Verification report form for GS4GG Programme of Activity (Gold Standard for the Global Goals)				
BASIC INFORMATION				
Title of the GS4GG Programme of Activity (PoA)	PoA GS ID MicroEnerc Product Lir	: 11450 gy Credits – Microfinance for Clean Energy nes - India		
Reference number of the Programmes of Activity (PoA)	GS 11450			
Version number of the verification and certification report	3.0			
Completion date of the verification and certification report	27/05/2023			
GS ID (s) of VPAs under PoA	VPA Ref. no.	Title		
	GS 11500	GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 22 - Clear Sky Partners-GS11500		
	GS 11499 GS 11499 GS 11499 GS 11499 GS 11499 GS 11499			
	GS 11490	GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 33 - GS11490		
	GS 11489	GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 34 - GS11489		
Version number of the monitoring report to which this report applies	3.0			
Completion date of the monitoring report to which this report applies	11/05/202	3		
Monitoring period no. and duration	1^{st} Monitoring Period VPA 22 – 01/01/2021 to 31/12/2021 (including both days) VPA 23 – 01/01/2021 to 31/12/2021 (including both			
	days) VPA 33 – 0 days)	01/01/2021 to 31/12/2021 (including both		

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	VPA 34 – 01/01/2021 to 31/12/2021 (including both days)
	The monitoring period falls under crediting period CP1 for all VPAs:
	VPA 22 - 21/06/2019 to 20/06/2024
	VPA 23 - 21/06/2019 to 20/06/2024
	VPA 33 - 21/12/2019 to 20/12/2024
	VPA 34 - 21/12/2019 to 20/12/2024
	The VPA has issued credits under CDM until 31/12/2020.
Project Representative	Micro Energy Credits Corporation Private Limited
Host Party	India
Applied methodologies and standardized baselines	AMS-I.A "Electricity generation by the user" version 14.
	Emission reduction from safe drinking water supply- version 1.0
Activity requirements applied	Community Services Activities
	Renewable Energy Activities
	Land Use and Forestry Activities/Risks & Capacities
	□ N/A
Product Requirements applied	GHG Emissions Reduction & Sequestration
	Renewable Energy Label
	□ N/A
Estimated amount of annual average	WPS:
GHG emission reductions	VPA22 – 51,299 tCO ₂ e
	VPA23 - 66,262 tCO ₂ e
	$VPA33 = 7,095 \text{ tCO}_2\text{e}$
	VPA34 - 2,413 LCU28
	SLS:
	VPA22 – 193,548 tCO2e
	VPA23 – 167,370 tCO2e
	VPA33 – 90,104 tCO2e
	VPA34 – 50,972 tCO2e

Sustainable Development Goals Targeted	SDG Impact	Total amount o impact (as methodology) a monitoring perio	Units/Products	
		Estimated	Achieved	
SDG 13: Climate Action	Number of VER's (WPS)	VPA22 - 51,299 VPA23 - 66,262 VPA33 - 7,095 VPA34 - 2,413 tCO ₂ e	VPA22 - 0 VPA23 -40,932 VPA33 - 2,741 VPA34 - 0	tCO2e VERs
	Number of VER's (SLS)	VPA22- 193,548 VPA23- 167,370 VPA33- 90,104 VPA34-50,972	VPA22 - 74,611 VPA23 - 15,098 VPA33 - 73,815 VPA34 - 34,509	tCO2e VERs
	Number of VER's (WPS+SLS)	VPA22-244,847 VPA23-233,632 VPA33-97,199 VPA34-53,385	VPA22- 74,611 VPA23- 56,030 VPA33- 76,556 VPA34- 34,509	tCO2e VERs
SDG 1: No Poverty	Number of WPS distributed under the project as an indicator of providing basic service access to households	VPA22- 95.00% VPA23- 94.33% VPA33- 93.28% VPA34- 94.9%	VPA22 - 0 VPA23 - 79.45% VPA33 - 74.80% VPA34 - 0	Number of WPS
SDG 6: Clean water and Sanitation	Number of households served with safely managed water services	VPA22- 14,819 VPA23- 14,805 VPA33- 15,069 VPA34- 14,805	VPA22 - 0 VPA23 - 13,105 VPA33 - 948 VPA34 - 0	
SDG 7: Affordable and Clean Energy	Number of households with operational SLS	VPA22- 977,138 VPA23- 940,888 VPA33- 985,808 VPA34- 940,888	VPA22 - 213,829 VPA23 - 42,791 VPA33 - 209,894 VPA34 - 98,538	Number of SLS
	Number of households having operational WPS	VPA22- 15,600 VPA23- 15,600 VPA33- 16,099 VPA34- 15,600	VPA22 - 0 VPA23 - 13,894 VPA33 - 1,013 VPA34 - 0	Number of WPS
SDG8:Total number of jobsVPDecent WorkcreatedVPandVPEconomicVPGrowthVP		VPA22- 20 VPA23- 20 VPA33- 20 VPA34- 20	VPA22 - 177 VPA23 - 138 VPA33 - 68 VPA34 - 27	Number of Jobs
Name and UN of the VVB	IFCCC reference nur	nber Earthood Serv E-0066	vices Private Limite	d
Name, position approver of t	on and signature of he verification repo	rt (Juing		
		Dr. Kaviraj Si	ngh	
		Managing Dire	ector	

SECTION A. Executive summary

The GS programme of activity "MicroEnergy Credits – Microfinance for Clean Energy Product Lines - India" (PoA GS 11450) aims to replacement of fossil fuel consumption and the resultant GHG emission with a clear and sustainable technology which will lead to reduced GHG emissions. CME archives this through dissemination of Solar lighting systems (SLS) and Water Purification System (WPS) in households/facilities of rural areas in various states of India. The PoA is using carbon finance to support local partners engaged in different activities like production, distribution, and maintenance of various product technologies like ICS, SLS and WPS. The VPAs main target is 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. 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, and solar lighting systems results in fulfilment of lighting needs through a renewable source (solar energy), thus replacing the baseline scenario with the project activity will lead to reduction in GHG emissions and fulfilling the requirements of the applied methodologies AMS-I. A "Electricity generation by the user" version 14/08/, and Emission reduction from safe drinking water supply-version 1.0/09/ respectively.

raianecei	Valuated information
GS ID of the VPAs to be included	GS 11500 (VPA 22), GS 11499 (VPA 23), GS 11490 (VPA 33) and GS 11489 (VPA 34)
Title of the VPAs	 GS11450 - MicroEnergy Credits - Microfinance for Clean Energy Product Lines - India - CPA 22 - Clear Sky Partners - GS11500 GS11450 - MicroEnergy Credits - Microfinance for Clean Energy Product Lines - India - CPA 23 - Clear Sky Partners - GS11499 GS11450 - MicroEnergy Credits - Microfinance for Clean Energy Product Lines - India - CPA 33 - GS11490 GS11450 - MicroEnergy Credits - Microfinance for Clean Energy Product Lines - India - CPA 33 - GS11490 GS11450 - MicroEnergy Credits - Microfinance for Clean Energy Product Lines - India - CPA 34 - GS11489
Methodology applied	 AMS-I.A "Electricity generation by the user" version 14. Emission Reduction from safe drinking water supply v1.0
Crediting period	5 years, Renewable twice, total 15 years of crediting period. CP1: 21/06/2019 to 20/12/2024 for all four VPAs.

The VPA's are being submitted to GS4GG for Verification are as follows:

The VPAs aim at dissemination of water purification system and solar lighting system in various states of India /02/ and is being implemented by MicroEnergy Credits Corporation Private Limited's (PO) and coordinated by MicroEnergy Credits Corporation Private Limited (MEC). The VPA's aims at GHG emission reductions through displacement of fossil fuel use with water purification system and solar lighting systems (WPS and SLS) to meet the safe drinking water and electric demands of facility/household. The households in rural areas of India traditionally use fossil fuels which includes charcoal, kerosene, LPG, diesel, wood, and coal intensive grid for fulfilling their energy demands. The baseline scenario under the VPA's is the replacement of fossil fuel burning to meet the demand of safe drinking water with the water purification system thereby reducing the amount of fuelwood used for boiling purposes in the baseline. Also, the distribution of solar lighting systems replaces the kerosene-based lamps in households, which would have resulted in GHG emissions due to burning of kerosene.

The PoA has been registered under GS4GG (GSID 11450). The CME of the PoA is Micro Energy Credits Corporation Private Limited and with the help of local partners & the VPAs Implementer.

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The WPS are implemented by Midland Microfin Ltd. (Midland), Svasti Microfinance Pvt. Ltd. (Svasti), Asirvad Microfinance Ltd. (Asirvad) and Samasta Microfinance Ltd. (Samasta); and solar lighting system are implemented by Shri Kshetra Dharmasthala Rural Development Project (SKDRDP), Greenlight Planet India Pvt. Ltd. (GLP), Arohan Financial Services Ltd. (Arohan), Samasta Microfinance Ltd. (Samasta), Midland Microfin Ltd. (Midland), d.light Energy Private Limited (d.light), Arman Financial Services Limited (Arman), Evangelical Social Action Forum (ESAF), Asirvad Microfinance Limited, Muthoot Microfin Ltd. (Muthoot) and Satin Creditcare Network Ltd. (Satin).

The Monitoring period covered under this verification is 01/01/2021 to 31/12/2021 (inclusive of both the dates) for the VPAs 22, 23, 33, and 34. All the VPAs i.e GS 11500 (VPA 22), GS 11499 (VPA 23), GS 11490 (VPA 33) and GS 11489 (VPA 34)/02/ envisage an archived annual GHG emission reduction and other SDG impacts over the crediting period as given in the table below.

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
13 Climate Action (mandatory)	Number of VER's (WPS)	VPA22 - 0 VPA23 - 40,932 VPA33 - 2,741 VPA34 - 0	VERs
13 Climate Action (mandatory)	Number of VER's (SLS)	VPA22 - 74,611 VPA23 - 15,098 VPA33 - 73,815 VPA34 - 34,509	VERs
13 Climate Action (mandatory)	Number of VER's (WPS+SLS)	VPA22 - 74,611 VPA23 - 56,030 VPA33 - 76,556 VPA34 - 34,509	VERs
1 End poverty in all its forms everywhere	NumberofWPSdistributed under theprojectasanindicatorofprovidingbasicserviceaccesstohouseholds	VPA22 - 0 VPA23 - 79.45% VPA33 - 74.80% VPA34 - 0	Percentage
6 Clean Water and Sanitation	Number of households served with safely managed water services	VPA22 - 0 VPA23 - 13,105 VPA33 - 948 VPA34 - 0	Number
7 Affordable and Clean Energy	Number of households with operational SLS	VPA22 - 213,829 VPA23 - 42,791 VPA33 - 209,894 VPA34 - 98,538	Number
7 Affordable and Clean Energy	Number of households having operational WPS	VPA22 - 0 VPA23 - 13,894 VPA33 - 1,013 VPA34 - 0	Number
8 Decent Work and Economic Growth	Total number of jobs created	VPA22 - 177 VPA23 - 138 VPA33 - 68 VPA34 - 27	Number

Scope of Verification

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The verification is an independent and objective review for determination of the monitored reductions in GHG emissions by the VVB. The verification includes the implementation and operation of the PoA as set out in the registered PoA-DD/01/ & VPA-DDs/02/ for VPA 22, 23, 33 and 34 in the monitoring period.

