriminate with regards to participation and inclusion	No	The VPA is set up to include people of all genders, races, religions, educational backgrounds or any other aspects. The VPAs will not discriminate with regards to participation and inclusion as the ICS is free to be used for everybody.	The VPAs are about access to energy efficient cooking system, it will not discriminate with regards to participation and inclusion for both men & women. This is in line with the Gender equality and HR policy of the company/34/.
3. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women a. Sexual harassment and/or any forms	No	1.(a) The VPA will not directly or indirectly lead or contribute to adverse impacts on gender equality or the situation of women. In fact, the access to efficient cookstove is foreseen to improve the general	The VPAs will not directly or indirectly lead or contribute to adverse impacts on gender. The access to efficient cooking system is foreseen to improve the general conditions of women and not to lead to any risk of

of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking.		conditions of women and not to lead to any risk of contributing issues like sexual harassment, sexual exploitation, violence, human trafficking	contributing issues like sexual harassment, sexual exploitation, violence, human trafficking. This is in line with the Gender equality and HR policy of the company/34/.
b. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.	No	1.(b) The VPAs will not directly or indirectly lead to/contribute to slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. In contrast, the VPAs will contribute to health and well-being of women and girls.	The VPAs are about access to efficient cooking system & the VPAs will not directly or indirectly lead to/contribute to slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. This is in line with the Gender equality and HR policy of the company/34/.
Principle 2: Gender Equality			
2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work a. Where appropriate for the implementation of a PoA/VPA, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities.	No	2.(a) For distribution work and any other eventual paid or volunteer work in the VPAs, 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.	The VPAs are about access to efficient cooking system, for distribution work or volunteer work in the VPAs, 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. The ICS will reduce consumption of biomass fuel and the time and effort needed by women to collect it for cooking for their families. So, the VPAs do not involve and is not complicit in any form of discrimination based on gender difference in line with the National Gender Policy of the host countries/48/. This is also in line with the Gender equality and HR policy of the company/34/.
b. Introduce conditions that ensure the participation of women or men in	No	2.(b) The VPA applies the principles of non-discrimination and equal treatment. Pregnancy or	The VPAs are about access to efficient cooking system, the VPAs applied the principles of non-discrimination and equal

Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status.		marital status VVBs not affect the ability of a person to engage in the VPAs.	treatment. Pregnancy or marital status VVBs not affect the ability of a person to engage in the VPAs/48/.
3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks	No	3. All the host countries have ratified an Equal Rights into their respective constitution (FUNDAMENTAL HUMAN RIGHTS), The VPAs will abide by the respective national gender strategy. So, the VPAs do not involve and is not complicit in any form of discrimination based on gender difference.	The VPAs are about access to efficient cooking system & The VPAs will abide by the national gender strategy. So, the VPAs VVBs not involve and is not complicit in any form of discrimination based on gender difference. in line with the National Gender Policy/48/.
4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	No	4. Not applicable as no opinion or recommendation is received from expert stakeholder.	NA as no recommendation were received.
Principle 3: Community Health, Safety and Working Conditions			
5. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	5. The project activities do not pose risks to the health of the community. In fact, the VPAs will reduce the risk of air borne illness for local communities and indoor air pollution caused by cooking. Local communities will benefit from efficient cookstoves. The improved cookstoves are designed, engineered and manufactured in Uganda is being distributed under the PoA. UpEnergy in its capacity as coordinating / managing entity of the PoA confirms that the workers participating in the project activity are not exposed to unsafe or unhealthy work environments and applicable country regulations are strictly	Local communities will benefit from efficient cookstove. The project activities do not pose risks to the health of the community, the VPAs will reduce the risk of air borne illness for local communities and indoor air pollution caused by cooking.

		adhered to. The same has been vetted during selection of manufacturing partner by the CME. A declaration to signed by CME was checked to verify the information.	
Principle 4.1 Sites of Cultural and Historical Heritage			
6. VVBs the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	6. There are no sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture in the Project Area.	The VPAs involves distribution of ICS to Households in LDCs listed in the PoA. Thus, it VVBs not include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture
Principle 4.2 Forced Eviction and Displacement			
7. VVBs the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project activity consists distribution of efficient cooking system and water purification system and therefore no physical or economic relocation of people is involved.	The VPAs involves distribution of ICS in the LDCs listed under the PoA. Thus, it VVBs not lead to physical or economical relocation of peoples.
Principle 4.3 Land Tenure and Other Rights			
8. VVBs the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	The VPAs involve distribution of ICS to the Households. Therefore, there is no changes to land tenure arrangements and/or rights are required.	The VPAs involves distribution of ICS in multiple countries (LDCs) listed under the PoA. Thus, it VVBs not have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership and it was confirmed from the CME and VPA implementer agreement that the ownership of the VPAs is with UpEnergy Group/50/
Principle 4.4 Indigenous People			
9. Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on	No	Since this is a Clean energy project at household level, there is no risk to land/territory claimed by indigenous peoples. ICS will be	The VPAs will benefit the population within the host country and will not influence the land/territory claimed by indigenous people.

land/territory claimed by indigenous peoples?		distributed to all willing customers within the project boundary.	
Principle 5 Corruption			
10. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The VPA VVBs not involve or inadvertently contribute to or reinforce or is not complicit in any corruption. VPAs will obey the UN Convention against Corruption.	The VPAs involves distribution of ICS to the LDCs included under the PoA, VPAs are not involved or will contribute to corruption. VPAs will follow the UN Convention against corruption/46/
Principle 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	No	1. The CME follows the labour laws and policies of the host country where the VPAs are implemented. The project employment will be in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions.	The VPAs follows the labour laws and policies of the host country where VPA is being implemented and the CME ensures that all the employment is within ILO fundamental conventions.
2. Workers shall be able to establish and join Labour organisations.	No	2. The CME VVBs not restrict workers to be able to establish or join Labour organisations.	The VPAs puts no constraints / limitation on employees to form a union.
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 for payment of overtime), AND d. Modalities on health insurance, AND	No	3. The CME will supervise local partners to follow the labour laws of the host country about the employees' working hours, remuneration, annual leave and so on. All employees of the CME's local partners will work voluntarily and attend trainings on health & safety. The employment model related to the VPAs will be also locally and culturally appropriate.	The CME will supervise local partners to follow the labour laws of the host country about the employees' working hours, remuneration, annual leave in line with its Gender equality and HR policy/34/. The employment model related to the VPAs will be also locally and culturally appropriate.

e. Modalities on termination of the contract with provision for voluntary resignation by employee, AND f. Provision for annual leave of not less than 10 days per year, not including sick and casual leave.			
4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion)	No	4. The age of all the staffs hired by local partners of the CME will be checked through ID cards to make sure that no one is below 18. The CME and all its local partners will obey the ILO Conventions 182 (Worst Forms of Child Labour Convention).	The CME VVBs not promote / or is complicit in child labour the age of all the staffs hired will be checked through ID cards to make sure that no one is below 18. All the laws of the land will be obeyed by VPAs & local implementers. This is in line with the Gender equality and HR policy of the company/34/.
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	No	5. All the work will be done by appropriate equipment with properly trained workers. Emergency preparedness and response measures have been set up and all the accidents and incidents will be recorded and reported.	It was confirmed from the CME representative and the VPA implementer that workers are provided with appropriate equipment, training and the accidents and incidents documentation is maintained and the emergency preparedness and response measures is in place. This is in line with the Gender equality and HR policy of the company/34/.
Principle 6.2 Negative Economic Consequences			
1. VVBs the project cause negative economic consequences during and after project implementation?	No	1.a) At the beginning, the CME will provide fund to cover the operation cost of the VPAs including expenditures beyond the project certification cycle, e.g. Distribution of clean energy products, hygiene campaigns and surveys. After the successful sale of carbon credits	At the beginning, the CME will provide fund to cover the operation cost of the VPAs including expenditures beyond the project certification cycle, e.g. Distribution of clean energy products, hygiene campaigns and surveys. After the successful sale of carbon credits

		generated from the VPAs, the carbon market will provide financial sustainability of the VPAs. 1.b) The VPAs provide ICS free for everybody and therefore the VPAs benefit local communities. The VPAs have positive economic benefit due to less expenditure on firewood for cooking purpose.	generated from the VPAs, the carbon market will provide financial sustainability of the VPAs. The VPAs have positive economic benefit due to less expenditure on firewood for cooking purpose.
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	GHG emissions will be reduced by reducing use of firewood for cooking with access to efficient cooking system.	GHG emissions will be reduced through reducing the use of firewood for cooking purpose with access to efficient cooking system.
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The VPAs will reduce consumption of biomass through the reduced need to cook. Efficient cooking system will be distributed. Thus, the VPAs will not use energy from a local grid or power supply.	The VPAs reduce GHG emissions by reducing and replacing the consumption of biomass for cooking. Thus, VPAs will not require energy supply.
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The VPAs do not impact natural water patterns and flows. It uses existing aquifers and VVBs not affect the volume of water consumed by villagers.	The VPAs involves distribution of ICS in the host countries. It will utilize the already existing aquifers. Thus, it will not affect the natural or pre-existing pattern of water courses, ground water and/ water shed such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body	No	The VPAs (VPA01 & VPA03-VPA06) will reduce the consumption of firewood resulting less	The VPAs shall result in reduction in demand of biomass fuel in the region putting less pressure on

instability or disrupt the natural pattern of erosion?		burden on the trees and thus trees will prevent the soil erosion. Hence, The VPAs will not cause additional erosion and/or water body instability or disrupt the natural pattern of erosion.	forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling.
Principle 9.1 Landscape Modification and Soil			
VVBs the Project involve the use of land and soil for production of crops or other products?	No	The VPAs provide efficient cooking system and do not involve use of land and soil for production or crops or other products.	The VPAs involves distribution of ICS in the host countries. Thus, it VVBs not involve the use of land and soil for production of crops or other products
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	This VPA VVBs not have any impacts that may affect vulnerability to these natural disasters.	The VPAs involve distribution of ICS in the host countries. It will not lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The VPAs are not relevant to the use of genetically modified organisms or GMOs since, it is a ICS distribution project.	The VPAs involve distribution of ICS in the host countries. Thus, it will not be impacted by the GMOs.
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	The purpose of the VPAs is to provide clean energy products for community residents including Householdsthrough distributing ICS. The VPAs are not potentially resulting in release of pollutants to the environment.	The VPAs involve distribution of ICS in the host countries. Thus, it will lead to reduction in GHG emissions and reduce the release of pollutants.

Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The purpose of the VPAs is to provide clean energy products (ICS) to the Households through distribution of the products. Thus, The VPAs do not involve the manufacture, trade and release of harmful chemicals.	The VPAs involve distribution of ICS in the host countries. Thus, it will not lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions
Principle 9.6 Pesticide and Fertilizers			
Will the Project involve the application of pesticides and/or fertilisers?	No	No pesticides and/or fertilisers will be used in the VPAs.	The VPAs involve distribution of ICS in the host countries. Thus, it will not lead to application of pesticides and/or fertilisers
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	The VPAs reduce the consumption of firewood, therefore having a positive impact on forest conservation.	The VPAs do not involve harvesting of forests. The VPAs shall result in reduction in demand of biomass fuel in the region putting less pressure on forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling.
Principle 9.8 Food			
VVBs the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The VPAs do not have any expected effects on modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.	The VPAs involve distribution of ICS in the host countries. Thus, the VPAs will have no impact on the nutritional quality of food available.
Principle 9.9 Animal Husbandry			
Will the Project involve animal husbandry?	No	The VPAs do not involve animal husbandry.	The VPAs involve distribution of ICS in the host countries. It is a Social and Climate Impact Programme. Thus, it VVBs not involve animal husbandry.
Principle 9.10 High Conservation Value Areas and Critical Habitats			

VVBs the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The VPAs will not cause any risk to HCV ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. In fact, the VPA benefits biodiversity of forest by reducing the use of firewood for cooking.	The VPAs involve distribution of ICS in the host countries. So, there will be no impact on key biodiversity.
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR VVBs the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	There are no endangered species identified as potentially being present within the project boundary. The VPAs are not expected to potentially impact other areas where endangered species may be present through transboundary affects.	The VPAs involve distribution of ICS in the host countries. It will be used in the residential areas so no issues with the presence of endangered species into the project boundary.

D.11.2 Gender Sensitive requirements

Means of validation	Question	Justification provided by CME	VVB Assessment
	Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The VPAs aim to be gender sensitive in design without excluding marginalized members of society. The VPAs seek to promote gender equality at all levels. The implemented activities including the stakeholder consultation as well as the future implementation of the project activities take into the account gender roles and the abilities of women and men to participate in the decision/designs of the project activities. For the majority of households in the host countries, fuel collection and cooking activities are handled by women. In fact, the reduction in the biomass fuel requirement is foreseen to reduce women's work load related to collection of fuel needed for cooking. It can be further expected that sexual harassment and violence happening during fuel collection activities may be reduced. Hence, largely women will benefit from the project activity.	The VPAs are about access to efficient cooking system & The VPAs will abide by the respective national gender strategy. The VPAs include women at every step and do not promote gender disparity in any manner which is verified by the UpEnergy Gender equality and human resource policy/34/. The clean energy products will reduce the time and effort needed by women to fetch firewood and cook for their families. So, the VPAs do not involve and is not complicit in any form of discrimination based on gender difference in line with the National Gender Policy/48/.
	Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	Project activities are in line with the goals of host countries national policies. Host countries have ratified an Equal Rights Amendment into their respective constitution, which guarantees equal gender rights. The project activities take into the account national policies, in fact the aim is to improve the conditions of the local women and girls by providing access to clean energy products.	The VPAs align with the goals of host countries with respect to equal rights and they also align with the National Gender Policy /48/ which eliminates gender disparity.
	Question 3 - Is an Expert required for the Gender Safeguarding	National Council of Women committee members were invited to attend the stakeholder consultation including discussion on Safeguarding Principles &	Due to the current scenario of Covid-19, the stakeholder consultation has been postponed as

	Principles & Requirements?	Requirements. No other expert is required for the Safeguarding Principles & Requirements.	public meetings & international travels are restricted. But once the situation improves, CME with partner organization will host the Stakeholder consultation and invite National Council of Women.
	Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Members of women organizations were invited to attend the stakeholder consultation. No other expert is required to assist with Gender issues at the Stakeholder Consultation.	Due to the current scenario of Covid-19, the stakeholder consultation has been postponed as public meetings & international travels are restricted. But once the situation improves, CME with partner organization will host the Stakeholder consultation and invite National Council of Women.
Findings	No findings.		
Conclusion	The Validation team confirms that the VPAs comply with the GS4GG Gender Equality guidelines and requirements.		

SECTION E Validation Findings for VPAs Including Water Purification System

E.1 General description of the VPAs

Means of validation	The reporting for this issuance has been done technology-wise, thus section E shall be dealing with distribution of WPS and its compliance with registered PoA-DD and VPA-DDs and applicable standard. The VPAs to be included in the PoA involve the distribution of WPS in Uganda and Bangladesh. The VPAs will provide water purifiers to locals which will be maintained by partner organisation and UpEnergy Group/50/ & if required the cartridges of the water purifier will be provided. The CME of the VPAs is UpEnergy Group. There are 2 VPAs that are to be implemented in Uganda and Bangladesh. The geographical boundary of VPA is confined to Uganda and Bangladesh. The VPAs takes forward the same goal as that of the PoA under which they seek inclusion. There are 2 VPAs included and implemented under the PoA are as follows:

GS10968 VPA02 Community Carbon Safe Water Drinking Programme- VPA2

GS11008 VPA07 Social and Climate Impact Programme- Water filtration devices VPA07- Bangladesh

The key information related to the technology to be installed has been confirmed from the manufacturer's specifications/33/.

Technology:

The type of systems distributed under the VPAs are as follows:

Technology	Description
Water Purification system	**1.** UpEnergy/Community Carbon JH-19B Gravity Water filter • Dimension: (31 x 31x62)cm • Weight: 3.05 Kilograms • Capacity: 19 Liters • Flow Rate: 1 Liter per hour. • Certification: ce, EMC, RoHS • Filter life/Capacity: 2400 Liters **2.** UpEnergy/Community Carbon PEHF521 Gravity Water Filter • Dimension: (25 x 25 x 60) cms • Weight: 2.1 kilograms • Flow Rate: 2 Liters/Hour • Filter Life/ Capacity:5000 Liters • Certification: CNAL, US EPA, SGS

The water purification system will reduce the fuel consumption by replacing the conventional water purification method (Boiling) with Gravity based water purification device. For water purification systems (WPS) The sample of water will be tested to ensure that the water from the purifier is safe and hygienic for drinking purpose. The chosen technologies will be in compliance with the host countries norms. The WPS will be distributed & maintained by CME & Partner Organisation.

Implementation status:

The implementation date of the VPAs GS10968 (VPA02) and GS11008 (VPA07) is 31/11/2020 and 01/01/2022 respectively. The crediting cycle length is 5 years and type of the crediting period is renewal twice for the VPAs, as per Paragraph 4.1.40 of Principles & Requirements (Version 1.2)/1/.

The VPAs cover an estimated annual GHG emission reduction and other SDG goals over the crediting period as given in the table.

	<table><tr><td>SDG impacts</td><td>VPA02</td><td>VPA07</td></tr><tr><td>SDG 13</td><td>43,371 tCO2e</td><td>30,270 tCO2e</td></tr><tr><td>SDG 1</td><td>100%</td><td>100%</td></tr><tr><td>SDG 3</td><td>100%</td><td>100%</td></tr><tr><td>SDG 5</td><td>95%</td><td>95%</td></tr><tr><td>SDG 6</td><td>90,710</td><td>96,084</td></tr><tr><td>SDG 8</td><td>70</td><td>40</td></tr><tr><td>SDG 12</td><td>100%</td><td>100%</td></tr><tr><td>SDG 13</td><td>100%</td><td>100%</td></tr></table> **No-ODA** The VPA is not being funded by any Annex-I party which could be verified through the no ODA declaration provided by CME to the validation team/15/. **Grievance Mechanism:** According to GS4GG principle and requirements v1.2/1/ para 4.1.28, "If the Consultation is conducted after the start date, the Project Developer shall provide further explanation of how comments received during the consultation are taken into account and implement a Grievance Mechanism in line with the Stakeholder Consultation & Engagement Requirements". CME has established the grievance mechanism at the VPA level, and the following means can be used by the stakeholders to submit their grievances: 2. info@upenergygroup.com 3. Contact numbers There is also an Expression process book placed at the office of UpEnergy Limited to enable the stakeholders to submit their grievances/feedback. All the details related to the management system and the grievance mechanism were confirmed from the CME representatives during the remote audit conducted on 02/08/2021/17/.
Findings	CL#04 was raised and resolved
Conclusion	The validation team confirms that the information provided is complete and correct concerning the description of technology(ies) and/or measures to be used, the description is as per the registered VPA DDs and is following the GS4GG principles and requirement/1/ including a description of the purpose of the VPAs and explanation how the VPAs will reduce GHG emissions. The validation team confirms that: 1. The validation team has conducted a thorough and independent assessment of the implementation of the included VPAs against the GS4GG principles and requirements. 2. The validation team has assessed both quantitative and qualitative information on GHG emission reduction or net anthropogenic GHG removals provided in the programme documentation. 3. The validation team has assessed that the implementation and operation of the registered PoA and included VPAs, and the steps taken to report GHG emission reductions or net anthropogenic GHG removals comply with the relevant GS4GG principles and requirements. 4. The validation team has assessed that the data collection system meets the requirements of the registered monitoring plan as per the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents.

	5. The coordinating/managing entity has addressed the FARs identified during the validation or previous verification(s). Please refer to appendix 4. Thus, the implementation of the VPAs are meeting the requirements of VVS for PoA version 3.0/7/ and GS4GG Principles and Requirements/1/.

E.1.1. Assessment of the Eligibility criteria of the VPAs with GS4GG Principles & Requirements

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
1. Types of Project	Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	VPAs have already been implemented since 31/11/2020. Project is already one of the pre identified types as per section 3.1.1 (b) and automatically eligible for Gold Standard Certification as per section 4.1.3 of GS4GG Principles & Requirements/1/.
2. Location of Project	Projects may be located in any part of the world.	The Location of the VPAs is Uganda and Bangladesh.
3. Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the Project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects)	The boundary for the VPA in terms of a geographical area is defined as the territorial boundary of the Republic of Uganda and Bangladesh. The VPAs are implemented within the geographical boundary of the PoA. To avoid any double counting, all devices under this programme shall have a unique ID number, either inscribed or retained by the buyer, to uniquely identify the device avoiding any double counting and support traceability. The CME has also provided a declaration stating that it will be ensured there is no double counting at any stage of implementation/22/.
4. Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	A statement by CME/23/ and ERPA/62/ validates that the VPAs are in compliance with the legal, environmental, ecological and social regulations of Uganda and Bangladesh.

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
5. Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	Name and Contact details of Project Participants are given under the Appendix 2 of each VPA-DD/9/.
6. Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	Criteria for transfer of carbon credit ownership: • For retroactive VPAs, this provision shall be ensured through disclaimer on warranty cards, stove packaging, customer agreements / sales receipts/25// consent form or may be collected via monitoring app, etc. or stakeholder feedback collected during Stakeholder Feedback Round (SFR).
7. Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.	Not applicable
8. Official Development Assistance (ODA) Declaration	All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall	No ODA is involved in any of the VPAs included under the PoA. The CME has also provided a declaration meeting the stipulated criteria/15/.

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
	declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	

E.2 Application of methodologies and standardized baselines

E.2.1 Reference to methodologies and standardized baselines

Means of validation

The methodology applied for the VPAs are Emission Reduction from safe drinking water supply v1.0/57/

The applicability conditions of the methodology safe drinking water supply v1.0/57/ are validated below:

Applicability Criteria as per methodology	Justification from CME	Assessment
1. This methodology is applicable: Eligible household water treatment technologies (HWT), and community level water treatment technologies (CWT) include bleach/chlorine, water filter (ceramic, sand, composite, membrane, etc.), UV disinfection, etc.	This VPA includes distribution of HWT to reduce or avoid GHG emission from boiling unsafe drinking water in the baseline and lacking access to safe drinking water (suppressed demand) to households who are the target end users. In the absence of this VPA, the above two are the baseline methods for drinking water in households.	The VPAs aim at distributing clean energy product household water treatment technologies (HWT)as Water Purification Systems in Uganda, and Bangladesh. This has been confirmed from the manufacturer specifications/33/ Thus, this criterion is applicable.
2. Eligible community water supply technologies (CWS) include new installation of new borehole hand-pumps, borehole hand-pumps rehabilitation, solar powered drinking water pumps, etc. Water pumps powered by fossil-fuel engines are not eligible, with the exception of backup fossil–fuel engines	Not Applicable in this VPA as UpEnergy is not including community water supply technology (CWS).	This criterion is not applicable since the VPAs do not include community water supply technology (CWS)

	that are used for no more than 10% of operating hours		
	3. All projects involving CWT and CWS technologies include ongoing maintenance and repair of the project technology	Not Applicable as UpEnergy is not planning to implement CWS and CWT in this VPA.	This criterion is not applicable since the VPAs do not include community water supply technology (CWS)
	4. Where the project involves the rehabilitation of an existing technology, the project developer shall provide evidence that the existing technology is non-operational and that there is no planned maintenance or repair for at least 3 months after the date it became non-operational	Not Applicable as the VPA does not involve rehabilitation of an existing technology.	This criterion is not applicable since the VPAs do not involve any rehabilitation process.
	5. The methodology allows for project activities to include safe water treatment and/or supply technologies implemented for end-users in households, and/or commercial premises such as shops premises including half or full day/boarding schools, prisons, army camps & refugee camps.	This VPA includes distribution of HWT to reduce or avoid GHG emission from boiling unsafe drinking water in the baseline and lacking access to safe drinking water (suppressed demand) to households who are the target end users.	The VPAs aim at distributing clean energy product household water treatment technologies (HWT) as Water Purification Systems in Uganda, and Bangladesh. The dissemination involves providing basic resource (clean drinking water) to those who lack access (supressed demand).
	6. In case where the safe water is retrieved at the CWT or CWS location, the water in its improved form shall be available within a distance of 1 km or less	Not Applicable as this is applicable to CWS and CWT technologies.	This criterion is not applicable since the VPAs do not include community water supply

	from the end-users by satellite imaging or GPS coordinates of each CWT or CWS location. Alternatively, to demonstrate, as a proxy, a total collection time of 30 minutes or less for a round trip, including queuing, using the travel modes of walking or pedaling may be demonstrated.		technology (CWS) and CWT.
	7. Project technology performance level of HWT: It shall be demonstrated based on report of laboratory testing or official notification that the project technology or equipment achieves either (i) the performance target classification 3-star or 2-star level, meaning "Comprehensive Protection," as per the WHO International Scheme to Evaluate Household Water Treatment Technologies (World Health Organization, 2011) or (ii) compliance with the national standard or guideline for household drinking water treatment technology; if no national guideline or standard is available, then the project technology shall comply with the WHO International Scheme requirements as per (i)	As an example, UpEnergy will distribute 2 models like UpEnergy SmartHomeJH-19B Gravity water filter, SmartHome PEHF521 Gravity Water Filter with different capacities which will comply with WHO Quality Standards or National Standards of the host country. The third-party certification by a qualified entity, which is a recognized certification agency by National/ International Standard body will be demonstrated for various safe drinking parameters. The technical specifications of example models are given in above section A 3. These are the example models and additional models may be added more HWT technologies which comply with WHO or National standards.	VPAs provide clean drinking water to locals of Uganda and Bangladesh through the process of WPS distribution. The models envisaged to be distributed by the CME comply with WHO quality standards/33/ and it will further be demonstrated through water quality tests that the water quality mees the International Standards.
	8. Project technology performance level of CWT and CWS: For each individual CWT or CWS, it	Not Applicable as this is applicable to CWS and CWT	This criterion is not applicable since the VPAs do not include

	shall be demonstrated at the start of each crediting period with water quality testing reports that the water directly supplied by the project water technology/source achieves both: a. microbial quality in line with either (i) national standards or guidelines for microbial quality of drinking water, or in the absence of such requirements, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking-water quality b. compliance with (i) national standards or guidelines on priority chemical contamination and physical and aesthetic aspects, or in the absence of such requirements, (ii) international standards or guidelines on priority chemical contamination11 and physical and aesthetic aspects.	technologies which is not part of this VPA.	community water supply technology (CWS) and CWT.
	9. The project must conduct annual water hygiene education campaigns for the end-users.	Annual water hygiene education campaigns will be conducted. During monitoring of households, CME shall conduct a representative sample survey annually and will be reported as "report of annual hygiene campaign results" and summarized in the monitoring report. Any major change will be reported, and strategy will be addressed through subsequent health campaign. The comprehensive steps or methods to access hygiene handling of clean water will be	The CME will conduct annual water hygiene camps to gauge the response and opinion of the end-users using the project technology.

		provided in project design document.	
	10. A project applying this methodology may make SDG claims if relevant monitoring parameter(s) is included in the monitoring plan to demonstrate and confirm the project's contributions to SDGs.	The project developer /CME will capture all the SDG indicators which is relevant to this project through monitoring in Houseeholds. The monitoring will be done using a detailed questionnaire which includes all the SDG indicators. For example, capturing water quality.	The CME has developed an elaborate monitoring system to capture the SDG impacts as discussed under subsequent sections of this report.
Findings	FAR#08 was raised and is still open and has been extended to the first verification. FAR#09 was raised and resolved and converted into CAR#18. CAR#10 was raised and resolved.		
Conclusion	The validation team confirms that the VPAs i.e., VPA 02 and 07 meet all the applicability conditions of the applied methodology /5/.		

E.3 Project boundary, sources and GHGs

Means of validation	The project boundary basically defines the physical and geographical boundary of the project facility, and it is well defined in the VPA-DDs/9/ (section B3). The project boundary includes the community households to provide clean drinking water and efficient cooking system to locals of the countries Uganda and Bangladesh. Therefore, the project boundary covers the national boundary of both the countries included in the PoA. The project boundary is clearly defined in the VPA-DDs/9/ as per the applied methodology/57/. Emissions sources included in the project boundary have been appropriately included in the VPA-DDs. CO_2, CH_4 and N_2O emissions due to use of non-renewable biomass in the traditional stove for baseline scenario (for all the project sites) and the project scenario has reduced emissions, thus CO_2, CH_4 and N_2O GHGs are included. This is in line with Equation 13 of Annex 3 of the applied methodology/5/, where nonCO2 emission factor of fuels (EFb, fuel, nonCO2) is taken into consideration.
Findings	None.
Conclusion	The project boundary, sources and GHGs have been determined in-line with the applied methodologies/5/.

E.4 Baseline scenario

Means of validation	The baseline scenario in all the VPAs is same as the one set at PoA level. CME has applied an approved baseline and methodology Emission Reduction from safe drinking water supply v1.0/57/ which is approved under GS4GG programme. These VPAs involve distribution of gravity based WPS to provide clean drinking water to locals of the countries included under the PoA. The CME also has a replacement mechanism in place in case of damage or if the crediting period goes beyond the lifetime of the products. According to the applied methodology, the baseline scenario is that non-renewable biomass is used for boiling of water as means of water purification in the absence of the project activity. According to WHO, Uganda and Bangladesh with a large population of 45.7 million and 164 million respectively, it faces problems as 31 percent of population in Uganda and 60% population in Bangladesh, lack access to clean water and around 3,000 children in Uganda and 45,000 under five year children in Bangladesh die each year from diarrhoea caused by a lack of access to safe water and an inadequate sanitation/59/. Results from baseline survey was applied to calculate baseline emissions/29/. Since local residents do not have enough budget to buy firewood for water boiling, suppressed demand is applied in the small scale VPAs when establishing the baseline scenario as per the applied methodology/5/. A remote survey was conducted by the VVB to confirm that all the baseline users do not have access to clean drinking water and resort to boiling practices to purify the water. Most of the users reported that they often travel long distances and spend around 1-2 hours on an average in a day collecting firewood and purifying water. **Suppressed demand:** It was confirmed during the remote survey and through the CME baseline survey that the VPAs incorporate the concept of suppressed demand wherein the WPS shall be distributed in the countries where the locals to a great extent do not have access to clean drinking water and also lack resources to purify the water in any way to make it safe for drinking. In line with the requirements of the applied methodology/57/, the CME will ensure that all the VPAs included under this methodology are either small or micro scale since the concept of suppressed demand is not applicable to large scale VPAs. The assessment team has reviewed the VPA-DDs/9/ in line with the applied methodology/5/ and it is confirmed that the CME has correctly identified the baseline scenario.
Findings	CAR#09 was raised and resolved. FAR#11 and FAR#02 were raised in the current validation.
Conclusion	The validation team based on the description provided above with regard to the assessment of the requirements confirms that: (a) All the assumptions and data used by the project participants are listed in the VPA-DDs/9/ and or its annexures, including their references and sources;

	(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the VPA-DDs/9/. (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable. (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the VPA-DDs/9/. (e) The approved baseline methodology has been correctly applied to identify the most plausible baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed PoA. The validation team confirms that it has taken other steps and other sources of information used to cross-check the information contained in the PoA-DD/04/, wherever applicable, as listed above.