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period, and it is based on the review of the following:

- (i) The approved methodology AMS-I.A "Electricity generation by the user, version 14.0/08/
- (ii) Emission reduction from safe drinking water supply-version 1.0/09/
- (iii) The registered PoA-DD/01/ & registered VPA-DDs/02/ and monitoring plan/02/
- (iv) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords
- (v) GS4GG requirements
- (vi) The CDM Validation and Verification Standard (VVS) version 3.0/22/ and The CDM Project Standard (PS) version 3.0/21/
- (vii) Relevant decisions, guidance, and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions.
- (viii) GS review of validation of PoA and VPAs

The verification has considered both the quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC and GS4GG, as appropriate to the PoA. The verification is not meant to provide any consulting or recommendations to the CME/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification Process

The verification process is conducted as per internal GS4GG Requirements, which includes the following steps;

- a) Contract with CME and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- b) Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and remote audit (including sampling approach (refer Section D.4 of this report) to be applied)
- c) Onsite audit (refer Section D.2 of this report) by verification team consistent of Team Leader and all Technical Experts, as a minimum
- d) Follow up activities e.g., interviews (refer Section D.3 of this report)
- e) Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)
- f) Independent technical review (refer Section B.2 of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences)
- g) Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section G and H of this report).
- h) Issuance of final verification report to contracted CME (or authorized representatives) and submission of request for issuance, as appropriate.

Verification Conclusion

The review of the monitoring report, supporting documentation and subsequent follow up actions have provided ESPL with sufficient evidence to determine the fulfilment of stated criteria. Earthood is of the opinion that the PoA "MicroEnergy Credits – Microfinance for Clean Energy Product Lines - India" (GS ID: 11450) meets all the GS requirements and has correctly applied the GS approved methodologies AMS-I. A "Electricity generation by the user" version 14/08/ and Emission reduction from safe drinking water supply-version 1.0/09/ respectively.

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The GHG emission reductions were calculated correctly based on the approved methodologies AMS-I.A "Electricity generation by the user" version 14/08/ and Emission reduction from safe drinking water supply-version 1.0/09/ and and the monitoring plan contained in the registered PoA-DD/01/ and VPA-DDs /02/.

Earthood Services Private Limited can certify that the emission reductions achieved in the monitoring period 01/01/2021 to 31/12/2021 for the (VPA 22, 23, 33 and 34) by GS PoA "MicroEnergy Credits – Microfinance for Clean Energy Product Lines - India" (GSID: 11450) are 74,611 tCO2e for VPA 22, 56,030 tCO2e for VPA 23, 76,556 tCO2e for VPA 33 and 34,509 tCO2e for VPA 34. Therefore, this is being submitted for request for issuance, as per GS4GG and UNFCCC procedures.

SECTION B. Verification team, technical reviewer and approver

No	Role		Last name	First name	Affiliation	Involvement in		n	
•		Type of resource			(e.g. name of central or other office of VVB or outsourced entity)	Desk/document review	On-site inspection*	Interview(s)	Verification findings
1.	Team Leader	IR	Guleria	Shifali	Central Office	Y	Y	Υ	Y
2.	Methodologic al Expert	IR	Guleria	Shifali	Central Office	Y	Y	Y	Y
3.	Technical Expert (TA 1.2, 3.1)	IR	Guleria	Shifali	Central Office	Y	Y	Y	Y
4.	Local Expert	EI	Guleria	Shifali	Central Office	Y	Y	Y	Y
5.	Trainee (Verifier)	IR	Phukan	Sukanya	Central Office	Y	Ν	Y	Y
6.	Trainee (Verifier)	IR	Vashisht	Sushant	Central office	Ν	Y	Y	Ν
8.	Trainee (Verifier)	IR	Yadav	Ashish	Central office	N	Y	Y	Ν
9.	Trainee (Verifier)	IR	Koul	Abhishek	Central office	N	Y	Y	Ν

B.1. Verification team member

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*On – site interviews have been conducted for the current verification and the same has been discussed in detail in section D.2 of the report.

GS4GG states "Unless otherwise stated (for example in an applied Methodology or Product Requirements), the same VVB may undertake Validation and Verification of a given Project" in the Para 5.1.28 of the core document Principles & requirements, version 1.2, dated 23/10/2019. With reference to the statement made by GS4GG, same VVB has conducted the Validation and Verification for the project activity.

As per paragraph 2.2 of the RULE UPDATE: Validation and Verification by Same VVB (RU 2020 PR – PR V1.2), "The requirement to have different audit teams does not apply to combined Design Certification with first verification and performance review for a given project (paragraph 5.1.53, Principles and Requirements V1.2, p 28). The same audit team may perform both validation and verification for combined Design Certification and first performance certification for a given project".

The team composition for the verification with their roles is included in table mentioned above.

No.	Role	Type of resour ce	Last name	First name	Affiliation(e.g. name ofcentral orother office ofVVB oroutsourcedentity)
1.	Technical reviewer and TA expert (TA 1.2) to TR	IR	Garg	Shreya	Central Office
2.	Approver	IR	Singh	Kaviraj	Central Office

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

SECTION C. Application of materiality in conducting the verification

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to	Assess	nent of the risk	Response to the risk
	material errors, omissions or misstatements	Risk level	Justification	in the verification plan and/or sampling plan
1.	Erroneous transfer of information from documented records (sales receipt, carbon transfer form etc.) to credit tracker platform	Low	POs contracted by CME enters the details in credit tracker platform at the time of installation. POs also conduct an internal check to verify the accuracy of data entry.	On a sampling basis, the records are checked with the information from the credit tracker platform and substantiated by questions asked during the remote surveys of end-users. The familiarity of PO representatives with the tracker platform is also checked.
2.	Erroneous consideration of technical specifications of	Low	The technical specifications are	Technical specifications of each
	CEPs (especially for solar CEPs)		provided by the manufacturer.	CEP model are checked against the

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				document issued by
				the manufacturer.
3.	Observational error by monitoring survey staff of PP/CPA implementer while recording the responses of users in relation to survey parameters	Low	Other than monitoring surveys, the CEP usage status-check surveys are also conducted regularly for distributed CEP. Therefore, risk of error is low. However, if there are discrepancies, they are to be dealt with as per the acceptance sampling approach.	If the aggregated materiality threshold stays within the prescribed materiality threshold, no additional effort is required. However, if the aggregated materiality threshold is above the prescribed threshold, additional samples are to be inspected. If additional sampling is not able to reduce the materiality threshold to a reasonable level of assurance, the monitoring result by the CME for that parameter is to be discarded.
4.	Calculation and referencing errors in ER sheet	Low	The ER calculations are cross-checked by using two different methods of calculation and comparing the results, therefore occurrence of error is less likely. However, referencing errors within the ER sheet may occur.	All calculations and referencing will be checked by verification team with respect to applicable requirements under various documents viz., methodology, PoA DD, CPA DD etc.

C.2. Consideration of materiality in conducting the verification

In accordance with CDM VVS for PoAs, Version 03.0/22/ the prescribed thresholds for materiality for CDM PoAs are as under;

The applicable materiality threshold is 2.0% as PoA comprises Large	e-scale VPAs
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Particulars / Monitoring Report	MR Version (Initial)	MR Version (Revised/Final)
Emission Reductions Achieved	VPA 22 – 74,611	VPA 22 - 74,611
(tCO2e) in this monitoring period	VPA 23 – 57,955	VPA 23 – 56,030
	VPA 33 – 76,495	VPA 33 – 76,556
	VPA 34 – 34,509	VPA 34 – 34,509
Applicable Threshold (%) as per CDM VVS for PoAs Version 03.0	2.0%	2.0%

During the assessment all findings were closed and from the sample selected for verification, no systemic or systematic material errors were identified which would have an impact on total emission reductions from the entire population.

SECTION D. Means of verification

D.1. Desk/document review

The verification of the information of the PoA was performed through the document review including review of monitoring report /40/ version 2.0 dated 23/02/2023. Additionally, cross checks were performed for information provided in the monitoring report using other source of information, the verification team's sectoral or local expertise and, if necessary, independent background investigations.

The desk review involves:

- A review of the data and information presented to verify their completeness.
- A review of the monitoring plan, the monitoring methodologies including applicable tool(s) and, where applicable, the applied standardized baseline, paying attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.
- A review of calculations and assumptions made in determining the GHG data and emission reductions.
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed during the verification is provided under appendix 3 of this report.

	Duration of on-site inspection: 17/10/2022 – 21/12/2022							
No	Activity performed on-site	Site location	Date	Team member				
1.	Physical site visit: Households visited (Implementation of PoA)	West Bengal, Bihar, Karnataka, Punjab	17/10/2022 – 21/12/2022	Shifali Guleria, Sushant Vashisht, Sukanya Phukan,				
2.	Review of information flows for generating, aggregating and reporting the monitoring parameters	West Bengal, Bihar, Karnataka, Punjab	17/10/2022 – 21/12/2022	Ashish Yadav, Abhishek Koul, Ashutosh Tiwari				
3.	Cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;	West Bengal, Bihar, Karnataka, Punjab	17/10/2022 – 21/12/2022					
4.	A check of the monitoring equipment including calibration performance and observations of monitoring practices against the applicable requirements	West Bengal, Bihar, Karnataka, Punjab	17/10/2022 - 21/12/2022					
5.	Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	West Bengal, Bihar, Karnataka, Punjab	17/10/2022 - 21/12/2022					

D.2. On-site inspection

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D.3. Interviews

D.3.1. Interviews with CME and VPA Implementers

No	Interviewee		Date	Subject	Team	
	Last	First	Affiliation			member
	name	name				
1.	Patgiri	Pritu	MEC India		VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
2.	Parmar	Dilkhush	Senior Carbon Tech. Officer, MEC India		VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
3.	Jaiswal	Ankit	Branch Manager, SATIN	17/10/2022 to 21/12/2022	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	Shifali Guleria, Sushant Vashisht, Ashish Yadav,
4.	С.К	Kumarsw amy	MEC		VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	Abhishek Koul
5.	Kumar	Harish	SKDRP		VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
6.	Kumar	Mukesh	Branch Manager, Asirvad		VPA DD description, Additionality, Baseline identification	

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				Project boundary, Ex- ante and Ex- post parameters	
7.	Kumar	Vinay	Assistant Branch Manager, Asirvad	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
8.	Kumar	Sunil	Cluster Manager, Asirvad	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
9.	Pandit	Madhumit a	Senior Executive, Arohan	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
10.	Kumar	Abhay	Area Manager, Arohan	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
11.	Kumar	Ashutosh	Branch Manager,Ar ohan	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	
12.	Mishra	Prem Shankar	Branch Manager, Arohan	VPA DD description, Additionality, Baseline identification, Project boundary, Ex- ante and Ex- post parameters	

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WPS End-users for VPA 22 : No WPS were distributed during this monitoring period