E.5 Demonstration of Additionality

Means of validation	Applicability conditions	Justification by the Project proponent	Means of validation
	Specify the methodology or activity requirement or product requirement that establish deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	Community Services Activity Requirements (Version 1.2), paragraph 4.1.9 (b)	The VPAs aim to distribute Water Purification system to Households of the countries Uganda, and Bangladesh, which falls under LDC list of UNCTAD/40/. Therefore, in accordance with Paragraph 4.1.9(b) of Community Service Activity Requirements (Version 1.2)/3/, the VPAs are not required to demonstrate additionality.
	Describe how the proposed project meets the criteria for deemed additionality.	Community Services Activity Requirements (Version 1.2), paragraph 4.1.9: "Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality	The VPAs aim to distribute Water Purification systems to the Households of Uganda, and Bangladesh. Since the VPAs will be operated in the LDCs and is a community service project/3/, the applied criterion is applicable.

		at the time of Design Certification: (a) Positive list (Annex B) (b) Projects located in LDC, SIDS, LLDC (c) Micro-scale projects" Uganda and Bangladeshis an LDC/LLDC, thus deemed additional	
Findings	No findings		
Conclusion	The VPAs were found to be additional.		

E.5.1 Ongoing financial need

Means of validation	It has been confirmed from the no ODA declaration/15/ that there is no provision for public funding available for the VPAs.
Findings	No findings.
Conclusion	The CME has provided the ODA declaration which confirms that there were no provision for public funding available for VPA02 and VPA07.

E.5.2 Prior consideration

Means of validation	Not applicable to the VPAs under the PoA.
Findings	Not applicable.
Conclusion	Not applicable.

E.6 SDG outcome assessment

Means of validation

The monitoring plan in the VPA-DD /9/ is correctly applied to the VPAs. The monitoring plan has been found to be in compliance with the requirements of the applied methodology /57/.

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact Indicator (Proposed or SDG Indicator)	VVB Assessment
13 Climate Action (mandatory)	Not Applicable.	Emission Reductions	The reduction in the use of fossil fuel for water purification purposes will result in emission reductions and eventually reduce the effects of Climate change in the host

				countries which are LDCs.
	1 End poverty in all its forms everywhere	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	Percentage of users reporting money saving due to reduction in purchased fuel consumption in the project	Through the provision of water purification devices to the end-users, the VPAs aim to give access to basic services like clean drinking water to the people in least developed countries.
	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	Percentage of households confirming access to safe water using clean technology	By implementing these VPAs, the quality of lives of the people in the host countries will improve significantly as fewer people will fall sick due to poor quality of water/34/.
	5: Gender Equality	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as	Percentage of households reporting time saving associated with boiling and fuel collection/access to safe water	The access to water purification devices will decrease the amount of time women & girls of the community set aside to fetch firewood and hence will give them an equal opportunity for progress.

	nationally appropriate		
6: Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	Number of people/beneficiaries reporting access to safe water	The VPAs will provide access to clean and safe drinking water thereby contributing to the goal of clean water and sanitation.
8: Decent Work and Economic Growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	Total no of jobs created	The VPAs will also create employment and offer jobs to people in the underdeveloped countries and promote entrepreneurship and formalization of small enterprises.
12: Responsible Consumption and Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	Percentage of users confirmed less use of fuel for boiling	The VPAs aim to disseminate water purification devices under which the dependency on the use of non-renewable biomass per household will significantly reduce.
15: Life on Land	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and	Percentage of users reported Fuelwood equivalent savings	The VPAs aim to disseminate water purification devices under which the dependency on the use of non-renewable biomass per household will significantly reduce eventually

		reforestation globally		leading to reduction in the extent of deforestation.
Findings	CL#05 and CAR#08 were raised and resolved.			
Conclusion	The SDGs chosen by CME are accurate & the monitoring of all the parameter align with the applied methodology of /57/			

E.6.1 Data and parameters:

Means of validation

The monitoring plan in the PoA-DD/04/ is correctly applied to the PoA. The monitoring plan has been found to be in compliance with the requirements of the applied methodology Emission Reduction from safe drinking water supply v1.0 /5/.

The values of ex-ante parameter and monitored parameters for WPS can be found in the table given below:

Parameter(s) fixed ex-ante: Water Purification System.

Relevant SDG Indicator	Parameter	Value in VPA-DD	Assessment
SDG 13	Project Technology Description; The detailed description of the planned project technology shall include as a minimum: HWT and IWT: - manufacturer name, - product name (if applicable), - technology type, and - performance meets the WHO Quality standards or applicable national standards	HWT and IWT: - manufacturer name – UpEnergy/Community Carbon - product name - JH-19B Gravity Water filter, PEHF521 Gravity Water Filter[1] , - technology type – Gravity filters[2] - performance meets the WHO Quality standards	The CME has provided the manufacturer specifications of the water purification models/33/ name JH-19B Gravity Water filter, PEHF521 Gravity Water Filter, which adopt the gravity filter technology and meet the WHO Quality standards/33/.
SDG 13	Regulatory Framework for safe water supply; List and provide a summary of any national, sub-	VPA 02: The project doesn't conflict with host country law. According to "the National system to support drinking water, sanitation and hygiene: Global status	It is quite evident from the National system to support drinking water, sanitation and hygiene:

[1] Additional models may be offered during VPA implementation
[2] Other technology of safe water systems may be offered during VPA implementation

		national and local regulations or guidance for safe drinking water supply, operation and maintenance, including any tariff	report 2019", the country had the target to provide clean water to 79% of the population by 2020 in which it has achieved only 7% clearly demonstrates the gap between policy and actual drive required for adoption. Water access is a human right water in Uganda, which makes the objectives mandatory. However, the policy has not enabled to give water access to 100 % of the population as still 22 million of people lack access to safe water. This is explained by a gap in financing such actions and a lack of human resources needed, as confirmed by the GLAAS survey. This demonstrates that the VPA will lead to a greater level of improvements in the sector and have achieve better penetration rate of safe water supply. VPA07: The project doesn't conflict with host country law. By 2020, increase access to safely managed sanitation by 5% and bring 75% of the population under basic sanitation. Bangladesh met the Millennium Development Targets for drinking water by increasing progress from 68% to 87% between 1990 and 2015. Bangladesh has made remarkable progress in advancing access to water and sanitation services by increasing access to drinking water to 98% However, the policy has not enabled to give water access to 100 % of the population as still more than	Global status report 2019/61/ that Uganda only managed to achieve only 7% of the 2020 access to clean water target and even though Bangladesh has been successful in implementing the clean water programs but the government policies have failed to provide drinking water to 100% of the population.

			2 million of people lack access to safe water. This demonstrates that the VPA will lead to a greater level of improvements in the sector and have achieve better penetration rate of safe water supply.	
	SDG 13	Water sources in the project boundary; Identify the water sources in the project boundary, and identify whether they are used for drinking water, and for all that are used for drinking water, classify them as improved and unimproved water source.	Unprotected Well Municipality Water Borewell River Pond/Lake/any stagnant body of water Water sources for Uganda Tube-well/Borehole Piped Water Surface water Unprotected Spring/Well Rainwater collection Water sources for Bangladesh These are the prevalent source of water observed during baseline assessment survey.	The major sources in the project boundary as confirmed during the remote survey/63/ of both countries are Municipality water, Borewell, River and Pond/Lake/any stagnant body of water.
	SDG 13	Stove technologies used in the project boundary; The proportion of different stove types used in premises in the geographical area of the project.	1. Three-stone fire/traditional system without grate or/and chimney Uganda-92 % (1.Three-stone fired firewood – 27% + Traditional Charcoal system without grate or/and chimney – 65%) Bangladesh-100% 2. Improved cookstove Uganda-8% Bangladesh- 0% These are the prevalent technologies used by respondents who boil water in the baseline scenario	As confirmed during the remote survey/63/ of both countries, the stove technologies used in the project boundary are: 1. Three-stone fire/traditional system without grate or/and chimney 2. Improved cookstove

	SDG 13	Expected technical life of project technology; The expected technical life of an individual project technology shall be defined in the PDD. The details include both technology/device life and filter life, if a filter is used and it is replaceable	JH-19B Gravity Water filter- 2400 Liters PEHF521 Gravity Water Filter – 5000 Liters	The CME has provided the manufacturer specifications through which the expected lifespan has been confirmed as follows: JH-19B Gravity Water filter- 2400 Liters PEHF521 Gravity Water Filter – 5000 Litres
	SDG 13	CO2 emission factor arising from use of fuels in baseline Scenario; $EF_{b,CO2}$	Fuelwood : 112 Charcoal : 165.22 (includes charcoal production emissions)	The value for this parameter has been applied as 112 for both residential and commercial and it has been obtained through IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.4 and 2.5)/56/. The applied value has been cross-checked from the SDG data recording sheet for baseline survey/29/ and each parameter value was further cross-checked for consistency against the baseline survey forms/30/.
	SDG 13	Non-CO2 emission factor arising from use of fuels in	Fuelwood: 9.46 Charcoal: 44.83 (includes charcoal production emissions)	The value for this parameter has been applied as 9.46 for fuelwood

		baseline scenario, $EF_{b,non-CO2}$		and 44.83 for charcoal and it has been sourced from IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories /56/. The applied value has been cross-checked from the SDG data recording sheet for baseline survey/29/ and each parameter value was further cross-checked for consistency against the baseline survey forms/30/.
	SDG 13	Weighted average efficiency of the baseline water boiling devices. Calculate the weighted average of the water boiling efficiency in the project boundary using the proportion of different stove types used and the stove efficiencies; ηwb	VPA02: Following values of different technology applied" - Three-stone fire without either a grate or a chimney: 10%. - Three-stone fire for charcoal: 16% - Improved cookstoves: Efficiency 37.9 % VPA07-10%	The CME has established the weighted efficiency of the baseline water devices based on the fuel distribution in target population for Uganda and 10% for Bangladesh through the baseline surveys forms /30/ and data recording sheets for baseline survey/29/ conducted by the CME.
	SDG 13	Proportion of project end-users who in the baseline were already using safe water, either from an	5.51%	It was confirmed through the baseline survey/29/ which was conducted by the CME that

		improved water source, or from a water treatment method other than boiling, C_b		there were end-users who were already using safe water, either from an improved water source, or from a water treatment method other than boiling.
	SDG 13	The proportion of each different cooking fuel f used in the project boundary by end-users: x_f	Uganda Charcoal – 73% Wood- 27% Bangladesh Wood-100%	The results obtained from the CME's baseline survey forms/30/ and data recording sheets/29/ are: Charcoal – 73% Wood- 27%
	SDG 13	Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass or charcoal; $f_{NRB,f,y}$	VPA02: 0.89 (Uganda) VPA 07: 0.78 (Bangladesh)	The value of this parameter has calculated using CDM Tool 30 "Calculation of the fraction of Non-renewable Biomass" (Version 03.0)/43/. The calculations have been verified from the fNRB calculation sheets/44/.
	SDG 13	Net calorific value of fossil fuel f; NCV_f	-	No fossil fuel has been used in the project scenario.
	SDG 13	Emission factor of fossil fuel f, EF_f	-	No fossil fuel has been used in the project scenario
	SDG 13	Emission factor associated with the electricity use, EF_{ec}	0.001 tCO2/kWh if annual consumption is more than 250 kWh/year/household 0.0008 tCO2/kWh if annual consumption is less than 250 kWh/year/household	There is anticipated use of electricity in the project device and in case some new model is introduced by CME, then the

			default values shall be used.
SDG 13	Transmission and distribution losses associated with the electricity use; TDL_{ec}	20%	There is anticipated use of electricity in the project device and in case some new model is introduced by CME, then the default values shall be used.
SDG 1	% HH reporting money saving due to reduced fuel consumption in baseline, HHSbaseline	0 %	The value for this parameter has been applied as 0 since there is no money saving in the baseline.
SDG 3	% HH using clean technology to access safe water in baseline scenario; HHclean baseline	0 %	The value for this parameter has been applied as 0 since there is no clean technology in the baseline.
SDG 5	HH reporting time savings for boiling/fuel consumption/access to water, HHtime baseline	0	The value for this parameter has been applied as 0 since there is no time saving in the baseline.
SDG 6	Beneficiaries with access to safe water in baseline scenario, BEN clean baseline	0	The value for this parameter has been applied as 0 since there are no beneficiaries with access to safe drinking water in baseline scenario.

SDG 8	Quantitative Employment and income generation, EG baseline	0	The value for this parameter has been applied as 0 since there is no employment generation in the baseline.
SDG 12	Percentage of users confirming boiling using fuel in baseline scenario, FC baseline	100	The value has been applied as 100 since all the users confirmed boiling water in the baseline scenario.
SDG 15	Percentage of users reported fuelwood equivalent savings in baseline scenario, FRC baseline	0	The value has been applied as 0 since no users reported fuelwood equivalent savings in the baseline scenario.

Data and parameters to be monitored: Water Purification System

Relevant SDG Indicator	Parameter	Value in VPA-DD	Frequency	Assessment
SDG 13	Volume of drinking water per person per day for premises type p; QPW_p	For ex-ante ER: Residential (full-day premise) - 4	Biennially	The CME may either apply the default value from the methodology or monitor the parameter through water consumption field tests. It is to be noted, in both the cases, the value will be capped at 5.5 L/person/day. The applied frequency and calculation method is in line with the applied methodology/57/.

SDG 13	Capacity of the household water treatment technology, q_i	2 litres/hour (for ex-ante estimation)	Continuous	The capacity of the household water treatment technology will be determined either through the manufacturer specifications or commercial guarantee provided by the seller. The applied frequency and calculation method is in line with the applied methodology/57/.
SDG 13	Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology in year y .$Xcleanboil,y$	0 (for ex-ante ER)	Annually	The Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology in year y will be determined through the project surveys. The applied frequency and calculation method is in line with the applied methodology/57/.
SDG 13	Ongoing water quality indicated as the fraction of the samples that pass microbial quality standard requirements specified in relevant microbial quality standard for drinking water of the host country.	1	Annually	The ongoing water quality will be determined through the testing of water or a representative sample of the water that exits the treatment technology. The Field testing kits using the Most Probable Number (MPN) will be used for determining he water quality. The

		In case a national standard is not available, the water quality shall comply with WHO Guideline values for verification of microbial quality i.e., all water directly intended for drinking must not have detectable E.Coli in any 100 ml sample i.e., less than 1 Colony Forming Unit (CFU) of E.Coli /100 ml Mq,y			applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Accumulated number of premises type p with at least one individual project technology in year y	VPA02-19,300 VPA07-18,840	Continuous	The parameter will be determined through the distribution records that will include date of sale, geographic area of sale, model/type of project technology sold and quantity of project technologies sold. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Usage rate of the project technology by premises type p during year y, Up,y	90% (Assumed for ex-ante calculation)	Annually	The usage rate will be determined through the project surveys where in-person surveys will be

					conducted to gauge whether the household is using the project device or not. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Average days the project technology is present for end-users in the premises p in year y; DPp,y	Uganda Residential – 365 Bangladesh Residential- 365	Annually	The sales or distribution records will be used by the CME to determine Average days the project technology is present for end-users in the premises p in year y. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Usage time of the project technology by premises type p in year y tp,y	Uganda 9 hours/day (For ex-ante ER) Bangladesh 7 hours/day	Annually	The usage time will be determined by the project survey using observations, through interview of end-users or a default value of 9 hours and 7 hours for Uganda and Bangladesh respectively. may be applied. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Average number of individual project technologies in each	1 (for ex-ante)	Annually	Average number of individual project technologies in each project premises will be

		project premises type p in year y DNp,y			determined through the sales or distribution records. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Number of individuals per premises type p in the project boundary in year y HNp,y	VPA02: 4.7 (Average Household size for Uganda for ex-ante estimation) VPA07: 5.1 (Average Household size for Bangladesh for ex-ante estimation)	Annually	Average number of individual project technologies in each project premises will either de determined through project survey or official government publications or statistics such as DHS program reports/64/. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG13	mass or volume units (e.g. kg, Litres, standard m3) Pp,f,y	0 (Gravity filters don't use any electricity or fossil fuel in project scenario)	Continuously	The mass of volume units will be either be determined through direct measurement, estimation with tank capacity table, through fuel invoice receipt or manufacturer's specification in case of direct fuel consumption. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Quantity of electricity	0 (Gravity filters don't	Continuously	Quantity of electricity that is

		that is used by the project during year y	use any electricity or fossil fuel in project scenario		used by the project during year will be determined through direct measurement with electric meter , sample based using electricity loggers or manufacturer's specifications in case of direct electricity consumption. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 13	Hygiene campaigns carried out among project safe water end-users.	-	Annually	Annual hygiene camps will be conducted by the CME to increase awareness and improve efficacy of the project. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 3	Percentage users reporting money saving due to reduction in purchased fuel consumption in project HHSproject	100%	Annually	Percentage users reporting money saving due to reduction in purchased fuel consumption in project will be calculated annually through representative survey or CME database. The applied frequency and calculation method is in line with the applied methodology/57/.