WPS	End-users	for VPA 23	*			
	Devi	Usha	End User	29/11/2022	VVB Project	Sushant
1				,,	survey	Vashisht
2	Devi	Kamalaw	End User	29/11/2022	VVB Project	Sushant
2	_	ati		- / / -	survey	Vashisht
2	Devi	Sarda	End User	29/11/2022	VVB Project	Sushant
3					survey	Vashisht
4	Devi	Sita	End User	29/11/2022	VVB Project	Sushant
4					survey	Vashisht
5	Devi	Devanti	End User	29/11/2022	VVB Project	Sushant
5					survey	Vashisht
6	Devi	Champa	End User	29/11/2022	VVB Project	Sushant
0					survey	Vashisht
7	Devi	Rita	End User	29/11/2022	VVB Project	Sushant
, 					survey	Vashisht
8	Devi	Laxmina	End User	29/11/2022	VVB Project	Sushant
	<u> </u>				survey	Vashisht
9	Devi	Sharada	End User	29/11/2022	VVB Project	Sushant
	D .			20/11/2022	survey	Vashisht
10	Devi	Munni	End User	29/11/2022	VVB Project	Susnant
	Davi	Dimlar	Find Llook	20/11/2022	Survey	Vashisht
11	Devi	кіпки	End User	29/11/2022	VVB Project	Susnant
WDG	End-ucore	for VDA 22	*		survey	vasnisht
VVPS	Kaur	Gurbakhs	End User	12/12/2022	W/B Project	Sukanya
1	Raul	h	Life Oser	12/12/2022	SURVEY	Phukan
	Kaur	Kulwinder	End Llser	12/12/2022	VV/B Project	Sukanya
2	Ruur	Ruiminaci		12/12/2022	survey	Phukan
	Devi	Krishna	End User	12/12/2022	VVB Project	Sukanya
3	2011	i di bini d		12, 12, 2022	survey	Phukan
	Rani	Bakhsho	End User	12/12/2022	VVB Project	Sukanva
4	-			, , -	survey	Phukan
г	Rani	Asha	End User	12/12/2022	VVB Project	Sukanya
5					survey	Phukan
6	Rani	Reshmo	End User	12/12/2022	VVB Project	Sukanya
0					survey	Phukan
7	Kaur	Hardeep	End User	12/12/2022	VVB Project	Sukanya
'					survey	Phukan
8	Kaur	Manpreet	End User	12/12/2022	VVB Project	Sukanya
<u> </u>			-		survey	Phukan
9	Kaur	Lakhwind	End User	12/12/2022	VVB Project	Sukanya
-		er			survey	Phukan
10	Kaur	Sharanjit	End User	12/12/2022	VVB Project	Sukanya
	1/	Densit	En dille en	12/12/2022	survey	Phukan
11	Kaur	Ranjit	End User	12/12/2022	VVB Project	Sukanya
	End usors			uoro distribut	survey	Phukan
wP3	o Ena-users	TOF VPA 34	: NO WPS V	vere distribute	ed during this mon	itoring
SLS	End-users f	or VPA 22*				
	Devi	Karishma	End User	17/10/2022	VVB Project	Ashish
1		Ransinna		1,110,2022	survev	Yadav
	Devi	Putul	End User	17/10/2022	VVB Project	Ashish
2					survev	Yadav
	D ·	1/au ita	Endliger	17/10/2022	W/B Project	Achich
2	Devi	Kavita	Ella User	1//10/2022	VVDIIUlect	ASIIISII

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						•••••••••••••••••••••••••••••••••••••••
4	Devi	Sima	End User	17/10/2022	VVB Project	Ashish
·					survey	Yadav
5	Devi	Sonam	End User	17/10/2022	VVB Project	Ashish
					survey	Yadav
6	Devi	Putus	End User	17/10/2022	VVB Project	Ashish
Ŭ					survey	Yadav
7	Devi	Meera	End User	19/10/2022	VVB Project	Ashish
, 					survey	Yadav
8	Devi	Soni	End User	19/10/2022	VVB Project	Ashish
					survey	Yadav
9	Devi	Saroj	End User	18/10/2022	VVB Project	Ashish
					survey	Yadav
10	Devi	Mahapati	End User	18/10/2022	VVB Project	Ashish
					survey	Yadav
11	Devi	Alkari	End User	18/10/2022	VVB Project	Ashish
					survey	Yadav
SLS	End-users f	or VPA 23*				
1		Jayadheel	End User	29/10/2022	VVB Project	Abhishek
_		а			survey	Koul
2	N.	Latha	End User	29/10/2022	VVB Project	Abhishek
					survey	Koul
3		Naveena	End User	29/10/2022	VVB Project	Abhishek
				20/10/2022	survey	Koul
4		Jayalaksh	End User	29/10/2022	VVB Project	Abhishek
		mi		20/10/2022	survey	Koul
5		Revamm	End User	29/10/2022	VVB Project	Abhishek
		a		20/10/2022	survey	Koul
6		Snaradna	End User	29/10/2022	VVB Project	Abnishek
		Churche	En dilleren	20/10/2022	Survey	KOUI
7		Snyla	End User	29/10/2022	VVB Project	Abnisnek
		Maanaka	Endlloom	20/10/2022	Survey	KOUI
8		Meenaks	End User	29/10/2022	VVB Project	ADHISHEK
-		Duttalake	End Lloor	20/10/2022	V//R Project	Abbichok
9		hmi	Lifu User	29/10/2022		Koul
		Rochma	End Lloor	20/10/2022	V//B Project	Abbichok
10		Resilina	Lifu üser	29/10/2022	SURVAV	Koul
-		Roona	End User	29/10/2022	V/VB Project	Abhishek
11		Коора	Lifu üser	25/10/2022	survey	Koul
SIS	End-users f	or VPA 33*	1		Survey	Roui
0_0	Devi	Renu	End User	14/12/2022	WVB Project	Shifali
1				- 1/ - 2/ 2022	survev	Guleria
	Devi	Sunita	End User	14/12/2022	VVB Project	Shifali
2	2011	ounitu		1,12,2022	survey	Guleria
_	Khatun	Jamila	End User	14/12/2022	VVB Project	Shifali
3	lacan	Sumu		1,12,2022	survev	Guleria
	Khatun	Julekha	End User	14/12/2022	VVB Project	Shifali
4					survev	Guleria
_	Khatun	Asma	End User	14/12/2022	VVB Project	Shifali
5				,, 	survey	Guleria
6	Khatun	Halima	End User	14/12/2022	VVB Proiect	Shifali
6				, , ,	survey	Guleria
_	Khatun	Roshan	End User	14/12/2022	VVB Project	Shifali
/				,, 	survey	Guleria
~	Khatun	Nuriahan	End User	14/12/2022	VVB Project	Shifali
8					survey	Guleria

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					001001	
9	Devi	Ruby	End User	14/12/2022	VVB Project	Shifali
<i>,</i>					survey	Guleria
10	Devi	Pratima	End User	14/12/2022	VVB Project	Shifali
10					survey	Guleria
11	Devi	Hema	End User	14/12/2022	VVB Project	Shifali
11					survey	Guleria
SLS	End-users f	or VPA 34*	:			
1		Rangaiah	End User	21/12/2022	VVB Project	Ashish
_					survey	Yadav
2		Ankalah	End User	21/12/2022	VVB Project	Ashish
Z					survey	Yadav
2		Kanakaia	End User	21/12/2022	VVB Project	Ashish
5		h			survey	Yadav
4		Kottamm	End User	21/12/2022	VVB Project	Ashish
4		а			survey	Yadav
5		Gangaiah	End User	21/12/2022	VVB Project	Ashish
5					survey	Yadav
6		Subrai	End User	21/12/2022	VVB Project	Ashish
0					survey	Yadav
7		Durgaiah	End User	21/12/2022	VVB Project	Ashish
/					survey	Yadav
Q	Subaiah	Venkata	End User	21/12/2022	VVB Project	Ashish
0					survey	Yadav
0		Ramakris	End User	21/12/2022	VVB Project	Ashish
9		hnappa			survey	Yadav
10	Balaiah	Pedda	End User	21/12/2022	VVB Project	Ashish
10					survey	Yadav
11		Subaiah	End User	21/12/2022	VVB Project	Ashish
1 1 1					survey	Yadav

*Sales of the CEPs are primarily made to females as females are primarily involved in kitchen handling and boiling water. The end users are mostly females an while carrying out the onsite audit random sampling method is used. Hence, the interviewed end users are all female.

Type of questions asked by VVB to VPA Implementers:

Following questions are asked by the end-users for the verification of samples:

No.	Questions asked by Team Leader to baseline users	Nature of Responses Received
Question	asked for Water Purification System end user.	
1.	What is the Household Name?	Positively responded
2.	What is the Location/Address (Village name, Pin code)?	Positively responded
3.	What is the Branch, District, State?	Positively responded
4.	What is your Product Model?	Positively responded
5.	What is the Installation Date?	Positively responded
6.	What is the Unique ID of CEP?	Positively responded
7.	What is the Total Quantity of each Product Type?	Positively responded
8.	Is the product in use/operational?	Positively responded
9.	Is device using electricity/energy to operate?	Positively responded
10.	What was the baseline device in use?	Positively responded
11.	What is your source of water? (does PDN exist)?	Positively responded
12.	Is the source rendering SDW?	Positively responded
13.	How much time does it take to fetch the water and return home? (in Minutes)	Positively responded
14.	Who does usually fetch the water (Male/female/child)?	Positively responded

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15.	How did you make your drinking water safe in baseline? (record baseline device)	Positively responded
16.	Do you know when to change/replace the filter	Positively responded
17		
17.	number of refills in a day)	Positively responded
18.	Number of Person in the HH?	Positively responded
19.	Any Water - borne disease reported by the filter water consumption?	Positively responded
20.	Does the household also include distributed ICS?	Positively responded
21.	Is your sampled HH also surveyed by PP?	Positively responded
Question	s asked for Solar lighting system end users.	
1.	What is the Household Name?	Positively responded
2.	What is the Location/Address (Village name, Pin	Positively responded
	code)?	
3.	What is the Branch, District, State?	Positively responded
4.	What is your Product Model?	Positively responded
5.	What is the Installation Date?	Positively responded
6.	What is the Unique ID of CEP?	Positively responded
7.	What is the Total Quantity of each Product Type?	Positively responded
8.	Is the product in use/operational?	Positively responded
9.	Is device using electricity/energy to operate?	Positively responded
10.	What was the baseline device in use?	Positively responded
11.	Lumen output	Positively responded
12.	Wattage	Positively responded
13.	How many lamps did you receive?	Positively responded
14.	How many lamps are operational?	Positively responded
15.	Does the household also include distributed ICS?	Positively responded
16.	Is your sampled HH also surveyed by PP?	Positively responded

All the end-users reported that the product is working satisfactorily, and they feel that there has been an improvement in the indoor air quality in case of SLS and WPS. All the end users also reported that they are aware of the grievance mechanism. No adverse or negative responses were received with regards the usage or convenience of use of WPS & SLS.

D.4. Sampling approach

VVB's sampling plan:

In order to meet the requirements of Standard for Sampling and surveys for CDM project activities and programmes of activities /23/, the verification team applied acceptance sampling in the verification (in accordance with para 28). The verification team selected random samples of CME's sampled records, checked the acceptability (or otherwise) of the data for each such record with CME's sample records, and then based on the number of records where there is an agreement, determined if the CME's sample records meet the requirements.

The verification team determined the sample size for acceptance sampling by evaluating the following, using its own professional judgment and guidance in the Standard 'Sampling and surveys for CDM project activities and programme of activities' /24/:

- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 0.5% was considered in this verification.
- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.
- The producer risk: 10% was considered.
- The consumer risk: 10% was considered.

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Considering the above input values, a sample size of 11 was required as per Table (Sample size and acceptance number based on AQL, UQL, and producer and consumer risks) in the referred Standard /26/. Accordingly, the acceptance number (c) thus determined for the sample size is 0. A sample size of 11 for each technology of each VPA meets the criteria. The samples to be surveyed by assessment team were randomly selected from the list of monitored samples using the random sample generator on Microsoft excel. The audit plan and list of samples thus obtained to be surveyed by assessment team was communicated to CME via email.

The current verification is for GS 11500 (VPA 22), GS 11499 (VPA 23), , GS 11490 (VPA 33) and GS 11489 (VPA 34). In this monitoring period, following was observed:

GS Ref. VPA	Measure/Technology	Unique CEPs at the end of current MP ¹	Incrementa l CEPs distribution ?	Fresh/New Monitoring by CME in the MP?
GS11500	Water Purification System	0	No	Yes
	Solar Lighting Sytem	217,844	No	Yes
GS11499	Water Purification System	16,318 ²	No	Yes
	Solar Lighting Sytem	44,023	No	Yes
GS11490	Water Purification System	1,248	No	Yes
	Solar Lighting Sytem	214,519	No	Yes
GS11489	Water Purification System	0	No	Yes
	Solar Lighting Sytem	102,220	No	Yes

Accordingly, the verification team together has verified 66 samples collectively (11 samples for each technology distributed under each VPA) during the on - site survey and observed that the sampling survey results of the CME for all the CEPs checked were consistent with VVB's survey results. The sampling method used is in line with Standard: Sampling and surveys for CDM project activities and programme of activities /23/ and Guideline: Sampling and surveys for CDM project activities and programme of activities /24/. In all, the verification team conducted onsite surveys for 44 households.

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

Area of verification findings	No. of CL	No. of CAR	No. of FAR
General	-	-	-
Compliance of the monitoring report with the GS4GG monitoring report form	-	CAR#02	-
Remaining forward action requests from validation and/or previous verifications	-	-	-
VPAs considered for verification and covered under this report	CL#01	-	-
Programme of activities	-	-	-
Compliance of the programme implementation with the registered PoA-DD	-	-	-

¹ No further sales have been added in the current monitoring period (01/01/2021 to 31/12/2021).

² Under CDM (until end of 31/12/2020), total 16,345 WPS were implemented. During transition to GS4GG, PO stopped operations in two states i.e. Gujarat and Rajasthan which had a total sales of 27 units. These 27 units have been removed from the database.

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Implementation and operation of the	-	-	-
management system			
VPA Implementation	-	-	-
Compliance of the VPA implementation with the	-	CAR#03	-
Included VPA design document			
Post-design certification changes	-	-	-
Compliance of the monitoring activities with	-	-	-
the registered monitoring plan		-	
Data and parameters fixed ex ante or at renewal of crediting period	-	CAR#01	-
Data and parameters monitored	CL#06		-
Comparison of monitored parameters with last	-	-	-
monitoring period			
Implementation of the sampling plan	CL#02	-	-
	CL#05		
Assessment of data and calculations of net	-	-	-
emission reductions or removals			
Calculations of baseline value of each SDG Impact	-	-	-
Calculations of project value of each SDG Impact	-	-	-
Calculations of leakage GHG emissions	-	-	-
Calculations of net benefits for each SDG Impact	-	-	-
Comparison of actual GHG ER value achieved	-	CAR#04	-
during this monitoring period with estimated value			
Safeguarding principles	-	-	-
Stakeholder Inputs and Legal Disputes	-	-	-
Continuous input and grievance mechanism	-	-	-
Internal quality control	-	-	-
Others (editorial/ consistency)		-	-
	CL#04*		
	CL#07*		
Total	07	04	00

*Clarification Requests (CLs) raised during onsite audit

SECTION E.Verification findings

E.1. Compliance of the monitoring report with the GS4GG monitoring report form

Means of verification	The monitoring report form used is GS4GG Monitoring report template version $1.1 / 04/$, which is a valid version available at the time of verification. All the sections of the aforesaid form were filled as per the Monitoring report template guide version $1.1 / 04/$ and all the relevant details were provided in the form.				
Findings	CAR#02 was raised and resolved				
Conclusion	The monitoring report version 2.0/41/ has been found to be completed using the valid version of the monitoring report form. The information provided in the monitoring report has been assessed in accordance with the GS4GG principles & requirements version 1.2/28/ and monitoring report template guide /04/.				

E.2. Remaining forward action requests from validation and/or previous verifications

This is the first verification of VPAs (VPA 22, 23, 33 and 34) under GS. The validation and verification of the VPA is submitted simultaneously for GS design and performance review. Any FAR's raised will be reflected in the next verification.

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E.3. VPAs considered for verification and covered under this report

Title and GS reference number of the VPA included in the PoA as of the end of this monitoring period	Is the VPA considered for this verification? (yes/no)	Version of the VPA-DD/ PoA-DD
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 22 - Clear Sky Partners – GS11500	Yes	Version 3.0/ Version 4
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 23 - Clear Sky Partners – GS11499	Yes	Version 3.0/ Version 4
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 33 - GS11490	Yes	Version 3.0/ Version 4
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 34 – GS11489	Yes	Version 2.0/ Version 4

E.4. Programme of Activities

E.4.1. Compliance of the programme implementation with the registered PoA-DD

Means of verification	The PoA invol stoves (ICS), s implemented organizations overall respon which was even consistent wit put together b VPA 22 - GS1 Product Lines VPA 23 - GS1 Product Lines VPA 33 - GS1 Product Lines VPA 34 - GS1 Product Lines	 A involves the promotion, distribution and sale of improved cook es (ICS), Solar lighting systems and water purifiers in India. CME has emented the VPA's through coordination with the partner nizations (POs) and further with local/channel sellers/distributors. The all responsibility of implementation and operation is with CME (MEC), n was evident from the interviews conducted with CME. This is stent with PoA DD /01/. The current verification considers 04 VPAs ogether by CME: 22 - GS11450 - MicroEnergy Credits - Microfinance for Clean Energy uct Lines - India - CPA 22 - Clear Sky Partners - GS11500 23 - GS11450 - MicroEnergy Credits - Microfinance for Clean Energy uct Lines - India - CPA 23 - Clear Sky Partners - GS11499 33 - GS11450 - MicroEnergy Credits - Microfinance for Clean Energy uct Lines - India - CPA 33 - Clear Sky Partners - GS11499 34 - GS11450 - MicroEnergy Credits - Microfinance for Clean Energy uct Lines - India - CPA 33 - GS11490 34 - GS11450 - MicroEnergy Credits - Microfinance for Clean Energy uct Lines - India - CPA 34 - GS11490 34 - GS11450 - MicroEnergy Credits - Microfinance for Clean Energy uct Lines - India - CPA 34 - GS11489 implementation of the VPA's, as referenced above, is within the raphical boundary of the PoA-DD/01/, which constitutes the physical dary as well. 			
	The implemer geographical b boundary as w				
	The type of CE is verified by t	EP (Clean Energy Product) mode he following:	els deployed under the VPAs		
	VPA 22 – GS11500:				
	Type of CEP	Model	PO/ Implementer		
	Water Purification System	Not distributed in VPA 22	Not applicable		

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Solar	There are various models of	Shri Kshetra
Lighting	Solar lighting systems	Dharmasthala Rural
System	distributed in VPA 22, which	Development Project
	were all reviewed and found	(SKDRDP), Greenlight
	acceptable under the applied	Planet India Pvt. Ltd.
	methodology	(GLP), Arohan Financial
		Services Ltd. (Arohan),
		Samasta Microfinance Ltd.
		(Samasta), Midland
		Microfin Ltd. (Midland),
		d.light Energy Private
		Limited (d.light), Arman
		Financial Services Limited
		(Arman), Evangelical
		Social Action Forum
		(ESAF) and Asirvad
		Microfinance Ltd.
		(Asirvad)

VPA 23 - GS11499:

Type of CEP	Model	PO/ Implementer		
Water	PureIt Classic (HUL-PureIt),	Midland Microfin Ltd.		
Purification	Aquasure Nakshatra (EFL-	(Midland), Asirvad		
System	Nakshatra), EFL Asha, EFL	Microfinance Ltd.		
	Sampoorna	(Asirvad), Svasti		
		Microfinance Pvt. Ltd.		
		(Svasti) and Samasta		
		Microfinance Ltd.		
		(Samasta)		
Solar	There are various models of	Arohan Financial		
Lighting	Solar lighting systems	Services Pvt. Ltd.		
System	distributed in VPA 23, which	(Arohan), Greenlight		
	were all reviewed and found	Planet India Pvt. Ltd.		
	acceptable under the applied	(GLP), Asirvad		
	methodology	Microfinance Ltd.		
		(Asirvad), and Shri		
		Kshetra Dharmasthala		
		Rural Development		
		Project (SKDRDP)		

VPA 33 - GS11490

Type of CEP	Model	PO/ Implementer
Water	PureIt Classic (HUL-PureIt),	Midland Microfin Ltd.
Purification	Aquasure Nakshatra (EFL-	(Midland)
System	Nakshatra)	
Solar	There are various models of	Greenlight Planet India
Lighting	Solar lighting systems	Pvt. Ltd. (GLP), Midland
System	distributed in VPA 33, which	Microfin Ltd. (Midland),
	were all reviewed and found	Satin Creditcare Network
	acceptable under the applied	Ltd. (Satin)
	methodology	

VPA 34 - GS11489

Type of CEP Model

PO/ Implementer

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Water Purification System	Not distributed in VPA 34	Not applicable
Solar Lighting System	There are various models of Solar lighting systems distributed in VPA 34, which were all reviewed and found acceptable under the applied methodology	Arman Financial Services Limited (Arman) and Greenlight Planet India Pvt. Ltd. (GLP)

Solar lighting systems implemented under the PoA are renewable energybased LED/CFL lighting systems. Through the introduction of LED/CFLbased lighting systems the project activity is replacing portable fossil fuelbased lamps.

Water purification system disseminated under the PoA include various models. The water purifiers remove harmful virus, bacteria, parasites, pesticides and physical impurities, giving the water which is as safe as boiled water. The water purification systems disseminated in this PoA do not require electricity or continuous tap water and hence, there is no plumbing required.

Technical specification of each type of CEP models are verified with the details provided by respective CEP suppliers and found to be consistently reported in the monitoring report.

As per the PoA DD/1/ maximum 2 types of CEP shall be deployed under any VPA in any combination except ICS and Water Purifier being together. The numbers of CEPs deployed under the VPA has been confirmed by the monitoring database i.e. Credit Tracker Platform /44/.