SDG 3	% HH using clean technology to access safe water in project scenario, HHclean project	100%	Continuous	% HH using clean technology to access safe water in project scenario will be calculated annually through representative survey or CME database. The applied frequency and calculation method is in line with the applied methodology/57/.
SDG 5	Percentage HH reporting time saving associated with cooking and fuel collection, HHtime project	95%	Once every 2 years (biennially)	Percentage of HH reporting time saving associated with cooking and fuel collection will be monitored during the monitoring survey. The applied frequency and calculation method is in line with the applied methodology/57/.
SDG 6	SDG 6.1.1 Contributions (i) Level of Service: Safely managed service (ii) Project contributions Number of beneficiaries BEN clean project	VPA02-90,710 VPA07-96,084	Annually	The parameter can be determined through the water quality tests and CME database. This parameter will be determined through The applied frequency and calculation method is in line with the applied methodology/57/.
SDG 8	Generation of employment in project scenario; EG project	VPA02-70 VPA07-40	Continuous	The employment generated will be determined through the employee lists and records created by the CME. The applied frequency and calculation

					method is in line with the applied methodology/57/.
	SDG 12	Percentage of users confirming boiling using fuel in project scenario; FC project	0	Annually	Percentage of users confirming boiling using fuel in project scenario will be determined through the annual monitoring surveys. The applied frequency and calculation method is in line with the applied methodology/57/.
	SDG 15	Percentage of users reported fuelwood (eq.) savings in project scenario FRC project	100%	Annually	Percentage of users reported fuelwood (eq.) savings in project scenario through the annual monitoring surveys. The applied frequency and calculation method is in line with the applied methodology/57/.

The assessment team confirmed that the monitoring parameters are sufficient to calculate the emission reductions in accordance with the methodology. The parameters will be calculated or measured as mentioned above section.

The validation team confirms that list of parameters identified by the CME and as mentioned in the PDD/04/are in line with the monitoring methodology and SDG monitored parameters will be assessed on the basis of monitoring frequency mentioned.

Findings	CAR#10 was raised and resolved.
Conclusion	The SDGs chosen by CME are accurate & the monitoring of all the parameter align with the methodology /57/

E.7 Estimation of SDG impacts or net anthropogenic removals

E.7.1 Equations and parameters applied to calculate SDG impacts

Means of validation	The VPAs applies methodology, for WPS. The methodological choices have been explained below: The applied methodology Emission Reduction from safe drinking water supply v1.0/5/ defines the methodological steps to determine the project

emissions, baseline emissions, leakages and anthropogenic emissions by the proposed project activity.

(1) SDG 13:

As per method 2 of the applied methodology Emission reduction from the safe drinking water can be calculated with the help of baseline emission and project emission. The project emission in the case of gravity based WPS will be zero since there is no fuel consumed to run the system.

Baseline Scenario Fuel Consumption Calculation

The baseline emission shall be calculated as

$BEy = EFb \times (1 - Cb - Xcleanboil,y) \times Qy \times Mq,y$

Where:

BEy = Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO2e)

Cb = Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)

$Xcleanboil,y$ = Proportion of project end-users that boil safe water in the project year y (%)

Qy = Quantity of safe drinking water provided by the project in year y (L)

Mq,y = Modifier for the water quality in year y

Project Scenario water consumption Calculation

The quantity of safe drinking water provided by the project is calculated using following method (for HWT and IWT)

The quantity of safe drinking water provided by the project Qy is determined as follows:

$Qy = \Sigma_p Np,y \times Up,y \times QPWhh,p,y \times DPp,y$

Where:

Np,y = Number of premises type p with at least one project technology in year y

Up,y = Usage rate of the project technology by premises type p during year y (%)

$QPWhh,p,y$ = Volume of drinking water per premises p per day in year y (L)

DPp,y = Days the project technology is present for end-users in the premises p in year y

The volume of drinking water per premises per day is determined by considering whether the capacity of the project device is sufficient to provide at least the default amount of drinking water, as follows:

$QPWhh,p,y$ = min $((qi \times tp,y \times DNp,y), (QPWp \times HNp,y))$

Where:

qi = Capacity of the HWT or IWT individual project technology (L/h)

tp,y = Usage time of the project technology by premises type p in year y (h/day)

DNp,y = Average number of individual project technologies in each project premises type p in year y
HNp,y = Number of individuals per premises type p (e.g. household, school) in year y
$QPWp$ = Volume of drinking water per person per day for premises type p (L). Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 5.5 L per person per day.

Project Scenario Fuel Consumption Calculation
Project emissions in year y (t CO2e/yr)
PEy = PEff,p,y + $PEec,p,y$
Where:
PEy = Project emissions in year y (tCO2)
$PEff,p,y$ = Project emissions from fossil fuel use in year y (tCO2)
$PEec,p,y$ = Project emissions from electricity use in year y (tCO2)
As the filters don't use fossil-fuel or electricity for filtration,
PEy = 0

Emission Reductions
The Emission reductions are calculated as follows:
$ERy = BEy - PEy - LEy$
Where:
ERy = Emission reductions in year y (t CO2e/yr)
BEy = Baseline emissions in year y (t CO2e/yr)
PEy = Project emissions in year y (t CO2e/yr)
LEy = Leakage emissions in year y (t CO2e/yr)

(2) SDG 1
The contribution of the VPA to SDG 1 will be confirmed through a random sample survey (in conjunction with the annual monitoring survey for the project) with a representative number of households. Households will be asked to confirm if there has been monetary savings through use of product as compared to the baseline scenario. In case that households confirm, the same can be used to confirm that the project contributes positively to SDG 1
(3) SDG 3
The contribution of the VPA to SDG 3 will be confirmed through a random sample survey (in conjunction with the annual monitoring survey for the project) with a representative number of households. This SDG parameter is the households with access to safe drinking water (household with functional devices) as compared to the baseline scenario. In case that households confirm access to safe drinking water, the same can be used to confirm that the project contributes positively to SDG 3.
(4) SDG 5
The contribution of the VPA to SDG 5 will be confirmed through a random sample survey (in conjunction with the annual monitoring survey for the project) with a representative number of households. Households will be

	asked to confirm if there has been reduction in time spent on domestic work by women including any travel required to collect water in the project scenario as compared to the baseline scenario. In case that households confirm, the same can be used to confirm that the project contributes positively to SDG 5. (5) SDG 6 The contribution of the VPA to SDG 6 will be confirmed through the total number of safe water units (WPS) distributed by the average family members from project survey (6) SDG 8 The contribution of the VPA to SDG 8 will be confirmed by the number of jobs or new entrepreneurship activities created due to the project. (7) SDG 12 and 15 The contribution of the VPA to SDG 12 and 15 will be confirmed by the reduction in use of non-renewable biomass per household calculated during the estimation of emission reductions.
Findings	None
Conclusion	The methodological choices are justifiable and appropriate as per GS4GG requirements. Al the values applied, and calculations are reviewed from the SDG calculation sheet/28/, baseline survey sheet/29/ and fNRB calculation sheet/44/ and were found to be acceptable by the assessment team.

E.7.2 Ex ante calculation of SDG impacts or net anthropogenic GHG removals

Means of validation

The VPAs applies methodology Emission Reduction from safe drinking water supply v1.0/5/; for WPS in Uganda and Bangladesh, to provide clean drinking water. The methodological choices have been explained below:

The applied methodology Emission Reduction from safe drinking water supply v1.0/5/ defines the methodological steps to determine the project emissions, baseline emissions, leakages and anthropogenic emissions by the proposed project activity.

VPA02-Uganda

Baseline emission can be calculated as below

The baseline emission factor shall be calculated as

$BE_y = EF_b * (1 - C_b - X_{cleanboil,y}) \times Q_y \times M_{q,y}$

Where:

BE_y	Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO2e)
EF_b	Emission factor for the use of fuel to obtain safe water in the baseline (tCO2e/L)
C_b	Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)
$X_{cleanboil,y}$	Proportion of project end-users that boil safe water in the project year y (%)
Q_y	Quantity of safe drinking water provided by the project in year y (L)

$M_{q,y}$	Modifier for the water quality in year y

Project Scenario Fuel Consumption Calculation

Project emissions in year y (t CO2e/yr)

$PEy = PEff,p,y + PEec,p,y$

$PEy = 0$

In case the CME introduces safe water technology which uses electricity in future, project emissions shall be calculated according to the methodology.

Leakage:

Leakage due to non-renewable biomass can be excluded as all the household supplied with safe water systems by VVBs do not use lower-emitting energy sources and project activity increase NRB fraction.

$LEy = 0$

Emission Reductions

Finally,

$ERy = BEy - PEy - LEy$

$= 43,371 - 0 - 0$

$= 43,371$ tCO2e Annually over the crediting period.

VPA07-Bangladesh

Baseline emission can be calculated as below

The baseline emission factor shall be calculated as

$BE_y = EF_b * (1 - C_b - X_{cleanboil,y}) \times Q_y \times M_{q,y}$

Where:

BE_y	Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO2e)
EF_b	Emission factor for the use of fuel to obtain safe water in the baseline (tCO2e/L)
C_b	Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)
$X_{cleanboil,y}$	Proportion of project end-users that boil safe water in the project year y (%)
Q_y	Quantity of safe drinking water provided by the project in year y (L)
$M_{q,y}$	Modifier for the water quality in year y

Project Scenario Fuel Consumption Calculation

Project emissions in year y (t CO2e/yr)

$PEy = PEff,p,y + PEec,p,y$

$PEy = 0$

In case the CME introduces safe water technology which uses electricity in future, project emissions shall be calculated according to the methodology.

Leakage:

	Leakage due to non-renewable biomass can be excluded as all the household supplied with safe water systems by VVBs do not use lower-emitting energy sources and project activity increase NRB fraction. LEy = 0 **Emission Reductions** Finally, $ERy = BEy - PEy - LEy$ = 30,270 – 0 – 0 = 30,270 tCO2e Annually over the crediting period.
Findings	None
Conclusion	The formulae and approach used for ex ante calculation of baseline emissions has been correctly presented and implemented as per methodology Emission Reduction from safe drinking water supply v1.0/5/. They have been given consistently within the ER sheet/28/ and VPA-DD/9/.

E.8 Start date, crediting period type and duration

Means of validation	According to GS4GG Principles and Requirements version 1.2 para 4.1.40/1/, "For distributed technology projects, the start date is the date of implementation of the first unit under the project". VPAs (VPA02 & VPA07) have the crediting period of 5 years renewable twice. The VPA start date of GS10968 (VPA 02) & GS11008 (VPA07) is 30/11/2020 & 01/01/2023 respectively and crediting period start date is 01/01/2021 and 01/01/2023 respectively which will be the date of distribution of the first unit. The expected certification cycle of the VPA is 15 years.
Findings	No findings
Conclusion	The lifetime and crediting period of the VPAs lies within the crediting period of the PoA and is in accordance with GS4GG Principles and Requirements/1/.

E.9 Environmental impacts

Means of validation	EIA is not required.
Findings	Not Applicable
Conclusion	Not Applicable

E.10 Stakeholder consultation

Means of validation	UpEnergy Group has conducted physical Local stakeholder meeting for VPA02 Uganda on 18/09/2021 as per Local stakeholder consultation requirements. But for Bangladesh (VPA07), UpEnergy group has not been able to hold a consultation with End-users, due to the outbreak of worldwide pandemic COVID-19, and rising cases of infected people in Host countries, the government of Bangladesh has released different guidelines in this context. The COVID-19 virus poses an increased risk of contracting infection due to travel. The stakeholder consultation meeting could not be conducted due to several Covid related restrictions in Bangladesh. However, in line with para 2.1.1 of "COVID-19: Interim Measures (Version 3)/12/", "The project developer may postpone physical stakeholder consultation meetings and the Stakeholder Feedback Round (SFR) for Gold Standard project/POA/VPAs until the COVID-19 situation eases". The CME has shared a public link for all the stakeholders to record their comments and a detailed stakeholder consultation report including all the invitation list has also been submitted by the CME. It was confirmed during the remote audit that

	the LSC shall be conducted as soon as the Covid situation eases in Bangladesh.
Findings	FAR#05 was raised and resolved. Hence, FAR#05 has been converted into CAR#15.
Conclusion	Uganda's LSC meeting was held on 18/09/2021, for Malawi, it was held on 25/09/2021 and for Zambia on 13/12/2021. The Stakeholder Feedback Round for Uganda and Malawi has been successfully completed and SCR report has been submitted. SFR for Zambia is still under process and report will be compiled once the feedback round is concluded. For other countries, PD has elected to follow GS4GG rule update with respect to the Rule Update-COVID Interim Measures/12/ and ensure stakeholder consultation is completed before first performance review submission. PP has submitted all the supporting documents including LSC report/62/, sample invitation letter/63/, 4-5 representative samples of the evaluation form and blind development assessment for Uganda to VVB/64/.

E.11 Sustainability Assessment

E.11.1 Safeguard principles assessment

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Assessment team's Opinion/ justification for the mitigation measure
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	The project will be implemented in collaboration with local partners and CME will 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 Right. The project will not discriminate with regards to participation and inclusion and will not lead to violations of human rights or discrimination of any kind.	The CME and the VPAs have to respect related laws of the host countries and will not lead to violations of human rights or discrimination of any kind. The host countries have ratified UN Human Rights Conventions.
The Project shall not discriminate with regards to participation and inclusion	No	The VPA is set up to include people of all genders, races, religions, educational backgrounds or any other aspects. The VPAs will not discriminate with regards to participation and inclusion	The VPAs are about access to clean drinking water and it will not discriminate with regards to participation and inclusion for both men & women. This is in line with the Gender equality and

		as the WPS is free to be used for everybody.	HR policy of the company/34/.
2. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women c. Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking.	No	1.(a) The VPA will not directly or indirectly lead or contribute to adverse impacts on gender equality or the situation of women. In fact, the access to water purifier are foreseen to improve the general conditions of women and not to lead to any risk of contributing issues like sexual harassment, sexual exploitation, violence, human trafficking	The VPAs will not directly or indirectly lead or contribute to adverse impacts on gender. The access to clean and safe water are foreseen to improve the general conditions of women and not to lead to any risk of contributing issues like sexual harassment, sexual exploitation, violence, human trafficking. This is in line with the Gender equality and HR policy of the company/34/.
d. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.	No	1.(b) The VPA will not directly or indirectly lead to/contribute to slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. In contrast, the VPA will contribute to health and well-being of women and girls.	The VPAs are about access to clean drinking water & the VPAs will not directly or indirectly lead to/contribute to slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. This is in line with the Gender equality and HR policy of the company/34/.
Principle 2: Gender Equality			
2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work c. Where appropriate for the implementation of a PoA/VPA, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities.	No	2.(a) For maintenance work and any other eventual paid or volunteer work in the VPA, 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.	The VPAs are about access to clean drinking water, for distribution work or volunteer work in the VPAs, 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. The WPS distribution will reduce the time and effort needed by women to fetch and purify the water for their families. So, the VPAs do not involve and is not complicit in any form of discrimination based on gender difference in line with the National Gender