The verification team has confirmed that the number of CEPs deployed under the VPA and the actual thermal energy savings/year (for type II) and installed capacity (for type I) were found as follows:

VPA title and GS ID	Technology	Savings/Capacity/ Emission Reduction
GS11450 - MicroEnergy Credits	WPS	0 tCO ₂ e
 Microfinance for Clean Energy 	Solar	
Product Lines – India - CPA 22	Lighting	
- Clear Sky Partners –	system	0.61 MW
GS11500		
GS11450 - MicroEnergy Credits	WPS	40,932 tCO ₂ e
 Microfinance for Clean Energy 	Solar	0.29 MW
Product Lines – India - CPA 23	Lighting	
- Clear Sky Partners –	system	
GS11499	-	
GS11450 - MicroEnergy Credits	WPS	2,741 tCO2e
– Microfinance for Clean Energy	Solar	
Product Lines – India - CPA 33	Lighting	
- 11490	system	
GS11450 - MicroEnergy Credits	WPS	0 tCO ₂ e
 Microfinance for Clean Energy 	Solar	34,509 tCO2e
Product Lines – India - CPA 34	Lighting	
	system	

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DDs/2/. Further, based on the review of Credit Tracker Platform /44/, physical observations from on-site visit conducted during current monitoring period:

- The VPA(s) are implemented within the boundary of the PoA as described in the PoA-DD/1/.
- The CME is same as that mentioned in the PoA-DD/1/.
- The implementation and operation of the project activity has been conducted in accordance with the description contained in the PoA-DD/1/ and VPA-DDs/2/.
- All physical features of the VPA proposed in the included VPA-DDs are in place.
- The project participants/VPA implementer has operated the VPAs as per the included VPA-DDs.

The verification team has conducted surveys via on-site visits with 66 households. It was observed that each CEP was assigned a unique household identification number. The unique identification number on each CEP, personal information of CEP owners and commissioning date of CEP was cross checked with the MIS system of POs and further checked with Credit Tracker Platform available with the CME. The operation of the CEPs was confirmed through remote surveys of owners/representatives (of CEPs). The households were asked various questions to confirm identity of the end user, operational status of the CEPs, presence and usage of baseline technologies, among others.

The emission reductions being claimed during this monitoring period are lesser than the estimated emission reductions in the VPA-DDs, as given in the table below for comparable estimated ERs in the VPA-DDs for the corresponding period:

As in VPA-DD	Estimated ERs (tCO ₂)	Actual ERs (tCO ₂)
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 22 - Clear Sky Partners – GS11500	56,270 WPS 193,548 SLS	0 tCO2e 74,611 tCO2e
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 23 - Clear Sky Partners – GS11499	69,155 WPS 167,370 SLS	40,800 tCO2e 15,098 tCO2e
GS11450 - MicroEnergy Credits - Microfinance for Clean Energy Product Lines - India - CPA 33 - GS11490	7,302 WPS 90,104 SLS	2,741 tCO2e 73,815 tCO2e
GS11450 - MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India - CPA 34 - GS11489	2,599 WPS 50,972 SLS	0 tCO2e 34,509 tCO2e

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	The actual distribution of solar lighting systems and improved cookstoves for VPA's are less than the maximum quantity estimated in the VPA-DDs for corresponding year of CEP distributions. The VPA-DDs also mention that the Type 1 SSC threshold of 15 MWe and Type III SSC threshold is more than 60k tCO ₂ e However, for the current monitoring period neither type I nor Type III threshold is crossed The information (including data and variables) provided in the MR is found to be in line with the description provided in the PoA-DD/1/.
	The verification team considers the programme description as contained in the PoA-DD/1/ is complete and accurate. The PoA-DD/1/ complies with the applied methodologies, tools, and forms. The monitoring report was compared and verified against the description provided in the PoA-DD/1/ and found to be correct.
	Grievance Mechanism The grievance mechanism involves recording the complaints from the beneficiaries by the field staffs to the household on a regular basis in a logbook/39/ which is maintained at the registered office. During the current monitoring period, no grievances were received which was verified upon checking the logbook/42/.
Findings	No findings
Conclusion	The verification team can confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the VPAs were in place and that the CME operated the project activity in accordance with the registered VPA-DDs/2/ and VPA-Inclusion Report/3/ during the current monitoring period and based on the information verified through the on-site audit and interviews.

E.4.2. Implementation and operation of the management system

Means of verification	Based on the interview of CME representatives, representatives of different POs (VPA implementer's) and monitoring team, it is confirmed that the CME has organized an appropriate management and operational system for monitoring and reporting.
	The CME co-ordinates with respective POs to establish a marketing and lending program for CEPs. POs staff, local distributors, technicians, and other service providers involved in marketing of CEPs to concerned households. The monitoring plan and procedures to identify each CEP sold have been followed by POs.
	MEC (Micro Energy Credits Corporation Private Limited) is CME for the PoA and responsible for inclusion of VPAs in the PoA. The Carbon Operation Manager of MEC is responsible for completion of inclusion process.
	The Carbon Operation Manager directly reports to CEO of CME and gets the carbon expert assistance during the VPA inclusion process, if required.
	The information about the type of CEP installed under each VPA is stored in Credit Tracker Platform/44/ that is maintained by MEC (CME).
	The Credit Tracker Platform/44/ records the unique identification number, location, installation date, and usage status of each clean energy product (CEP) in each VPA, helps to identify, locate, and verify any or all of the CEP installations in particular VPA. CME has provided the tracker output file/46/ that is used to ensure that unique identification of CEPs can be

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	tracked. This file has been verified to also ensure that no household receives more than 1 solar lighting system. The Carbon Operation Manager at the CME is responsible for QA/QC of the data, analysis, and reporting into the monitoring report. For survey data, a monitoring team has been organized by the CME consisting of trained monitoring staff, who conducted the surveys/ field tests. The staff was interviewed, and training records/32/ were checked to ensure that they were trained for conducting the surveys/ field tests. The monitoring manager at the CME is responsible for QA/QC of the data, analysis, and reporting into the monitoring report.
	In line with the registered monitoring plan, CME conducts an annual survey to ascertain the status of equipment and classify them as installed active, installed damaged and installed inactive. This process is to initiate a repair/post-sales service. All the products which were found to be damaged or inactive are discounted from emission reduction calculation as verified from emission reduction spreadsheet/5/6/7/. There are no CEPs with installed inactive status in the database for the VPA included in batch requesting issuance.
	VPA Implementer/PO field staff annually visit households included in the database to cross-check the information on the database with the factual evidence in the field. Any inconsistencies found (e.g., change in the address of a user) are updated on the database, and in the case, CEPs are found to be no longer in use, they will be clearly marked as such and excluded from emission reduction calculations.
	Original copies of sales receipts/13/, completed survey forms/39/ and carbon title transfer forms/12/ are retained by the respective POs/VPA implementers. The organizational structure and roles and responsibilities for monitoring were in line with the information provided in the VPA-DDs/02/, which was confirmed through interviewing PD representatives and the situation on the ground as observed during the onsite visit conducted during current monitoring period, and the structure was considered appropriate.
	The CEP users sign a title transfer/12/ with the PO while purchasing the product. The title transfer affirms the legal rights of the carbon credits generated by the CEP to the POs. The verification team cross-checked that that carbon title forms/14/ were duly signed by the end-users. Further, a signed contractual agreement between the PO and the CME/41/ guides the transfer of the emission reduction rights to the CME. It has been checked and verified from sample carbon title transfer forms/14/ and agreement between POs and CME/40/ that for the VPA's covered in current verification, the carbon credits generated from the VPA belong to the POs and are later transferred to the CME (MEC). The verification team confirms that the process pertaining to the transfer of emission reduction rights to CME is valid and appropriate for all VPAs under this batch which are requesting issuance.
Findings	No Finding were raised.
Conclusion	The verification team assessed the management systems in place to implement the monitoring of the PoA. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system. The roles and responsibilities data collection transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in the MR /41/. The verification team confirms that the monitoring

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management system of the VPA and by extension PoA is in place with the responsibilities properly identified and established as per the PoA-DD/01/.

E.4.3. Post-design certification changes

E.4.3.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

Not Applicable

E.4.3.2. Corrections

Not Applicable

E.4.3.3. Inclusion of a monitoring plan

Not Applicable

E.4.3.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

Not Applicable

E.4.3.5. Changes to the programme design

Not Applicable

E.4.3.6. Addition of CPA inclusion template

Not Applicable

E.4.3.7. Change of coordination/managing entity

Not Applicable

E.4.3.8. Change specific to afforestation and reforestation activities Not Applicable

E.5. Voluntary project activity

E.5.1. Compliance of the VPA implementation with the included VPA design document

Means of verification	The reporting for this issuance has been done technology-wise, thus section E.5 shall be dealing with distribution of WPS and its compliance with PoA-DD/01/ and applicable standard.
	VPAs described in this section target the promotion, distribution and sale of WPS (Water Purification System) i.e., PureIt Classic (HUL-PureIt), Aquasure Nakshatra (EFL-Nakshatra), EFL Asha, and EFL Sampoorna. Their specifications have been checked against the manufacturer specifications/38/
	Micro Energy Credits Corporation Private Limited is the Coordinating and Managing Entity (CME) for the implementation of VPA's. The CME coordinates and manages each Partner Organization (PO)/ VPA Implementer and assists them in implementing each element of the monitoring plan, which was confirmed to be the case by interviewing the CME and PO staff.

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Water Purification System:					
VPA Ref. #	GS 11500 (VPA 22)	GS 11499 (VPA 23)	GS 11490 (VPA 33)	GS 11489 VPA 34)	
Location / State	WPS were not disseminat ed in this VPA	Bihar (BH),, Punjab (PJ), Madhya Pradesh (MP), Maharasht ra (MH), Assam (AS), Chhattisga rh (CG), Jharkhand (JK), Karnataka (KA), Kerala (KL), Odisha (OD), , Tamil Nadu (TN), Uttar Pradesh (UP), West Bengal (WB) and several regions within the States	Bihar (BH), Haryana (HR) and Punjab (PJ)	WPS were not disseminat ed in this VPA	
CEP Type	WPS	WPS	WPS	WPS	
CEP Model		Classic (HUL- PureIt), Aquasure Nakshatra (EFL- Nakshatra) , EFL Asha, EFL Sampoorn a	Classic (HUL- PureIt), Aquasure Nakshatra (EFL- Nakshatra)	-	

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VPA Implementer / PO		Midland Microfin Ltd. (Midland), Svasti Microfinan ce Pvt. Ltd. (Svasti), Asirvad Microfinan ce Ltd. (Asirvad), Samasta Microfinan ce Ltd. (Samasta)	Midland Microfin Ltd. (Midland)	
Total Quantity Sold / Disseminated	0	16,318	1,248	0
Maximum Estimated Qty CEPs in CPA (for comparable year of distribution)	26,000	26,000	26,000	26,000
Estimated ERs (comparable period) (tCO2e)	56,270	69,155	7,302	2,599
Actual ERs from the CEP Type (tCO2e)	0	40,800	2,741	0

VPA 22 - GS11500:

No WPS were distributed during the current monitoring period. The description is consistent with the description given in the included VPA DDs/2/. By the end of current monitoring period requesting issuance, total 0 WPS were disseminated under this VPA.

VPA 23 - GS11499:

WPS were distributed in Bihar (BH), , Punjab (PJ), Madhya Pradesh (MP), Maharashtra (MH), Assam (AS), Chhattisgarh (CG), Jharkhand (JK), Karnataka (KA), Kerala (KL), Odisha (OD), , Tamil Nadu (TN), Uttar Pradesh (UP), West Bengal (WB) and several regions within the States, which is consistent with the description given in the included VPA DDs/02/. By the end of current monitoring period requesting issuance, total 16,318 WPS were disseminated under this VPAs, which is within the estimated quantity of 26,000 WPS of the VPA DDs/02/ for comparable year of distribution. The distribution model is that WPS are distributed by PO, managed by CME. The WPS are sold to end users and the sales data is collected by means of sales receipts/23/ at the time of sale to the end-user.

VPA 33 - GS11490:

WPS were distributed in Bihar (BH), Haryana (HR) and Punjab (PJ), which is consistent with the description given in included VPA-DDs/02/. By the end of current monitoring period requesting issuance, total 1,248 WPS were disseminated under this VPAs, which is within the estimated quantity of 26,000 WPS of the VPA DDs/02/ for comparable year of distribution. The distribution model is that WPS are distributed by PO, managed by CME. The WPS are sold to end users and the sales data is collected by means of sales receipts/23/ at the time of sale to the end-user.

VPA 34 - GS11489:

No WPS were distributed during the current monitoring period. The description is consistent with the description given in the included VPA DDs/2/. By the end of current monitoring period requesting issuance, total 0 WPS were disseminated under this VPA.

PO has a mechanism of allocating a unique ID to each CEP and the end user so that there is no inter and/or intra-VPA double counting which has been cross verified by the MEC credit tracker output file & ER sheet. It was found that PO involved in implementation of VPA's are involved in this issuance has allocated unique identification numbers to the CEPs sold by them. This information was checked against sample end-user documentation/39/, CME database, and was found to be appropriate. The WPS are sold to end users and the sales data is collected by means of sales receipts/13/ at the time of sale to the end user.

Total WPS distributed under both the VPAs i.e., VPA 22, 23, 33 & VPA 34 are as follows:

VPA 22: No water purification systems installed till date.

VPA 23:16,318

VPA 33:1,248

VPA 34: No water purification systems installed till date.

The year wise implementation of WPS under VPA 22, 23, 33 and 34 are mentioned in the tables below:

Year	VPA 22	VPA 23	VPA 33	VPA 34
2017	-	-	646	0
2018	-	-	297	0
2019	0	9,746	305	0
2020	0	6,572	-	-
Total	0	16,318	1,248	0

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	No further sales have been added during the current monitoring period i.e. 01/01/2021 to 31/12/2021. This verification report covers the monitoring period from 01/01/2021 to 31/12/2021 (inclusive of both the dates).
Findings	CAR#03 was raised and resolved
Conclusion	 The verification team is of the opinion that physical features of the VPA have been implemented in accordance with the VPA-DDs/02/. It is also confirmed, through the review of the supporting documentation, that physical features of the component VPA have been implemented in accordance with the VPA-DDs /02/. The VPA's was also found to be completely operational in line with the VPA-DDs /02/. The information provided in the relevant sections of the monitoring report are appropriately describe the implementation and operational status of the PoA.

E.5.2. Post-design Certification Changes

E.5.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

Not Applicable

E.5.2.2. Corrections

Not Applicable

E.5.2.3. Changes to the start – date of the crediting period.

Not Applicable

E.5.2.4. Change to project design of approved project

Not Applicable

E.5.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	The monitoring plan contained in the VPA-DDs/02/ was reviewed in relation to the monitoring requirements of the applied methodology, Emission reduction from safe drinking water supply-version 1.0 /09/, as well as the PoA DD /01/, bearing in mind the technology involved. In light of the review conducted, it was found that the monitoring plan in the VPA-DDs/02/ contains all the required parameters to be monitored in the context of the VPA design and description and allows determination of emission reductions according to the PoA DD/01/ and applied methodology/09/. That is included in the VPA-DDs/02/.
Findings	No findings raised.
Conclusion	The monitoring plan is in line with the approved methodology Emission reduction from safe drinking water supply-version 1.0/09/, that is included in the registered PoA DD/1/ and VPA-DDs/02/. The monitoring plan is in accordance with the applied methodology /09/ that is included in the VPA-DDs/02/.

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E.5.4. Compliance of monitoring activities with the registered monitoring plan

E.5.4.1. Data and parameters fixed ex ante or at renewal of crediting period.

SDG13: SDWS 2; Project Technology Description

Means of verification	Parameter ID: SDWS 2; Project Technology Description The description of this parameter considered is mentioned as per VPA-DDs. The details were cross checked with the manufacturer's specification. There was no distribution of WPS in VPA 22 and 34 which has been confirmed through ER sheet/05/06/07/ and the Monitoring report/40/. The WPS models distributed in VPA 23 and their technical specifications are mentioned in the table below:			
	Product Model	Dimensions	Average unit weight, kg	Cartridge Capacity to filter/ Lifetime, Liters
	Eureka Forbes Nakshtara	51 cm" x 26 cm" x 26 cm"	2.38 kg	4000 L
	Eureka Forbes Aquasure Sampoorna	27 cm" x 50 cm" x 38 cm"	4 kg	4000 L
	HUL Pureit Classic	61 cm" x 29 cm" x 21 cm	4.1 Kg	1500 L
	Eureka Forbes Asha	67 cm" x 24 cm" x 24 cm	4 Kg	4000 L
	All the distributed criteria defined for Environmental Pro	models under VP/ microbiologically s tection Agency (EP	A 23 and VPA 33 safe drinking water A), US and Nation	meet international r as defined by the al Standards/48/
Findings	No findings were raised.			
Conclusion	The parameter is recommended to verification/02/. He	consistent with the stablish baseline ence the applied particular to the second particular to th	ne registered VPA- fuel usage for VF arameter is correct	DDs wherein it is As at the time of and justified.

SDG13: SDWS 4; Regulatory Framework for safe water supply

Means of verification	Parameter ID: SDWS 4; Regulatory Framework for safe water supply. The data has been confirmed from the respective VPA-DDs/02/ and crosschecked with the National Water Policy (2012) and the Jal Jeevan Mission(2019-2024)/48/ provided by the CME. The VPAs meet host country's potable water specifications set by BIS standards; the project is found in conformance and not conflicting with national regulatory frameworks and policies.
Findings	No findings were raised.
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /05/06/07/ are consistent with the registered VPA-DDs/02/. The applied value is correct and justified.

SDG13: SDWS 5; Water sources in the project boundary

Means of verification	The data provided is verified from the respective VPA-DDs and cross checked with the applied methodology/09/.
Findings	No findings were raised.
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5//06//07/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

SDG13: SWDS 6; Stove technologies used in the project boundary

	The value of the parameter was confirmed and checked against the				
Means of	baseline survey and studies carried by various institutions at the time of				
verification		State	Three-stone		low:
		State	fired		
	VPA22	Bihar	95%	5%	
	VPA22	Tamil Nadu	97%	3%	
	VPA22	Jharkhand	98%	2%	
	VPA23	Assam	92%	8%	
	VPA23	Bihar	98%	2%	
	VPA23	Chhattisgarh	94%	6%	
	VPA23	Jharkhand	95%	6%	
	VPA23	Karnataka	92%	8%	
	VPA23	Kerala	95%	5%	
	VPA23	Maharashtra	96%	4%	
	VPA23	Madhya Pradesh	91%	9%	
	VPA23	Odisha	92%	8%	
	VPA23	Tamil Nadu	90%	10%	
	VPA23	Uttar Pradesh	94%	6%	
	VPA23	West Bengal	92%	8%	
	VPA33	Bihar	95%	5%	
	VPA33	Punjab	93%	7%	
	VPA33	Haryana	94%	6%	
	VPA34	Madhya Pradesh	94%	6%	
Findings	No findings were	e raised.			
Conclusion	The value mention Spreadsheet /5/ The applied valu	oned in the Monitorir /06/07/ are consis e is correct and ius	ng Report /40/ an tent with the reg tified.	d Emission Reduc gistered VPA-DDs	ction s/2/.

SDG13: SDWS 7; Expected technical life [of project activity; volume of years

Means of	The value applied for the parameter is verified from the respective VPA-DDs/02/ and cross checked with Manufacturer's specification of the project
verification	technology/38/. The operation lifetime of the device filter/ cartridge in
	terms of litres is 4000L (EFL Nakshatra, EFL sampoorna and EFL Asha) and
	1500L (HUL Pureit) respectively. Same values were reflected in the
	Monitoring Report dated 23/02/2023, version 2.0. The values have been
	cross checked with the manufacturers' specification/38/ and lifespan of the

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	devices is mentioned in terms of capacity of the Germ Kill Kit and Cartridge.
Findings	CAR#01 was raised and resolved
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5//06/07 are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.

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SDG13: SDWS 8; Percentage of fuel f used in target population; xf

	The value ap	plied for the paramete	r is verified from the VF	A-DDs/02/ and
Means of	cross checke	ed against the baseline	survey and studies car	ried by various
verification	institutions at the time of validation.			
	The value of	f this parameter consid	lered is mentioned belo	ow as per VPA-
	DDS			
	VPA	State	Three-stone fired	Gas Stove
	VPA22	Bihar	95%	5%
	VPA22	Tamil Nadu	97%	3%
	VPA22	Jharkhand	98%	2%
	VPA23	Assam	92%	8%
	VPA23	Bihar	98%	2%
	VPA23	Chhattisgarh	94%	6%
	VPA23	Jharkhand	95%	6%
	VPA23	Karnataka	92%	8%
	VPA23	Kerala	95%	5%
	VPA23	Maharashtra	96%	4%
	VPA23	Madhya Pradesh	91%	9%
	VPA23	Odisha	92%	8%
	VPA23	Tamil Nadu	90%	10%
	VPA23	Uttar Pradesh	94%	6%
	VPA23	West Bengal	92%	8%
	VPA33	Bihar	95%	5%
	VPA33	Punjab	93%	7%
	VPA33	Haryana	94%	6%
	VPA34	Madhya Pradesh	94%	6%
	The row data	from bacaling study a	ad bacalina curvov rocul	to was crossed
		t was found to be co	nsistently reported in	the monitoring
	report.		holocentry reported in	the monitoring
Findings	No findings v	were raised.		
Conclusion	The value m	ontioned in the Meniter	ing Poport (10/ and Emi	scion Poduction
Conclusion	Spreadsheet	1/5//06//07/ are consi	stent with the register	A VPA-DDs/2/.
	The applied	value is correct and just	stified.	

SDG13: SDWS 9; EF_{b,f,C02}, CO2 emission factor arising from use of fuels in baseline Scenario; tCO₂/TJ

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Means of verification	The value applied for the parameter was found to be the default IPCC value sourced from 2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy at the time of validation. The values are confirmed from the VPA-DD./02/ This value is used for the determination of baseline emissions. The value of this parameter considered as mentioned in the VPA-DDs is 112 tCO ₂ /TJ for Firewood and 63.1 tCO ₂ /TJ for LPG. The value was also cross checked with applied methodology Emission Reductions from Safe Drinking Water Supply" v1./09/
Findings	No findings were raised.
Conclusion	The value mentioned in the Monitoring Report /41/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.