			Policy/48/. This is also in line with the Gender equality and HR policy of the company/34/.
d. Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status.	No	2.(b) The VPA applies the principles of non - discrimination and equal treatment. Pregnancy or marital status VVBs not affect the ability of a person to engage in the VPA.	The VPAs are about access to clean drinking water the VPAs applied the principles of non-discrimination and equal treatment. Pregnancy or marital status VVBs not affect the ability of a person to engage in the VPAs/48/.
e. Ensure that these conditions do not limit the access of women or men, as the case may be, to VPA participation and benefits.	No	2.(c) Equal participation of women and men in the VPA activities, like using the clean and safe water and participating in the annual hygiene campaigns, is guaranteed.	The VPAs are about access to clean drinking water & Equal participation of women and men in the VPAs activities, like using the clean and safe water and participation in the annual hygiene campaigns.
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 host countries have ratified an Equal Rights into their respective constitution (FUNDAMENTAL HUMAN RIGHTS), The VPA will abide by the national gender strategy. So, the VPA VVBs not involve and is not complicit in any form of discrimination based on gender difference.	The VPAs are about access to clean drinking water & The VPAs will abide by the national gender strategy. So, the VPAs VVBs not involve and is not complicit in any form of discrimination based on gender difference. in line with the National Gender Policy/48/.
11. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	No	4. Not applicable as no opinion or recommendation is received from expert stakeholder.	NA as no recommendation were received.
Principle 3: Community Health, Safety and Working Conditions			
12. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the	No	5. The project activities do not pose risks to the health of the community. In fact, the VPAs will reduce the risk of water borne illness for local communities and indoor air pollution caused by	Local communities will benefit from clean drinking water. The project activities do not pose risks to the health of the community, the VPAs will reduce the risk of water borne illness for

workers and the community		boiling water for purification. Local communities will benefit from the safe drinking water.	local communities and indoor air pollution caused by boiling water for purification
Principle 4.1 Sites of Cultural and Historical Heritage			
13. VVBs the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	6. There are no sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture in the Project Area.	The VPAs involves distribution of WPS to Households in LDCs listed in the PoA. Thus, it VVBs not include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture
Principle 4.2 Forced Eviction and Displacement			
14. VVBs the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project activity consists distribution of water purification system and therefore no physical or economic relocation of people is involved.	The VPAs involves distribution of WPS in the LDCs listed under the PoA. Thus, it VVBs not lead to physical or economical relocation of peoples.
Principle 4.3 Land Tenure and Other Rights			
15. VVBs the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	The VPAs involve distribution of WPS to the Households. Therefore, there is no changes to land tenure arrangements and/or rights are required.	The VPAs involves distribution of WPS in Uganda and Bangladesh (LDCs) listed under the PoA. Thus, it VVBs not have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership and it was confirmed from the CME and VPA implementer agreement that the ownership of the VPAs is with UpEnergy Group/50/
Principle 4.4 Indigenous People			
16. 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	Since this is a Clean energy project at household level, there is no risk to land/territory claimed by indigenous peoples. WPS will be distributed to all willing customers within the project boundary.	The VPAs will benefit the population within the host country and will not influence the land/territory claimed by indigenous people.

Principle 5 Corruption			
17. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The VPA VVBs not involve or inadvertently contribute to or reinforce or is not complicit in any corruption. VPAs will obey the UN Convention against Corruption.	The VPAs involves distribution of WPS to Uganda and Bangladesh included under the PoA, VPAs are not involved or will contribute to corruption. VPAs will follow the UN Convention against corruption/44/
Principle 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	No	1. The CME follows the labour laws and policies of the host country where the VPAs are implemented. The project employment will be in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions.	The VPAs follows the labour laws and policies of the host country where VPA is being implemented and the CME ensures that all the employment is within ILO fundamental conventions. /55/.
2. Workers shall be able to establish and join Labour organisations.	No	2. The CME VVBs not restrict workers to be able to establish or join Labour organisations.	The VPAs puts no constraints / limitation on employees to form a union.
3. Working agreements with all individual workers shall be documented and implemented and include: g. Working hours (must not exceed 48 hours per week on a regular basis), AND h. Duties and tasks, AND i. Remuneration (must include provision for payment of overtime), AND j. Modalities on health insurance, AND k. Modalities on termination of the contract with	No	3. The CME will supervise local partners to follow the labour laws of the host country about the employees' working hours, remuneration, annual leave and so on. All employees of the CME's local partners will work voluntarily and attend trainings on health & safety. The employment model related to the VPA will be also locally and culturally appropriate.	The CME will supervise local partners to follow the labour laws of the host country about the employees' working hours, remuneration, annual leave in line with its Gender equality and HR policy/34/. The employment model related to the VPAs will be also locally and culturally appropriate.

provision for voluntary resignation by employee, AND I. 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)	No	4. The age of all the staffs hired by local partners of the CME will be checked through ID cards to make sure that no one is below 18. The CME and all its local partners will obey the ILO Conventions 182 (Worst Forms of Child Labour Convention).	The CME VVBs not promote / or is complicit in child labour the age of all the staffs hired will be checked through ID cards to make sure that no one is below 18. All the laws of the land will be obeyed by VPAs & local implementers. This is in line with the Gender equality and HR policy of the company/34/.
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	No	5. All the work will be done by appropriate equipment with properly trained workers. Emergency preparedness and response measures have been set up and all the accidents and incidents will be recorded and reported.	It was confirmed from the CME representative and the VPA implementer that workers are provided with appropriate equipment, training and the accidents and incidents documentation is maintained and the emergency preparedness and response measures is in place. This is in line with the Gender equality and HR policy of the company/34/.
Principle 6.2 Negative Economic Consequences			
1. VVBs the project cause negative economic consequences during and after project implementation?	No	1.a) At the beginning, the CME will provide fund to cover the operation cost of the VPAs including expenditures beyond the project certification cycle, e.g. Distribution of clean energy products, hygiene campaigns and surveys. After the successful sale of carbon credits generated from the VPAs, the carbon market will	At the beginning, the CME will provide fund to cover the operation cost of the VPAs including expenditures beyond the project certification cycle, e.g. Distribution of clean energy products, hygiene campaigns and surveys. After the successful sale of carbon credits generated from the VPAs, the carbon market will

		provide financial sustainability of the VPAs. 1.b) The VPAs provide WPS free for everybody and therefore the VPAs benefit local communities. The VPAs have positive economic benefit due to no expenditure on firewood for boiling of water for drinking purpose.	provide financial sustainability of the VPAs. The VPAs have positive economic benefit due to no expenditure on firewood for boiling of water for drinking purpose.
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	GHG emissions will be reduced by replacing water purification using firewood with access to clean drinking water respectively.	GHG emissions will be reduced through replacing the need to water purification using firewood with access to clean water
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The VPAs will reduce consumption of biomass through the reduced need to boil water. Clean drinking water will be supplied by the water purification system. Thus, the VPAs will not use energy from a local grid or power supply.	The VPAs reduce GHG emissions replacing the consumption of biomass for boiling of water for drinking purpose. Thus, VPAs will not require energy supply.
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The VPAs do not impact natural water patterns and flows. It uses existing aquifers and VPAs not affect the volume of water consumed by villagers.	The VPAs involves distribution of WPS in the host countries. It will utilize the already existing aquifers. Thus, it will not affect the natural or pre-existing pattern of water courses, ground water and/ water shed such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body	No	For the VPAs (VPA02 & VPA07) The water is taken from existing source only for domestic use. The	The VPAs shall result in reduction in demand of biomass fuel in the region putting less pressure on

instability or disrupt the natural pattern of erosion?		VPAs will not cause additional erosion and/or water body instability or disrupt the natural pattern of erosion.	forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling. The water drawn will be mostly for domestic use.
Principle 9.1 Landscape Modification and Soil			
VVBs the Project involve the use of land and soil for production of crops or other products?	No	The VPAs provide clean drinking water and do not involve use of land and soil for production or crops or other products.	The VPAs involves distribution of WPS in the host countries. Thus, it VVBs not involve the use of land and soil for production of crops or other products
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	This VPA not have any impacts that may affect vulnerability to these natural disasters.	The VPAs involve distribution of WPS in the host countries. It will not lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions.
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The VPAs are not relevant to the use of genetically modified organisms or GMOs since, it is a WPS distribution project.	The VPAs involve distribution of WPS in the host countries. Thus, it will not be impacted by the GMOs.
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	The purpose of the VPAs is to provide clean energy products for community residents including Households through distributing WPS. The VPAs are not potentially resulting in release of pollutants to the environment.	The VPAs involve distribution of WPS in the host countries. Thus, it will lead to reduction in GHG emissions and reduce the release of pollutants.
Principle 9.5 Hazardous and Non-hazardous Waste			

Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The purpose of the VPAs is to provide clean energy product (WPS) to the Huseholds through distribution of the products. Thus, The VPAs do not involve the manufacture, trade and release of harmful chemicals.	The VPAs involve distribution of WPS in the host countries. Thus, it will not lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions
Principle 9.6 Pesticide and Fertilizers			
Will the Project involve the application of pesticides and/or fertilisers?	No	No pesticides and/or fertilisers will be used in the VPAs.	The VPAs involve distribution of WPS in the host countries. Thus, it will not lead to application of pesticides and/or fertilisers
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	The VPAs reduce the consumption of firewood, therefore having a positive impact on forest conservation	The VPAs do not involve harvesting of forests. The VPAs shall result in reduction in demand of biomass fuel in the region putting less pressure on forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling.
Principle 9.8 Food			
VVBs the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The VPAs do not have any expected effects on modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.	The VPAs involve distribution of WPS in Uganda and Bangladesh. Thus, the VPAs will have no impact on the nutritional quality of food available.
Principle 9.9 Animal Husbandry			
Will the Project involve animal husbandry?	No	The VPAs do not involve animal husbandry.	The VPAs involve distribution of WPS in Uganda and Bangladesh. It is a Social and Climate Impact Programme. Thus, it VVBs not involve animal husbandry.
Principle 9.10 High Conservation Value Areas and Critical Habitats			
VVBs the Project physically affect or alter largely intact or High Conservation Value	No	The VPAs will not cause any risk to HCV ecosystems, critical habitats, landscapes, key	The VPAs involve distribution of WPS in Uganda and Bangladesh. So, there will be no

(HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?		biodiversity areas or sites identified. In fact, the VPA benefits biodiversity of forest by reducing the use of firewood for cooking and water boiling.	impact on key biodiversity.
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR VVBs the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	There are no endangered species identified as potentially being present within the project boundary. The VPAs are not expected to potentially impact other areas where endangered species may be present through transboundary affects.	The VPAs involve distribution of WPS in the host countries. It will be used in the residential areas so no issues with the presence of endangered species into the project boundary.

E.11.2 Gender Sensitive requirements

Means of validation	Question	Justification provided by CME	VVB Assessment
	Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The VPAs aim to be gender sensitive in design without excluding marginalized members of society. The VPAs seek to promote gender equality at all levels. The implemented activities including the stakeholder consultation as well as the future implementation of the project activities take into the account gender roles and the abilities of women and men to participate in the decision/designs of the project activities. For the majority of households in the host countries, fuel collection and purification activities are handled by women. In fact, the reduction in the biomass fuel requirement is foreseen to reduce women's work load related to collection of fuel needed for cooking and boiling water. It can be further expected that sexual harassment and violence happening during fuel collection activities may be reduced. Hence, largely women will benefit from the project activity.	The VPAs are about access to clean drinking water & The VPAs will abide by the national gender strategy. The VPAs include women at every step and do not promote gender disparity in any manner. The clean energy products will reduce the time and effort needed by women to fetch firewood and purify the water for their families. So, the VPAs do not involve and is not complicit in any form of discrimination based on gender difference in line with the National Gender Policy/46/.
	Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	Project activities are in line with the goals of Uganda national policies. Uganda has ratified an Equal Rights Amendment into their respective constitution, which guarantees equal gender rights. The project activities take into the account national policies, in fact the aim is to improve the conditions of the local women and girls by providing access to clean and safe water.	The VPAs align with the goals of Uganda and Bangladesh with respect to equal rights and they also align with the National Gender Policy /46/ which eliminates gender disparity.
	Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	National Council of Women committee members were invited to attend the stakeholder consultation including discussion on Safeguarding Principles & Requirements. No other expert	Due to the current scenario of Covid-19, the stakeholder consultation has been postponed as public meetings &

		is required for the Safeguarding Principles & Requirements.	international travels are restricted. But once the situation improves, CME with partner organization will host the Stakeholder consultation and invite National Council of Women.
	Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Members of women organizations were invited to attend the stakeholder consultation. No other expert is required to assist with Gender issues at the Stakeholder Consultation.	Due to the current scenario of Covid-19, the stakeholder consultation has been postponed as public meetings & international travels are restricted. But once the situation improves, CME with partner organization will host the Stakeholder consultation and invite National Council of Women.
Findings	No findings.		
Conclusion	The Validation team confirms that the VPAs comply with the GS4GG Gender Equality guidelines and requirements.		

SECTION F. Internal quality control

A draft inclusion report prepared by validation team is reviewed by an independent technical review team (one or more members) to confirm whether all the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion was reached in an objective manner that complies with the applicable GS4GG rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of the technical review team are independent of the validation team.

During the technical review process, additional findings may be identified, or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that need to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized by the Managing Director on behalf of Earthood Services Private Limited.

SECTION G. Validation opinion

Earthood Services Private Limited (Earthood) has performed a Gold Standard (GS4GG) validation and inclusion of the “GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS10971 (VPA 05), GS11007 (VPA 06) & GS11008 (VPA07)”. The validation and inclusion

was performed on the basis of rules and requirements defined by Gold Standard and UNFCCC, as appropriate.

The review of the PoA-DD, VPA-DDs, supporting documents and subsequent follow-up actions (independent research of information) has provided Earthood with sufficient evidence to determine the fulfilment of stated criteria.

The VPAs will lead to access of clean energy products (ICS & WPS) to people of Uganda, Madagascar, Mexico, Malawi, Zambia and Bangladesh. The project results in reduction of CO_2e emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario and the emission reductions attributable to the project are, hence, additional to any that would occur in the absence of the proposed GS programme of activities.

The emission reductions (average) from the GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS 10971 (VPA 05), GS 11007 (VPA 06) & GS11008 (VPA07) are estimated to be as given in the table below over the crediting period.

SDG Impacts	VPA01	VPA02	VPA03	VPA04	VPA05	VPA06	VPA07
SDG13: Climate Action	838,987 tCO_2 (eq)	43,371 tCO_2 (eq)	48,703 tCO_2 (eq)	61,923 tCO_2 (eq)	64,827 tCO_2 (eq)	75,873 tCO_2 (eq)	30,270 tCO_2 (eq)
SDG 1: No Poverty	100%	100%	100%	100%	100%	100%	100%
SDG 3: Good Health and well being	100%	100%	100%	100%	100%	100%	100%
SDG 5: Gender Equality	95 %	95 %	95 %	95 %	95 %	95 %	95 %
SDG 6: Clean water and sanitation	-	90,710	-	-	-	-	96,084
SDG 7: Affordable and Clean Energy	133,710	-	10,000	10,100	15,400	12,400	-
SDG 8: Decent Work and Economic Growth	70	70	40	40	40	40	40

SDG 12: Responsible Consumption and Production	55%	100%	55%	55%	55%	55%	100%
SDG 15: Life on Land	1163.88 tonnes eq fuelwood/ day	100%	76.23 tonnes eq fuelwood/ day	99.99 tonnes eq fuelwood/ day	87.07 tonnes eq fuelwood/ day	101.82 tonnes eq fuelwood/ day	100%

Over the selected 5 years of renewable crediting period. The emission reduction forecast has been checked, and it is deemed likely that the stated amount is achievable given that the underlying assumptions do not change.

The monitoring plan explained in the VPA-DDs is in compliance with the registered PoA DD, Version 4.0. It adequately provides for the ex-post monitoring of the project's emission reductions and sustainable indicators as defined in GS VPA-DDS. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is Earthood's opinion that UpEnergy Group shall be able to implement the monitoring plan.