SDG13: SDWS 10; $EF_{b,f,non-CO2}$, Non-CO2 emission factor from use of fuels, in case the baseline fuel is biomass or charcoal; tCO_{2e}/TJ

Means of verification	The value applied for the parameter was found to be consistent with the respective VPA-DDs/02 and cross checked with the the default IPCC value sourced from 2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy/30/ The value of this parameter considered as mentioned in the VPA-DDs is 9.46 tCO ₂ e/TJ for wood. The value was also cross checked with applied methodology Emission Reductions from Safe Drinking Water Supply" v1./09/
Findings	No findings were raised.
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5//06//07/are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.

SDG13: SDWS 11; ηwb , 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; %

Means of verification	The values were verified through VPA DDs and are correctly reported in the monitoring report. The value of this parameter considered as mentioned in the VPA-DDs is 10% for three stone fired stove and 57% for gas stove. The value was also cross checked with applied methodology Emission Reductions from Safe Drinking Water Supply" v1./09/
Findings	No findings were raised.
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5/06//07/are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.

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SDG13: SDWS 12; C_b, Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling; %

Means o verification	The val is t val Thi	The value mentioned in the parameter is found to be consistent with the values mentioned in respective VPA-DDs/02/. The value of the parameter is based on baseline survey carried out by CME and verified at the time of validation. This value is used for the determination of baseline emissions. The value of this parameter considered as mentioned in the VPA-DDs are as follows:			
		VPA State			
		VPA22 Bihar 5.69%			
		VPA22	Tamil Nadu	5.72%	
		VPA22	Jharkhand	1.54%	
		VPA23	Assam	5.4%	
		VPA23	Bihar	5.6%	
		VPA23	Chhattisgarh	5.2%	
		VPA23	Jharkhand	4.8%	
		VPA23	Karnataka	5.2%	
		VPA23	Kerala	5.3%	
		VPA23	Maharashtra	5.8%	
		VPA23	Madhya Pradesh	6.2%	
		VPA23	Odisha	4.4%	
		VPA23	Tamil Nadu	5.3%	
		VPA23	Uttar Pradesh	6.1%	
		VPA23	West Bengal	5.3%	
		VPA33	Bihar	5.18%	
		VPA33	Punjab	6.91%	
		VPA33	Haryana	6.36%	
		VPA34	Madhya Pradesh	5.1%	
Findings	No	No findings were raised.			
Conclusion	The Sp ap	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5//6//7/ are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.			

SDG13: SDWS 13; q_{ir} Capacity of the household or institutional water treatment technology; Litres per hour

Means of verification	The values were verified from the respective VPA-DDs/02/ and cross- checked with the manufacturer specification of the technology/38/.This value is used for the determination of baseline emissions. The value of this parameter considered as mentioned in the VPA-DDs are as follows: HUL pureit – 9 L/H EFL Nakshatra, EFL Asha and EFL Sampoorna – 10L/h	
Findings	No findings were raised.	
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5//6//7/ are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.	

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SDG13: SDWS 13; $f_{NRB,b,L,y}$, Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass

Means of verification	The values mentioned in the parameter are consistent with the values mentioned in the VPA-DDs/02/ and cross-checked with CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 03.0/45/ and is found to be correctly reported in the monitoring report. The values considered in this parameter are: Kerala- 0.765, Maharashtra-0.817, Madhya Pradesh-0.842, Odisha-0.793, Assam-0.8, West Bengal-0.952, Bihar-0.97, Tamil Nadu-0.758, Uttar Pradesh-0.954, Jharkhand-0.836, Chhattisgarh-0.686 and Karnataka-0.675.
Findings	No findings were raised.
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /5/6//7/ are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.

E.5.4.2. Data and parameters monitored (Carbon & SDG)

In VPA 22 (GS11500) and VPA 34 (GS11489) there were no WPS distributed during the current verification period.

For VPA 23 (GS11499), and VPA 33 (GS11490)

|--|

	- 1		
Relevant Indicator	SDG	SDG13: Climate Action	
Means verification	of	Criteria/Requirements	Assessment/Observation
vermeation		Measuring /Reading /Recording frequency	The parameter is measured and recorded annually
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the PoA-DD/1/ and VPA-DDs/2/
		Monitoring equipment	Not Applicable
		Calibration frequency /interval:	NA
		How were the values in the monitoring report verified?	The value of this parameter is derived based on water quality tests conducted by various NABL accredited laboratories/49/.
			For the monitoring period, the value of the parameter is 1.
			The values obtained for this parameter are:
Mq	Model -	Partner	VPA
----	---	---------	-------
	State		
1	EFL Nakshatra - Assam	Asirvad	VPA23
1	EFL Nakshatra - Bihar	Asirvad	VPA23
1	EFL Nakshatra - Chhattisgarh	Asirvad	VPA23
1	EFL Nakshatra - Jharkhand	Asirvad	•A23
1	EFL Nakshatra - Karnataka	Asirvad	123
1	EFL Nakshatra - Kerala	Asirvad	/PA23
1	EFL Nakshatra - Maharashtra	Asirvad	VPA23
1	EFL Nakshatra - Madhya Pradesh	Asirvad	423
1	EFL Nakshatra - Odisha	Asirvad	23
1	EFL Nakshatra - Tamil Nadu	Asirvad	23
1	EFL Nakshatra - Uttar Pradesh	Asirvad	.23
1	EFL Nakshatra - West Bengal	Asrivad	23
1	EFL Nakshatra – Bihar	Midland	23
1	EFL Sampoorna – Bihar	Samasta	.23
1	EFL Asha – Madhya Pradesh	Svasti	3

	VPA23	Svasti	EFL Asha – Maharashtra -	1
	VPA33	Midland	EFL Nakshatra - Bihar	1
	VPA33	Midland	HUL Pureit - Punjab	1
	VPA33	Midland	HUL Pureit - Haryana	1
	For all d monitori is also " can be c	evices non ng, value o 0″ since no onducted.	-operational du of parameter "I o water quality	ring M _{q,y} ″ test
	If there a functiona but had per ann paramete conserva considere quality methodo water q devices. ER sheet found acceptab	are cases what during status 'inst ual usage er is sti utively i.e. ed in com requiren logy, irresp uality test This has be c/5//6//7/ a to be co le	here the device monitoring sur- talled_damaged survey, the Il considered that WPS is pliance with w nents of pective of the ac- t result of the en checked from and the approace onservative,	was rvey I' as M _{q,y} 0' not ater the the the the the the thus
If applicable, has the reported data been cross-checked with other available data?	The data the ons VVB/47/ asked w from the any diffe responde water qu and visil source.	a has been ite visit c where the hether the CEP safe c rence obse ed positivel uality was oly cleaner	cross-checked carried out by ne end-users by found the word or not and was erved. The end by and reported believed to be from the pre	with the were water there users that safe vious
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Th place, in done by establish interview	ne QA/QC nternal ch the VPA red thr vs.	procedure are ecks have be implementer a rough on-s	in en nd ite
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been	Not Appl	icable		

	estimated as stipulated by Appendix 1 to the CDM Project Standard?
Findings	No findings were raised
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/2/ (as per measurement methods and procedures to be applied) and applied methodology/9/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.

SDG13: Water hygiene education campaigns

Relevant SDG Indicator	SDG13: Climate Action				
Means of	Criteria/Requirements	Assessment/Observation			
verification	Measuring /Reading /Recording frequency	Annually			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the PoA-DD/1/ and VPA-DDs/2/			
	Monitoring equipment	Not applicable as this parameter is ascertained through campaigns			
	Calibration frequency /interval:	Not Applicable			
	How were the values in the monitoring report verified?	The value of this parameter is based on annual hygiene campaign records/51/ where 2,580 households from across 12 states of India were presented with a questionnaire-based survey. The resulting values were: Percentage of households with basic hygiene practices = 93% for each VPA 23 and VPA 33 Percentage of households with safely managed drinking water = 85.15% in VPA 23 and 81.20% in VPA 33 as reported in the Monitoring Report/40/ provided by the CME. The survey results and records/39/ were checked by the verification team and were found acceptable. The results are reproducible in the corresponding ER sheet of final Monitoring Report. The responses from randomly selected samples from VPAs for WPS under this batch issuance for VVB survey were cross-checked with CME monitoring survey forms which were provided by the CME, and all end users responses were consistent with monitoring			
	If applicable, has the reported data been cross-	Not Applicable.			

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	checked with other available data?				
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. The QA/QC procedure are in place, internal checks have been done by the VPA implementer and established through on-site interviews.			
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable			
Findings	No findings were raised.				
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/2/ (as per measurement methods and procedures to be applied) and applied methodology/9/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/2/.				

SDG13: SDWS 22; Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology in year y; Percentage; $X_{Cleanboil,y}$

Relevant SDG Indicator	SDG13: Climate Action	
Means of	Criteria/Requirements	Assessment/Observation
verification	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the PoA-DD/1/ and VPA-DDs/2/
	Monitoring equipment	Not Applicable
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	The value applied for this parameter is 0% and was verified against the onsite interview/47/, during which households were questioned if they continued practice of boiling water after installation of water purification system. All surveyed households confirmed that the water dispensed

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	If applicable, has the reported data been cross- checked with other available data?	from project device is perceived safe for drinking and is not boiled or treated since installation of the project device. The values Are cross-checked with sample survey records/39/ provided by the CME where the end-users confirmed that they did not boil water from the WPS as they considered it to be safe.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to"be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings were raised.	
Conclusion	The parameter has been m registered monitoring plan/2, to be applied) and applied recorded consistently as per t	onitored appropriately, in accordance with the / (as per measurement methods and procedures methodology /9/. The monitoring results were he approved frequency in the monitoring plan/2/.