In summary, "GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS10971 (VPA 05), GS11007 (VPA 06) & GS11008 (VPA07)" as described in the VPA-DDs 01 – 07 and, meets all relevant GS requirements and correctly applies the baseline and monitoring methodology TPDDTEC v3.1. & Emission Reduction from safe drinking water supply v1.0. Therefore, Earthood requests the inclusion of GS10967 (VPA 01), GS10968 (VPA 02), GS10969 (VPA 03), GS10970 (VPA 04), GS 10971 (VPA 05), GS 11007 (VPA 06) & GS11008 (VPA07) under the registered PoA "UpEnergy – Social and Climate Impact Programme".

Appendix 1. Abbreviations

Abbreviations	Full Texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating / Managing Entity
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
VPA	Voluntary Project Activity
VPA DD	Voluntary Project Activity Design Document
DNA	Designated National Authority
DO	Distribution Organisation
VVB	Designated Operational Entities
DRB	Demonstrably renewable woody biomass
EB	CDM Executive Board
EIA	Environmental Impact Assessment
FAO	Food and Agriculture organization
FAR	Forward Action Request
GHG	Greenhouse gas(es)
ICS	Improved Cook Stoves
IPCC	Intergovernmental Panel on Climate Change
LAF	Leakage Adjustment Factor
LSC	Local Stakeholder Consultation
NRB	Non-Renewable Biomass
PA	Project Activity
PoA	Programme of Activities
PoA DD	CDM Programme of Activities Design Document
UID	Unique Identification number

Appendix 2. Competence of team members and technical reviewers

Competence Statement	
Name	Shreya Garg
Country	India
Education	M.Sc. (Climate Science & Policy), TERI University
Experience	9 Years +
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., AMS.III.BL, ACM0002, ACM0012

Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Shifali Guleria	**Date**	26/04/2022
Approved by	Deepika Mahala	**Date**	26/04/2022

Competence Statement			
Name	Rahi Sahni		
Education	M.Sc Environment Science and Technology, Bharati Vidyapeeth University, Pune		
Experience	6 months		
Field	Climate Change and Environment		
Approved Roles			
Team Leader	NO		
Validator	Yes		
Verifier	Yes		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	NO		
Reviewed by	Shreya Garg	**Date**	09/04/2020
Approved by	Anshika Gupta	**Date**	09/04/2020

Competence Statement	
Name	Shifali Guleria
Education	M.Sc. (Environmental Studies and Resource Management), TERI University
Experience	3+ year
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)
Local expert	YES
Financial Expert	NO
Technical Reviewer	YES

TA Expert	YES (1.2, 3.1)		
Reviewed by	Deepika Mahala	**Date**	16/02/2022
Approved by	Ashok Gautam	**Date**	18/02/2022

Competence Statement			
Name	Shreya Kunj		
Education	M. Tech (Energy Management) B. Tech (Electrical Engineering)		
Experience	02/2021-Present		
Field	Climate Change & Environment		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Deepika Mahala (Quality Manager)	**Date**	19/08/2021
Approved by	Ashok Kumar Gautam (Technical Manager)	**Date**	25/08/2021

Competence Statement			
Name	Julius Sam Khaukha		
Country	Uganda		
Education	Bachelors in Social Administration		
Experience	7 Years +		
Field	Education and Social Work		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	YES (Uganda)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	NO		
Reviewed by	Abhishek Mahawar	**Date**	01/03/2018

Approved by	Ashok Kumar Gautam	**Date**	01/03/2018

Competence Statement			
Name	Selwyn Chipompwe		
Country	Zambia		
Education	Higher Diploma in Agriculture		
Experience	4 years +		
Field	Agriculture		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	YES (Zambia)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	NO		
Reviewed by	Abhishek Mahawar	**Date**	01/03/2018
Approved by	Ashok Kumar Gautam	**Date**	01/03/2018

Competence Statement			
Name	Enea Katundu		
Country	Malawi		
Education	Master of Science		
Experience	3 Yrs +		
Field	Research and Social Empowerment		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	YES (Malawi)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	NO		
Reviewed by	Abhishek Mahawar	**Date**	01/03/2018
Approved by	Ashok Kumar Gautam	**Date**	01/03/2018

Competence Statement	
Name	Ricardo Lopes
Country	Brazil
Education	Technical Diploma in Data Processing

Experience	12 years		
Field	CDM, Energy, Environment		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	Yes (ACM0001, ACM0002, AM0026, AMS ID, AMS III.H, AMS III.F)		
Local expert	Brazil, Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Equador, Honduras, Mexico, Nicaragua, Uruguay		
Financial Expert	Yes		
Technical Reviewer	No		
TA Expert	Yes (1.2, 13.1)		
Reviewed by	Shreya Garg	**Date**	04/06/2019
Approved by	Anshika Gupta	**Date**	04/06/2019

Competence Statement			
Name	Amresh Chandra Biswas		
Country	Bangladesh		
Education	Bachelor of Science, Satpar Govt. Nazrul College Gopalgoanj		
Experience	6 years		
Field	Environment		
Approved Roles			
Team Leader	No		
Validator	No		
Verifier	No		
Methodology Expert	No		
Local expert	Bangladesh		
Financial Expert	No		
Technical Reviewer	No		
TA Expert	No		
Reviewed by	Abhishek Mahawar	**Date**	01/03/2018
Approved by	Ashok Kumar Gautam	**Date**	01/03/2018

Competence Statement	
Name	RANDRIANJAKANAVALONA Dafy Noely
Education	Master of Science in Engineering (Avionics)
Experience	1+ years
Field	Avionics, Electronics
Approved Roles	
Team Leader	No
Validator	No
Verifier	No
Methodology Expert	No
Local expert	Yes (Madagascar)

Financial Expert	No		
Technical Reviewer	No		
TA Expert	No		
Reviewed by	Shreya Garg	**Date**	19/06/2019
Approved by	Anshika Gupta	**Date**	19/06/2019

Appendix 3. Documents reviewed or referenced

S.No.	Author	Title	References to the document	Provider
1.	GS4GG	Principles and requirements for GS4GG	Version 1.2	Others
2.	GS4GG	Gold Standard Programme of Activities Requirements,	Version 2	Others
3.	GS4GG	Community Services Activity Requirements	Version 1.2 Dated Oct 2019	Others
4.	UpEnergy Group	PoA-DD	Version 4 dated 20/06/2021	CME
5.	Gold standard	TPDDTEC V3.1 for ICS Emission Reduction from safe drinking water supply v1.0 for WPS	Version 3.1 Version 1.0	Others
6.	GS4GG	GS4GG Stakeholder consultation and engagement requirements	Version 1.2 Dated Oct 2019	Others
7.	UNFCCC	Standard: CDM VVS PoA	Version 3.0	Others
8.	GS4GG	GHG Product Requirements	Version 2.0	
9.	UpEnergy Group/Community Carbon	VPA-DDs (GS10967 (VPA01), GS10968 (VPA02), GS10969 (VPA03), GS10970 (VPA04), GS10971 (VPA05),GS11007 (VPA06) & GS11008 (VPA07)	VPA 1 to 7 – 16/09/2022	CME
10.	GS4GG	GS4GG VPA-DD Template	Version 1.1	Others
11.	UNFCCC	Standard: CDM PCP	Version 3.0	Others
12.	GS4GG	GS4GG Covid-19 Interim Measures	Version 3.0	Others
13.	UNFCCC	Guideline for Sampling and surveys for CDM project Activities	Version: 4.0	CME
14.	UNFCCC	Standard: CDM PS for PoA	Version 3.0	Others
15.	UpEnergy Group	ODA Declaration	Dated: 28/06/2021	CME
16.	UNFCCC	Standard for Sampling and surveys for CDM project Activities	Version: 09.0	Others

17.	UpEnergy Group	VVB remote survey	Dated: 02/08/2021	CME
18.	UpEnergy Group	Sample carbon transfer agreement between and end-users	-	CME
19.	UpEnergy Group	Evidence for Initiation of Feedback round	-	CME
20.	IPCC	2006 IPCC default values	-	Others
21.	ESPL	PoA Validation report	17/09/2021	Others
22.	UpEnergy Group	Double counting Declaration	23/06/2021	CME
23.	UpEnergy Group	Declaration showing this project as no new registration	23/06/2021	CME
24.	UpEnergy Group	Declaration showing this project is implemented independently.	23/06/2021	CME
25.	UpEnergy Group	Sales receipts	-	Others
26.	Department of Foreign Affairs	https://www.dfa.ie/travel/travel-advice/a-z-list-of-countries/uganda/	Last accessed: 20/07/2021	Others
27.	Gold Standard	GHG emissions reductions sequestration and product requirements	Version 2.0 Dated April 2021	Others
28.	UpEnergy Group	SDG outcome sheet/ER sheet	Corresponding to the VPA-DDs	CME
29.	UpEnergy Group	Data recording sheet for baseline survey	Corresponding to the VPA-DDs	CME
30.	UpEnergy Group	Baseline survey Forms	Several	CME
31.	WHO	Water Quality Standard	-	Others
32.	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programmes of activities	Version 4.0	
33.	UpEnergy Group	Manufacturer's specifications of ICS & WPS	-	CME
34.	UpEnergy Group	Gender equality and human resource policy	May 2020	CME
35.	UN Human Rights Office of the High Commissioner	https://www.ohchr.org/en/countries/asiaregion/pages/bdindex.aspx	Last accessed: 09/07/2021	CME
36.	UNFCCC	UNFCCC Harmonization of Standards for GHG accounting dated December 2021	2021	Others
37.	National Gender Policy	https://www.ubos.org/wp-content/uploads/publications/03_2019UBOS_Gender_Issues_Report_2019.pdf	Last accessed: 16/12/2022	CME

38.	UN treaty Collection	https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-14&chapter=18&clang=_en	Last accessed: 09/07/2021	CME
39.	International Labour Organization: Ratifications for LDCs	https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103500	Last accessed: 09/07/2021	CME
40.	UNCTAD	https://unctad.org/topic/least-developed-countries/list	Last accessed: 09/09/2021	Others
41.	ESPL	VVB Remote survey checklist	16/06/2021	Others
42.	UNFCCC	CDM Tool 30 “Tool 30 “Calculation of the fraction of Non-renewable Biomass	Version 3.0	Others
43.	UpEnergy Group	fNRB calculation sheets	-	CME
44.	UN	UN Convention against corruption	2003	Others
45.	UN	UN Declaration on the rights of Indigenous people	2001	Others
46.	LDCs	National Gender Policy	2019	Others
47.	UN	UN Human Rights Conventions	2006	Others
48.	ERPA	Signed agreement between UpEnergy Group and UpEnergy Uganda Limited	02/01/20	CME
49.	IPCC	2019 Refinement to IPCC 2006	2019	Others
50.	FAO	Global Forest Resources Assessment 2020 Uganda, Madagascar, Mexico, Malawi, Zambia and Bangladesh	2020	Others
51.	FAO	Global Forest Resources Assessment 2020	2015	Others
52.	FAO	Forest Product Conversion Factors 2020	2020	Others
53.	FAOSTAT	FAOSTAT on Forest Production and Trade (http://www.fao.org/faostat/en/#data/FO)	-	Others
54.	IPCC	IPCC 2006 Guidelines for National Greenhouse gas Inventories	2006	Others
55.	ILO	Convention 87 (Freedom of Association and Protection of the Right to Organise Convention), Convention 98 (Right to Organise and Collective Bargaining Convention), convention 29 (Forced Labour Convention) and 105 (Abolition of Forced Labour Convention)	Several	Others
56.	WHO	A Clean 5 Gallons a Day Keeps the Doctor Away: The Water Crisis in LDCs	2014	Others
57.	CDM	CDM Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 3.0	Others
58.	WHO	National system to support drinking water, sanitation and hygiene: Global status report 2019	2019	Others

59.	CME	ERPA	2013	CME
60.	VVB	Remote Survey List	02/08/2021	VVB
61.	Various	• https://dhsprogram.com/ • Demographic and Health Surveys (DHS), 2010-2019 • https://www.seforall.org/system/files/2019-11/EF-2019-UL-SEforALL-w.pdf • https://www.cleancookingalliance.org/binary-data/RESOURCE/file/000/000/215-1.pdf • Fuelwood use patterns in Rural Mexico: a critique to the conventional energy transition model 2019; https://www.historiaagraria.com/FILE/articulos/RHA77_serrano-medrano_ghilardi_masera.pdf • https://dhsprogram.com/publications/publication-sr265-summary-reports-key-findings.cfm?cssearch=325511_1 • https://www.cleancookingalliance.org/resources/32.html (Page no.21 of "The energy access to situation in developing countries, WHO, 2009") • https://dhsprogram.com/pubs/pdf/FR344/FR344.pdf	-	Others
62.	UpEnergy	Local Stakeholder report (Uganda)	Dated 18/09/2021	CME
63.	UpEnergy	Sample Invitation Letter	-	CME
64.	UpEnergy	Blind development Assessment for Uganda	-	CME

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

- A corrective action request (CAR) is raised if one of the following situations occurs:
    - The PD have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and additional GHG emission reductions or net anthropogenic GHG removals;
    - The applicable rules and requirements have not been met;
    - There is a risk that GHG emission reductions or net anthropogenic GHG removals cannot be monitored or calculated.
- A clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable rules and requirements have been met.
- A forward action request (FAR) during validation to identify issues related to project implementation that require review during the first verification of the project activity.

Findings for Improved cookstoves

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	XX	**Section No.**	XX	**Date :** DD/MM/YYYY
Description of FAR				
X				
Project participant response				**Date :** DD/MM/YYYY
X				
Documentation provided by project participant				
X				
VVB assessment				**Date:** DD/MM/YYYY
X				

Table 2. CL from this validation

CL ID	01	**Section no.**	C.7	**Date :** 14/07/2021
Description of CL				
1. Section B.7.2. of the VPA-DD states that the CME has followed CDM Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities Version 8.0. However, the latest applicable version of the standard is 9.0. CME shall clarify if the sampling requirements are in compliance with the latest version of the standard. 2. CME has calculated the value of the ex-ante parameter fNRB using CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 02.0. however, the latest applicable version of the tool is 3.0				
Project participant response				**Date :** 03/08/2021
1. The typo error is corrected and sampling requirements are in line compliance with latest version. 2. The typo error is corrected and used latest version of the tool. The revised VPA-DD is shared with VVB				

Documentation provided by project participant	
Revised VPA-DD	
VVB assessment	**Date:** 10/08/2021
1. The PP has now updated the version to CDM Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities Version 9.0. 2. The PP has now updated the version to CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 3.0. Thus, the CL#01 is closed.	

CL ID	02	**Section no.**	C.8	**Date :** 14/07/2021
Description of CL				
Under section B.2 (S.No 4) of VPA01 DD, The capacity of ICS distributed under this VPA should be less than 150 KW per unit as per the standard. CME shall provide the demonstration for the compliance of the same.				
Project participant response				**Date :** 03/08/2021
The demonstration of the capacity is shown in ER calculation sheet. It is shared with VVB				
Documentation provided by project participant				
ER calculation sheet				
VVB assessment				**Date:** 11/08/2021
Though the demonstrated capacity of ICS is mentioned in the ER sheet, the manufacturer specification is needed to validate the same. The PP has provided the specification of WPS instead of ICS. Thus, it cannot be verified and the CL remains OPEN.				
Project participant response				**Date : 19/08/2021**
The technical specification of ICS is updated in VPA-DD. The revised VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 13/09/2021
Under section A.3 of VPA-DD 01, The PP has provided the manufacturer specification of ICS. Thus, the capacity of ICS is verified. Hence, the CL#02 is closed.				

CL ID	03	**Section No.**	D.2	**Date :** 10/08/2021
Description of CL				
1. For the calculation for units for electric stoves the VPA-DD states “The emission reduction achieved by the project activity shall be calculated as the difference between the emission reductions achieved in the premises and evaluated as per the statistical analysis of the sampled fuel consumption savings and the sum of the additional project emissions and leakage evaluated as per the guidance provided in the CDM Methodological tool for Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 3”. The CME shall clarify how this approach will be followed. 2. The CME shall clarify how the number of total ICS stoves will be taken into consideration in the formula for project emissions for electric stoves sourced from CDM Methodological tool for Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 3 3. The CME shall also demonstrate how the baseline and leakage emissions will be calculated for the electric stoves.				
Project participant response				**Date :** 19/08/2021

1. CDM Methodological tool for Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 3.0" is used for calculation of project emissions from electric cooking. The baseline emissions and leakage are calculated from TPDDTEC v3.1 as the baseline scenario for improved cookstove and electric cooking are the same. There is no electricity consumption for cooking in baseline scenario. 2. For Ex-ante, first year 500 EPC are taken for calculation. The distribution split between EPC and Improved cookstove are mentioned in the ER sheet. The first sales receipt of EPC is shared with VVB 3. Since the baseline scenario for improved cookstove and electric cooking are the same, baseline emissions will be calculated using equations and approach as per TPDDTEC v3.1. There is no electricity consumption for cooking in baseline scenario. The leakage emission from project is zero as there is no net increase in electricity consumption other than project activity need which are already accounted in project emissions.
Documentation provided by project participant
Sales receipt of EPC ER sheet
VVB assessment **Date:** 13/09/2021
1. As per the applied methodology, the baseline emissions and leakage are calculated from TPDDTEC v3.1 as the baseline scenario for improved cookstove and electric cooking are the same. Also, the PP ensures that there is no electricity consumption for cooking in baseline scenario. 2. The PP has provided an ER sheet in which they have done calculation for first 500 EPC, here the number of EPC is estimated to be 500. Also, the PP has provided the sales receipt for EPC. 3. As per the applied methodology TPDDTEC V3.1, the baseline scenario for biomass cookstove and electric cookstove are same. Also, there is no electricity consumption, so the leakage emission is zero. Thus, the CL#03 is closed.

Table 3. CAR from this validation

CAR ID	01	**Section no.**	D	**Date :** 14/07/2021
Description of CAR				
1. Please review the description of formula used under calculation of units including electric stoves Under Section B.6.1 of VPA-DD 1. 2. There is inconsistency between the value of Project Emission Value provided on the page number 39 of VPA-DD 1 and in the ER sheet				
Project participant response				**Date :** 03/08/2021
1. The clerical error has been corrected and updated in VPA-DD 2. The values are consistent and is in line ER calculation sheet. The ER calculation sheet is shared with VVB				
Documentation provided by project participant				
ER calculation sheet				
VVB assessment				**Date:** 11/08/2021
1. The Section B.6.1 of the VPA-DD has not been updated to reflect the description of formula used under calculation of units including electric stoves. 2. The values have now been cross-checked again with ER sheet and are found to be consistent. The CAR#01 is closed.				

CAR ID	02	**Section no.**	E.11	**Date :** 14/07/2021
Description of CAR				
There is an alteration in the template. The point number 4.3 (b) and the principle 4.4(Indigenous People) are missing under APPENDIX 1 Safeguarding Principles Assessment of VPA-DD 1.				
Project participant response				**Date :** 03/08/2021

It is a clerical error and the point number 4.3 (b) and the principle 4.4(Indigenous People) are updated in VPA-DD. The updated VPA DD is shared with VVB
Documentation provided by project participant
Revised VPA-DD
VVB assessment **Date:** 11/08/2021
The CME has included the principle 4.4 but missed to include the section 4.3(b). So, the CAR is OPEN.
Project participant response **Date :** 19/08/2021
The section 4.3 (b) is updated in VPA-DD. The revised VPA-DD is shared with VVB
Documentation provided by project participant
Revised VPA-DD
VVB assessment **Date:** 23/08/2021
As per the revised VPA-DD 01, the PP has included the section 4.4 and 4.3(b) under APPENDIX 1 Safeguarding Principles Assessment of VPA-DD 01. Thus, the CAR #02 is closed.

CAR ID	03	**Section no.**	C.7	**Date :** 14/07/2021
Description of CAR				
The PP is requested to review the sub-point number under section B.6.3 and B.6.4 of VPA-DD 1. Point number B.6.3 is missing and the point number B.6.4 is named under B.6.3.				
Project participant response				**Date :** 03/08/2021
The clerical error in VPA-DD is corrected. The updated VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 11/08/2021
The typographical error has now been removed and Section B.6.3 and B.6.4 of the VPA-DD have been revised accordingly. CAR#03 is closed.				

CAR ID	04	**Section no.**	E.11	**Date :** 14/07/2021
Description of CAR				
The PP is requested to review the Principle 4.2 -Forced Eviction and Displacement under APPENDIX 1 Safeguarding Principles Assessment, as there is repetition of this section.				
Project participant response				**Date :** 03/08/2021
The clerical error has been rectified. The updated VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 11/08/2021
The clerical error related to Principle 4.2 – Forced eviction and displacement under Appendix 1 safeguarding assessment has been corrected. The CAR is closed.				

CAR ID	05	**Section no.**	C.7	**Date :** 14/07/2021
Description of CAR				
The PP is requested to update the section A.1.1 (Eligibility of Project under approved PoA) of VPA-DD 1 in line with the mandatory requirements under GS4GG Principles and Requirements.				
Project participant response				**Date :** 03/08/2021
Updated section A.1.1 and which is in line with requirements under GS4GG Principles and Requirements.				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 11/08/2021

The PP has now updated the section A.1.1. (Eligibility of Project under approved PoA) of VPA-DD 1 in line with the mandatory requirements under GS4GG Principles and Requirements Thus the CAR is closed.

CAR ID	06	**Section no.**	C.7	**Date :** 14/07/2021
Description of CAR				
Under section B.1 of VPA01 DD, The PP is requested to mention mandatory GS guidelines (e.g. Usage Survey Guidelines), where applicable as per GS Template requirements.				
Project participant response				**Date :** 03/08/2021
Added the statement and revised VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 11/08/2021
CME has now mentioned under section B.1 of VPA01 DD, the mandatory GS guidelines (e.g. Usage Survey Guidelines), where applicable as per GS Template requirements. The CAR#06 is closed.				

CAR ID	07	**Section no.**	C.7	**Date :** 14/07/2021
Description of CAR				
As per standard VPA DD template section B.6.3 (Ex ante estimation of SDG Impact) the CME shall mention ex ante estimation for all the SDGs covered under the VPA01.				
Project participant response				**Date :** 03/08/2021
The Ex-ante estimation for all SDGs are demonstrated in Ex-ante ER calculation sheet. Ex-ante ER calculation sheet is shared with VVB				
Documentation provided by project participant				
ER Calculation sheet				
VVB assessment				**Date:** 10/08/2021
The PP has not clearly mentioned the EX ante estimation for all the SDG in the VPA DD01. Thus, the CAR will remain OPEN.				
Project participant response				**Date :** 19/08/2021
The Ex-Ante estimation for all SDGs are updated in VPA-DD. The revised VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 13/09/2021
Under section B.6.3 of VPA-DD 01, the PP has mentioned Ex-ante estimation for all the SDGs impact covered under the VPA01 . CAR#07 is closed.				

CAR ID	11	**Section no.**	D.1	**Date :** 14/07/2021
Description of CAR				
FAR from preliminary review converted to CAR - The CME is requested to provide the evidence for start date of the project Activity.				
Project participant response				**Date :**03/08/2021
The implementation of ICS started from 01st January 2021. Sales database along with receipt is shared with VVB				
Documentation provided by project participant				
1. Sales database 2. First sales receipt of ICS				
VVB assessment				**Date:** 10/08/2021
The CME has provided the sales receipt and sales database confirming the start date for the project activity. Thus, the FAR stands closed and converted into CAR#11.				

CAR ID	12	**Section no.**	D.11	**Date :** 14/07/2021
Description of CAR				

FAR from preliminary review converted to CAR - All the safeguarding principles assessment shall be supported with evidence/references/expert's opinion. The PP shall provide them for GS VVB validation.
Project participant response **Date :**03/08/2021
The HR policy and Uganda gender policy is referenced. All the other principles are statement based on the project. The HR policy document is shared with VVB
Documentation provided by project participant
1. Revised VPA-DD 2. HR Policy of UpEnergy Group
VVB assessment **Date:** 10/08/2021
The CME has now supported all the safeguarding principles using evidence such as HR Policy or the Uganda gender policy. The FAR#02 stands closed and converted into CAR#12.

CAR ID	13	**Section no.**	D.10	**Date :** 14/07/2021
Description of CAR				
FAR from preliminary review converted to CAR - PP shall conduct the physical meetings and stakeholder feedback round before the project is submitted for Gold Standard design review or follow the GS4GG rule update (i.e., Rule Update-COVID Interim Measures) VVB shall confirm the physical meeting is in line with GS4GG consultation requirements				
Project participant response				**Date :19/12/2022**
UpEnergy Group conducted physical Local stakeholder meeting for Uganda (VPA01 and VPA02), Malawi (VPA04) and Zambia (VPA06) on 18/09/2021, 25/09/2021 and 13/12/2021 respectively as per GS4GG Local stakeholder consultation requirements. The SFR round for Zambia is pending along with the LSC for VPA03, VPA05 and VPA07. The stakeholder consultation meeting could not be conducted due to several Covid related restrictions in the host countries and shall be conducted as soon as the situation gets better in the host countries. The CME has shared a public link for all the stakeholders to record their comments and a detailed stakeholder consultation report including all the invitation list has also been submitted by the CME.				
Documentation provided by project participant				
Following documents for Uganda has been submitted: 1. LSC report, 2. sample invitation letter 3. Four to Five representative samples of the evaluation form and blind development assessment				
VVB assessment				**Date:** 10/08/2021
CME has conducted the physical stakeholder consultation meeting. For Uganda LSC meeting held on 18/09/2021, for Malawi, it was held on 25/09/2021 and for Zambia, it was held on 13/12/2021. Hence, FAR#03 stands closed and converted into CAR#13.				

CAR ID	14	**Section no.**	D.10	**Date :** 14/07/2021
Description of CAR				
FAR from preliminary review converted to CAR: Stakeholders Consultation Report: • The project developer shall invite stakeholders from all categories A to G mentioned in paragraph 3.1.1 in the "Stakeholder Consultation and Engagement Requirements" guidelines. • The invitation for the consultation meeting shall be given at least 30 days before the meeting takes place. • PP shall provide the original versions of evaluation forms and 4-5 representative samples of the evaluation forms in English. • PP shall ensure that the blind sustainable development assessment is conducted in the consultation meeting.				
Project participant response				**Date :** 19/12/2022

UpEnergy Group conducted physical Local stakeholder meeting for Uganda (VPA01 and VPA02), Malawi (VPA04) and Zambia (VPA06) on 18/09/2021, 25/09/2021 and 13/12/2021 respectively as per GS4GG Local stakeholder consultation requirements. The SFR round for Zambia is pending along with the LSC for VPA03, VPA05 and VPA07. The CME has shared a public link for all the stakeholders to record their comments and a detailed stakeholder consultation report including all the invitation list has also been submitted by the CME.
Documentation provided by project participant
Following documents for Uganda has been submitted: 1. LSC report, 2. sample invitation letter 3. Four to Five representative samples of the evaluation form and blind development assessment
VVB assessment **Date:** 10/08/2021
CME has conducted the physical stakeholder consultation meeting. For Uganda LSC meeting held on 18/09/2021, for Malawi, it was held on 25/09/2021 and for Zambia, it was held on 13/12/2021. FAR#04 has been converted to CAR#14

CAR ID	15	**Section no.**	E.10	**Date :** 14/07/2021
Description of CAR				
FAR from preliminary review converted to CAR – Design of the Stakeholder Feedback Round: • The PP shall conduct Stakeholder Feedback Round lasting minimum of 2 months and the requested documents shall be public available for global consultation. • All the attendees of LSC meeting shall be invited for further feedback/comment during SFR.				
Project participant response				**Date :** 19/!2/2022
UpEnergy Group conducted physical Local stakeholder meeting for Uganda (VPA01 and VPA02), Malawi (VPA04) and Zambia (VPA06) on 18/09/2021, 25/09/2021 and 13/12/2021 respectively as per GS4GG Local stakeholder consultation requirements. The SFR round for Zambia is pending along with the LSC for VPA03, VPA05 and VPA07. The stakeholder consultation meeting could not be conducted due to several Covid related restrictions in the host countries and shall be conducted as soon as the situation gets better in the host countries.				
Documentation provided by project participant				
1. Rule update -2020-COVID-19-Interim- measures v4				
VVB assessment				**Date:** 10/08/2021
According to Design of the Stakeholder Feedback Round: The SFR was conducted for Minimum of 2 months. The start and end date mentioned in the SCR report have been verified with the relevant screenshots of the opening and closing mail shared by the PP. Invite for feedback was sent to all the invitees of the LSC meeting. CME has conduct a physical stakeholder feedback consultation meeting on 18/09/2021 for Uganda. FAR#05 was raised and resolved. Hence, FAR#05 has been converted into CAR#15				

CAR ID	16	**Section no.**	C.8	**Date :** 14/07/2021
Description of CAR				
FAR from preliminary review converted to CAR - VVB is required to check for double counting at both validation and verification stages by reviewing all relevant registries that could hold RECs/VERs/CERs from the considered project activity.				
Project participant response				**Date :** 03/08/2021

The carbon standard registries including UNFCCC, GS and VERRA have been checked and it is confirmed that the VPA has not been registered as an individual Gold Standard or CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits. Each cookstove distributed under this PoA will have UpE/Brand logo, PoA ID and unique serial number on the product. The cookstove photograph stamping logo and unique serial number is shared with VVB. The revised VPA-DD is shared with VVB.
Documentation provided by project participant
Revised VPA-DD
VVB assessment **Date:** 10/08/2021
The PP has included the provision to assign serial number to each device and independent research has also bene conducted on the various carbon registries like CDM, VCS and GS to ensure that the project is not part of any other PoA or VPA. The CME has taken due measures to avoid double counting and have also shared the photos of the devices with unique serial number engraved. Thus, the FAR is Closed. Hence, FAR#06 is converted into CAR#16.

CAR ID	17	**Section no.**	D.6.1	**Date :** 14/07/2021
Description of CAR				
FAR from preliminary review converted to CAR - As per the applied methodology TPDDTEC version 3.1, section 3.0 monitoring methodology, the CME should conduct monitoring survey, Usage Survey and also Project fuel consumption test (PFT). The CME is requested to include monitoring survey plan, Usage survey plan and PFT in the section B.7.3 of the VPA DD 01.				
Project participant response				**Date :** 03/08/2021
CME included monitoring survey, usage survey and PFT. All the three surveys will be followed as per monitoring plan described.				
Documentation provided by project participant				
VVB assessment				**Date:** 10/08/2021
The PP has not mentioned the Monitoring survey plan, usage survey and PFT under section B.7.2 of VPA DD01. So, the FAR remains open.				
Project participant response				**Date :** 13/08/2021
Section B.7.2 is revised to include monitoring survey, usage survey and PFT and ageing test approach in the VPA-DD. The revised VPA-DD is shared with the VVB.				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 19/08/2021
Under section B.7.2 of the revised VPA-DD 01, the PP has included the monitoring survey plan, usage survey and PFT as per the applied methodology TPDDTEC v3.1. Thus, the FAR#07 is Closed. Hence, FAR#07 is converted into CAR#17				

Table 4. FAR from this validation

FAR ID	01	**Section no.**	E.2	**Date :** 14/07/2021
Description of FAR				
PP shall conduct the physical meetings and stakeholder feedback round before the project is submitted for Gold Standard design review or follow the GS4GG rule update (i.e., Rule Update-COVID Interim Measures) VVB shall confirm the physical meeting is in line with GS4GG consultation requirements				
Project participant response				**Date :** 03/08/2021
The physical stakeholder consultation meeting has been postponed until after the covid-19 situation eases. The guidance provided by GS CV 19 Interim measures is shared with VVB				
Documentation provided by project participant				
1. Rule update -2020-COVID-19-Interim- measures v4				

VVB assessment	Date: 10/08/2021/MM/YYYY
Due to the currently ongoing global Covid-19 pandemic, the CME has not been able to conduct a physical stakeholder consultation meeting. In line with GS4GG Covid-19 Interim measures, the stakeholder consultation shall be conducted as soon as the situation gets better in the host country i.e., Madagascar, Mexico, and Bangladesh. However, Local stakeholder consultation meeting for the countries - Uganda, Malawi and Zambia has been conducted by the PD on 18/09/2021, 25/09/2021 and 13/12/2021. Thus, the FAR is still OPEN and has been extended to the first verification. **OPEN**	
Project participant response	**Date :** DD/MM/YYYY
X	
Documentation provided by project participant	
X	
VVB assessment	**Date:** DD/MM/YYYY
X	

FAR ID	02	Section no.	E.2	Date : 24/01/2022
Description of FAR				
The baseline study for the institutional/commercial users shall be conducted by the PD under baseline scenario 2 prior to first verification. Baseline surveys for institution should be conducted to be able to claim emission reductions from institutions.				
Project participant response				**Date :** DD/MM/YYYY
X				
Documentation provided by project participant				
X				
VVB assessment				**Date:** DD/MM/YYYY
X				

Findings for Water Purifiers

Table 5. Remaining FAR from validation and/or previous verification

FAR ID		Section no.	Preliminary assessment	Date : 03/01/2022
Description of FAR				

FAR # 1: VVB shall check the evidence for start date of the project activity

FAR # 2: All the safeguarding principles assessment shall be supported with evidence/references/expert's opinion. The PP shall provide them for GS VVB validation.

FAR # 3: PP shall conduct the physical meetings and stakeholder feedback round before the project is submitted for Gold Standard design review or follow the GS4GG rule update (i.e. Rule Update-COVID Interim Measures) VVB shall confirm the physical meeting is in line with GS4GG consultation requirements

FAR # 4: Stakeholders Consultation Report:
• The project developer shall invite stakeholders from all categories A to G mentioned in paragraph 3.1.1 in the "Stakeholder Consultation and Engagement Requirements" guidelines.
• The invitation for the consultation meeting shall be given at least 30 days before the meeting takes place.
• PP shall provide the original versions of evaluation forms and 4-5 representative samples of the evaluation forms in English.
• PP shall ensure that the blind sustainable development assessment is conducted in the consultation meeting.
FAR # 5: Design of the Stakeholder Feedback Round:
• The PP shall conduct Stakeholder Feedback Round lasting minimum of 2 months and the requested documents shall be public available for global consultation.
• All the attendees of LSC meeting shall be invited for further feedback/comment during SFR.

FAR # 6: VVB is required to check for double counting at both validation and verification stages by reviewing all relevant registries that could hold RECs/VERs/CERs from the considered project activity

Project participant response	**Date :** DD/MM/YYYY

FAR # 1: The start date of the project has been crosschecked.

FAR # 2: All the safeguarding principles assessment shall be supported with evidence/references/expert's opinion. The PP shall provide them for GS VVB validation.

FAR # 3: PP conducted the physical LSC meeting for Uganda on 18th September 2021, Malawi on 25th September 2021 and Zambia on 13th December 2021. The SFR round for Uganda is complete and SCR report has been submitted. SFR for Malawi and Zambia is ongoing and report will be compiled once the feedback round conclude. For other countries, PP has opted to follow GS4GG rule update (i.e. Rule Update-COVID Interim Measures) and ensure stakeholder consultation is completed before first performance review submission. PP has submitted all the supporting documents including LSC report, sample invitation letter, 4-5 representative samples of the evaluation form and blind development assessment for Uganda to VVB.

FAR # 4: Stakeholders Consultation Report: PD invited stakeholders from all categories A to G In line with "Stakeholder Consultation and Engagement Requirements" guidelines. The invitations were sent at least 30 days before the meeting. All the supporting documents including LSC report, sample invitation letter, 4-5 representative samples of the evaluation form and blind development assessment has been submitted to VVB.

FAR # 5: Design of the Stakeholder Feedback Round: PP conducted the SFR for minimum of 2 months. The start and end date has been mentioned in the SCR report along with relevant screenshots of the opening and closing mail. Invite for feedback was sent to all the invitees of the LSC meeting who were not able to attend the physical meeting. All the supporting documents including screenshot of the invites, invitation list have been submitted to VVB.

Documentation provided by project participant

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VVB assessment	**Date:** 19/12/2022
FAR # 1. The start date of the project has been crosschecked with the sales receipt of the first sales as evidence provided by the PP. **Hence, FAR#01 is converted into CAR#11 and finding stands Closed.** FAR # 2. The PP has provided relevant supporting and references against all the safeguarding principles. VVB confirms that all the safeguarding principles documents are in line with the VPA-DD. **Hence, FAR#02 is converted into CAR#12 and finding stands closed.** FAR # 3. The LSC meetings for the VPAs could not be completed by the time of validation. However, the LSC meeting for Uganda was conducted on 18th September 2021 and the SFR round for Uganda was initiated on 22nd September 2021. The PP has submitted the stakeholder consultation report for Uganda. With reference to the documents (LSC Report, sample Invitation letter, LSC Attendance List etc.) shared by the PP, the VVB validated the LSC process followed for Uganda. The LSC process for the VPAs are in line with the GS stakeholder consultation and engagement requirements and para 2.1.1 of the Rule Update-Covid 19 interim measures. The PP has ensured that stakeholder consultation for rest of the countries will be completed before the first performance review submission. **Hence, FAR#03 is converted into CAR#13 and finding stands closed.** FAR # 4. The PP has submitted the stakeholder consultation report in which stakeholders from each category from A to G were Invited as per the "Stakeholder Consultation and Engagement Requirements" guidelines. The PP has submitted all the evidence including sample invitation letter and evaluation form which was found to be meeting the requirements. **Hence, FAR#04 has been converted into CAR#14 and finding stands closed.** FAR # 5. Design of the Stakeholder Feedback Round: The SFR was conducted for minimum of 2 months. The start and end date mentioned in the SCR report have been verified with the relevant screenshots of the opening and closing mail shared by the PP. Invite for feedback was sent to all the invitees of the LSC meeting. **Hence, FAR#05 has been converted into CAR#15 and finding stands closed.** FAR # 6. All the WPS distributed under the PoA as per the monitoring plan defined will have a unique ID number to ensure no double counting in the PoA boundary and will also be taken care at VPA level. double counting with respect to other projects In the Host countries will be ensures through sales receipt which will capture if the end user are part of any other GHG program. However, the FAR has also been kept open for the verifying VVB. **Hence FAR#06 is converted to CAR#16 and finding stands closed.**	

Table 6. CL from this validation

CL ID	04	**Section no.**	E.1	**Date :** 23/07/2021
Description of CL				
Para 2.3.2 of meth says "If the expected technical life of project technology (parameter SDWS 7) is shorter than the crediting period, describe measures to ensure that end users are provided replacement systems of comparable quality at the end of the expected technical life (for example, replace with comparable or better technology, retrofit with performance guarantee, etc.). This applies both for new technology and rehabilitated. The CME shall substantiate the lifetime of all the models and include provision for replacement too.				
Project participant response				**Date :** 06/08/2021

The technology is distributed with one year manufacturer warranty and clearly mentioned in the warranty card supplied along with the product. The warranty includes replacement/retrofit, if the product found non-functional during warranty period. The replacement filtration parts will be provided to cater based on the consumption need beyond the life of the product. Periodic checking of product is ensured by service team. An Annex W expression book has been placed at office in UpEnergy, Uganda to voice their feedback/complaints via grievances expression book. The technical specification along with lifespan of the technology is shared with VVB
Documentation provided by project participant
Technical specifications of the water purifiers
VVB assessment **Date:** 12/08/2021
The PP has provided the technical specifications for both the models of water purifier to be distributed and also mentioned the lifespan of the product included under section A.3 of the VPA-DD02 ,which is given as (JH-19B Gravity Water filter- 2400 Liters ,PEHF521 Gravity Water Filter – 5000 Liters) and for the replacement provision, the PP has justified that the replacement filtration parts will be provided to cater based on the consumption need beyond the life of the product. Thus, The CL#04 is Closed.

CL ID	05	**Section no.**	E.6	**Date :** 23/07/2021
Description of CL				
The CME shall justify and substantiate the basis for the estimation of the monitored values under Section B.7.1 of the VPA-DD				
Project participant response				**Date :** 06/08/2021
The CME has substantiated the values which are readily available from literature (for example household size of Uganda), there are few values that are monitored for which measurement methods/procedures are demonstrated. For ex-ante ER estimation, value which is expected is used for VPA-DD.				
Documentation provided by project participant				
VVB assessment				**Date:** 12/08/2021
Under section B.7.1 of the VPA DD, the PP has mentioned some of the monitored values by anticipating the data based on the ex-ante value and some default value but the basis of estimation has not been justified for all the parameters, so the PP is requested to substantiate those parameters also. Thus, the CL will remain OPEN.				
Project participant response				**Date :** 19/09/2021
The section B.7.1 is substantiated in the VPA-DD. The revised VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 14/09/2021
Though, the PP has substantiated the parameters for all the SDGs,. Thus, the CL#05 is now closed.				

Table 7. CAR from this validation

CAR ID	08	**Section no.**	E.6	**Date :** 23/07/2021
Description of CAR				
1. The values provided for estimated SDG impacts under Table 1 of the VPA-D, version 2.0 is not consistent with the ER sheet submitted. Furthermore, the ER sheet submitted is not in line with the water purification devices and has a lot of information and calculation related to ICS. 2. CME shall review if SDG 7 is also included under the VPA since the information related to SDG7 has not been included anywhere in the VPA-DD Version 2.0 3. The CME shall include all the mandatory guidelines as under GS4GG Principles and Requirements para 3.1.1 under Section A.1.1 of the VPA-DD, Version 2.0				
Project participant response				**Date :** 06/08/2021

1. The values estimated in Table 1 is made consistent with the ER calculation sheet and is in line with the water purification devices. The updated ER calculation sheet is shared with VVB 2. The clerical error in VPA-DD has been corrected. The updated VPA-DD is shared with VVB 3. The eligible project type is in line with GS4GG Principles and Requirements para 3.1.1
Documentation provided by project participant
1. Revised Ex-ante emission reduction calculation 2. Revised VPA-DD
VVB assessment **Date:** 12/08/2021
1. The value estimated in Table 1 is still inconsistent with the ER Sheet (i'e Average time saving associated with cooking and fuel collection). The VVB has not received any updated ER sheet. The ER sheet available to us is not inline with the Water Purification Devices. So, The PP is requested to update the table 1 of PoA DD02 and provide the updated ER sheet. 2. The PP has mentioned that SDG7 is not included in this VPA 02(CLOSED) 3. The CME has included all the mandatory guidelines as under GS4GG Principles and Requirements para 3.1.1 under section A.1.1 of the VPA DD02 Version 2.0.(CLOSED) Since the point number 1 of CAR01 has not been addressed satisfactorily, Thus the CAR remains OPEN
Project participant response **Date :** 17/08/2021
1. The values in Table 1 are corrected and ensured it is in line with the ER sheet. The revised VPA-DD is shared with VVB.
Documentation provided by project participant
1. Revised VPA-DD 2. Revised ER calculation sheet
VVB assessment **Date:** 22/08/2021
The PP has updated the values provided for estimated SDGs impact in Table 1 of the VPA DD02 which are consistent with the ER sheet provided. Thus, The CAR is closed. Hence, CAR#08 has been Closed.

CAR ID	09	**Section no.**	E.4	**Date :** 23/07/2021
Description of CAR				
1. The CME has used the literature values to define the baseline scenario from 2017 data under Section A.1 of the VPA-DD. The CME shall justify that this is the latest data available. 2. As per section 3.5 of the applied methodology, Selection and justification of the baseline scenario' defines a step-wise procedure to identify baseline scenario. CME shall identify the baseline scenario accordingly under Section B.4 of the VPA-DD. 3. The parameter "Regulatory Framework for safe water supply" requires "List and provide a summary of any national, sub-national and local regulations or guidance for safe drinking water supply, operation and maintenance, including any tariff requirements.". CME shall review the requirements and update Section B.4 of the VPA-DD accordingly.				
Project participant response				**Date :** 06/08/2021
1. The literature value from 2017 is removed from VPA-DD. 2. Section B.4 of the VPA-DD is revised to demonstrate the step-wise procedure to identify baseline scenario. 3. Section B.4 and Monitoring parameter table "Regulatory Framework for safe water supply" is revised to include the requirements.				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 12/08/2021

1. The CME has removed the literature value of 2017 and used the latest values as of 2020 for explaining the water crisis situation in Uganda. Thus, the CAR is CLOSED. 2. The CME has identified boiling of water using traditional 3 stone cook stove and improved cookstove as baseline scenario under section B.4. Thus, the CAR is closed. 3. Under section B.4 of VPA DD, the CME has referred "National system to support drinking water, sanitation and hygiene: Global status report 2019" under the parameter "Regulatory Framework for safe water supply" and updated the VPA DD accordingly. Thus, the CAR is CLOSED. Hence, CAR#09 has been closed.

CAR ID	10	**Section No.**	E.2	**Date :** 23/07/2021
Description of CAR				
1. The CME shall clearly define the monitoring parameters and how they will be monitored under approach to SDGs under Section B.6.1. of the VPA-DD Version 2.0. 2. The CME shall also demonstrate leakage emissions in line with the applied methodology under Section B.6.1. of the VPA-DD Version 2.0				
Project participant response				**Date :** 06/08/2021
1. Section B.6.1 of the VPA-DD is revised to include the approach to be followed for monitoring. Revised VPA-DD shared with the VVB. 2. Section B.6.1 of the VPA-DD is revised to include leakage emissions demonstration.				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** 12/08/2021
1. Under section B.6.1 of VPA DD02, The CME has mentioned that the approach to SDGs will be confirmed through a random sample survey, but the CME has not defined a particular parameter against the SDGs, Thus, the CAR will remain OPEN. 2. Under section B.6.1 of the VPA DD, the CME has mentioned that Leakage due to non-renewable biomass can be excluded as all the household supplied with safe water systems VVBs not use lower-emitting energy sources and project activity VVBsn't increase NRB fraction. Thus, the Leakage emission shall be zero. Hence, The CAR is CLOSED.				
Project participant response				**Date :** 19/09/2021
1. The SDGs along with monitoring parameters are updated in section B.6.1 in VPA-DD. The revised VPA-DD is shared with VVB				
Documentation provided by project participant				
Revised VPA-DD				
VVB assessment				**Date:** DD/MM/YYYY
1. Under section B.6.1 of VPA DD02, The CME has defined a particular parameter against all the SDGs covered under this VPA and has updated the VPA DD02 accordingly. Thus, The CAR is closed.				

Table 8. FAR from this validation

FAR ID	03	**Section No.**	E.1.1	**Date :** 20/01/2022
Description of FAR				
VVB is required to check for double counting at both validation and verification stages by reviewing all relevant registries that could hold RECs/VERs/CERs from the considered project activity				
Project participant response				**Date :** DD/MM/YYYY
X				
Documentation provided by project participant				
X				
VVB assessment				**Date:** DD/MM/YYYY
X				

FAR ID	04	**Section No.**	NA	**Date :** 20/01/2022
Description of FAR				
VVB is required to check the baseline survey values prior to verification.				
Project participant response				**Date :** DD/MM/YYYY
X				
Documentation provided by project participant				
X				
VVB assessment				**Date:** DD/MM/YYYY
X				

FAR ID	05	**Section No.**	NA	**Date :** 20/01/2022
Description of FAR				
VVB has to cross check Baseline survey which will be conducted by the PD for the host countries – Madagascar, Malawi, Mexico, Zambia and Bangladesh prior to verification.				
Project participant response				**Date :** DD/MM/YYYY
X				
Documentation provided by project participant				
X				
VVB assessment				**Date:** DD/MM/YYYY
X				