SDG13: SDWS 24; Volume of drinking water per person per day for premises type p; Litres/person/day; QPW_p

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirement s	Assessment/Observation
	Measuring /Reading /Recording frequency	This parameter is measured annually.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DDs/2/
	Monitoring equipment	Volumetric Jar
		Least Count = 100 ml
	Calibration frequency /interval:	Not Applicable

How were the values in the monitoring report verified?	The verification team randomly selected 11 samples per VPA for VVB's remote survey/47/ and via these surveys found out an approximate amount of water consumed per person per day, which was comparable with the CME's sample survey result /39/.The value of the parameter as per VPAs are:					
	VPA Partne Model - QPW _p					
	VPA2 3	Asirvad	EFL Nakshatra - Assam	4.33		
	VPA2 3	Asirvad	EFL Nakshatra -Bihar	4.67		
	VPA2 3	Asirvad	EFL Nakshatra - Chhattisga rh	4.68		
	VPA2 3	Asirvad	EFL Nakshatra - Jharkhand	4.70		
	VPA2 3	Asirvad	EFL Nakshatra -Karnataka	4.55		
	VPA2 3	Asirvad	EFL Nakshatra -Kerala	4.57		
	VPA2 3	Asirvad	EFL Nakshatra - Maharasht ra	4.67		
	VPA2 3	Asirvad	EFL Nakshatra -Madhya Pradesh	4.62		
	VPA2 3	Asirvad	EFL Nakshatra -Odisha	4.60		
	VPA2 3	Asirvad	EFL Nakshatra -Tamil Nadu	4.60		
	VPA2 3	Asirvad	EFL Nakshatra -Uttar Pradesh	4.63		
	VPA2 3	Asirvad	EFL Nakshatra -West Bengal	4.73		

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		VPA2	Midlan	EFL	4.22
		3			
			a	Nakshatra – Bihar	
		VPA2	Samas ta	EFL Sampoorn	4.59
				a – Bihar	
		VPA2 3	Svasti	EFL Asha – Madhya Bradosh	4.67
		VPA2 3	Svasti	EFL Asha – Maharasht	4.50
		VPA3 3	Midlan d	EFL Nakshatra - Bihar	4.38
		VPA3 3	Midlan d	HUL Pureit - Punjab	4.44
		VPA3 3	Midlan d	HUL Pureit - Haryana	4.29
	If applicable, has the reported data been cross-checked with other available data?	The survey results and assumptions were checked by the verification team and were found acceptable. The results are reproducible in the corresponding ER sheet of final Monitoring Report/40/.			
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	a Yes. The QA/QC procedure are in place, internal checks have been done by the CPA implementer and established using information received during remote surveys and interviews. QA/QC procedures were also assessed during the MP and were found to be in place.			
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not App	olicable		
indings	CL#06 was raised and reso	lved.			
onclusion	The parameter has been m registered monitoring pla procedures to be applied) results were recorded cons	onitored n/2/ (a and appl istently a	appropria s per m ied methe as per the	ately, in accor neasurement odology /9/. e approved fr	dance with the methods and The monitoring equency in the

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SDG13: SDWS 25; Number of individuals per premises type p in the project boundary in year y; $HN_{p,y}$

Pelevant	SDG13: Climate Action							
SDG								
Indicator								
Means of	Criteria/Requirements	Assessment/Observation						
verification								
	Measuring /Reading /Recording frequency	Annually	,					
	Is measuring and	Yes. The	frequency	is in line with th	he register	red PoA-		
	reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	DD/1/ and VPA-DDs/2/						
	Monitoring equipment	Not Applicable						
	Calibration frequency /interval:	/ Not Applicable						
	How were the values in the monitoring report	The ver assessed	The verified value in this monitoring period wa assessed to be:					
	vermed.	VPA	Partner	Model -	Project	Census		
		VPA23	Asirvad	FFI	5 07	49		
		VI A25	Asirvad	Nakshatra - Assam	5.07			
		VPA23	Asirvad	EFL Nakshatra - Bihar	5.76	5.5		
		VPA23	Asirvad	EFL Nakshatra - Chhattisgarh	4.75	4.5		
		VPA23	Asirvad	EFL Nakshatra - Jharkhand	5.37	5.3		
		VPA23	Asirvad	EFL Nakshatra - Karnataka	4.72	4.5		
		VPA23	Asirvad	EFL Nakshatra - Kerala	4.88	4.2		
		VPA23	Asirvad	EFL Nakshatra - Maharashtra	4.87	4.6		
		VPA23	Asirvad	EFL Nakshatra - Madhya Pradesh	5.15	4.8		
		VPA23	Asirvad	EFL Nakshatra - Odisha	4.52	4.3		
		VPA23	Asirvad	EFL Nakshatra - Tamil Nadu	4.18	3.9		

Findings Conclusion	CDM Project Standard? No findings were raised. The parameter has been me monitoring plan/2/ (as per r	onitored a neasurem	ppropriate	y, in accordand ts and procedu	ce with th res to be	e registered applied) and
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the	Not Applicable				
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.				
	If applicable, has the reported data been cross-checked with other available data?	These values were cross-checked with the Census records/14/ shared by the CME inline with the applied methodology/09/. CME has applied conservative values for the parameter and the lowest value amongst the project survey and census was considered for the emission reduction calculation				
		VPA33	Midland	Punjab HUL Pureit - Harvana	4.87	5.2
		VPA33	Midland	Bihar HUL Pureit -	4.83	5
		VPA33	Midland	- EFL Nakshatra -	5.30	5.5
		VPA23	Svasti	EFL Asha – Maharashtra	4.98	4.6
		VPA23	Svasti	EFL Asha – Madhya Pradesh	5.00	4.8
		VPA23	Samasta	EFL Sampoorna – Bihar	5.92	5.5
		VPA23	Midland	EFL Nakshatra – Bihar	5.63	5.5
		VPA23	Asirvad	EFL Nakshatra - West Bengal	4.84	4.5
		VPA23	Asirvad	EFL Nakshatra - Uttar Pradesh	5.85	6.0

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SDG13: SDWS 28; Accumulated number of premises type p with at least one individual project technology in year y; Number; $N_{p,y}$

Relevant	SDG 13: Climate Change	
Indicator		
Means of	Criteria/Requirements	Assessment/Observation
verification	Measuring /Reading	Annually
	/Recording frequency	
	Is measuring and reporting	Yes. The frequency is in line with the
	the monitoring plan and monitoring methodology? (Yes / No)	registered POA-DD/1/ and VPA-DDS/2/
	Monitoring equipment	Not Applicable
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	The verified value for this parameter is given as:
		VPA Partner Model - Np,y
		VPA23 Asirvad EFL 346
		Nakshatra -
		VPA23 Asirvad EFL 3931
		Nakshatra -
		VPA23 Asirvad EFL 356
		Nakshatra - Chhattisgarh
		VPA23 Asirvad EFL 379 Nakshatra - Jharkhand
		VPA23 Asirvad EFL 670 Nakshatra - Karnataka
		VPA23 Asirvad EFL 527 Nakshatra - Kerala
		VPA23 Asirvad EFL 1533 Nakshatra - Maharashtra
		VPA23 Asirvad EFL 378 Nakshatra - Madhya
		Pradesh
		Nakshatra - Odisha
		VPA23 Asirvad EFL 227
		Nakshatra -

				00400104	
		VPA23	Asirvad	EFL Nakshatra - Uttar	5157
				Pradesh	
		VPA23	Asirvad	EFL	1913
				Nakshatra -	
			Midland	West Bengal	01
		VPA23	Midiand	EFL	91
				Ribar	
		VPΔ23	Samasta	FFI	24
		11/125	Samasta	Sampoorna	2 '
				– Bihar	
		VPA23	Svasti	EFL Asha –	67
				Madhya	
				Pradesh	
		VPA23	Svasti	EFL Asha –	180
				Maharashtra	
			Mi alla va al	-	222
		VPA33	Midiand	EFL	323
				Rihar	
		VPA33	Midland	HUI Pureit -	789
		11/135	i nalana	Puniab	, 05
		VPA33	Midland	HUL Pureit -	136
				Haryana	
	If applicable, has the	The reco in mon sheets/0 verificati The valu	rds of num itoring da 5/06/07 on. ues were	ber of WPS dis atabase, ex-p were use	stributed ost ER d for with the
	reported data been cross- checked with other available data?	sales da Records/	atabase/13 43/ provid	/ and Credit ed by the PP.	Iracker
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/(appropria	QC process ate and tru	es were deeme stworthy.	d to be
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii)	Not Appl	icable		
	estimated as stipulated by Appendix 1 to the CDM Project Standard?				
indings	No findings were raised.				
Conclusion	The parameter has been mon	itored ap	propriately	, in accordance	e with the
	registered monitoring plan/2/ (as per measurement methods and procedures				

to be applied) and applied methodology /9/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

SDG 13:SDWS 29, Usage rate of the project technology by premises type p during year y, %, $U_{p,v}$

SDG Indicator Criteria/Requirements VVB Assessment Means of verification Criteria/Requirements VVB Assessment Measuring /Reading Annually Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) Yes, the frequency in line to the PoA-DD/1/ and VPA-DDs/2/. How were the values in the monitoring report verified? The data was verified during onsite visit/47/ conducted by the VVB where the end-users were asked about the operationality/functionality and usage of the CEP distributed. The end-users responded positively that the product was functional and was used daily. The end users were also questioned about the number of times they filled water in the WPS, to which the end users replied that during summers the number was greater than that of winters. The value of the parameter as per VPAs are: VPA Partne Model - Up,y Nakshatr a - Bihar VPA2 Asirvad EFL 87.87% Nakshatr a - Chhattisg arh 89.75% Nakshatr a - Chhattisg arh	Relevant	SDG 13: Climate Change			
Means of verification Criteria/Requirements VVB Assessment Measuring /Recording frequency Annually Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) Yes, the frequency in line to the PoA-DD/1/ and VPA-DDs/2/. How were the values in the monitoring report verified? The data was verified during onsite visit/47/ conducted by the VVB where the end-users were asked about the operationality/innotionality and usage of the CEP distributed. The end-users responded positively that the product was functional and was used daily. The end users were also questioned about the number of times they filled water in the WPS, to which the end users replied that during summers the number was greater than that of winters. The value of the parameter as per VPAs are: The value of the parameter as per VPAs are: VPA2 Asirvad EFL 88.09% Nakshatr a - Chhattisg arh VPA2 Asirvad EFL 89.75% Nakshatr a - Chhattisg arh VPA2 Asirvad EFL 89.75% Nakshatr a - Chhattisg	SDG Indicator	2			
Measuring /Reading Annually Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) Yes, the frequency in line to the PoA-DD/1/ and VPA-DDs/2/. How were the values in the monitoring report verified? The data was verified during onsite visit/47/ conducted by the VVB where the end-users were asked about the operationality/functionality and usage of the CEP distributed. The end-users responded positively that the product was functional and was used daily. The end users repled that during summers the number of times they filled water in the WPS, to which the end users repled that during summers the number was greater than that of winters. The value of the parameter as per VPAs are: VPA2 Asirvad EFL 87.87% Nakshatr a -Bihar VPA2 Asirvad EFL 89.75% 3 Sairvad EFL 89.75% Nakshatr a -Bihar VPA2 Asirvad EFL 89.75% 3 Nakshatr a -Chhattisg arh VPA2 Asirvad EFL 89.75% 3 Sairvad EFL 92.44% Nakshatr a -Bihar	Means of	Criteria/Requirements	VVB Assessment		
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)Yes, the frequency in line to the PoA-DD/1/ and VPA-DDS/2/.How were the values in the monitoring report verified?The data was verified during onsite visit/47/ conducted by the VVB where the end-users were asked about the operationality/functionality and usage of the CEP distributed. The end-users responded positively that the product was functional and was used daily. The end users were also questioned about the number of times they filled water in the WPS, to which the end users replied that during summers the number was greater than that of winters.The value of the parameter as per VPAs are:VPA Partne Model - Up,y state Asirvad EFL 88.09% Nakshatr a - Asirvad EFL 88.09% Sakshatr a - BiharVPA2AsirvadEFL a - Asirvad a - BiharVPA2Asirvad a - BiharEFL a - BiharVPA2Asirvad <th>verification</th> <th>Measuring /Reading /Recording frequency</th> <th>Annually</th>	verification	Measuring /Reading /Recording frequency	Annually		
How were the values in the monitoring report verified?The data was verified during onsite visit/47/ conducted by the VVB where the end-users were asked about the operationality/functionality and usage of the CEP distributed. The end-users responded positively that the product was functional and was used daily. The end users were also questioned about the number of times they filled water in the WPS, to which the end users replied that during summers the number was greater than that of winters.VPAPartneModelUp,yVPA2AsirvadEFL Asirvad87.87% Nakshatr a - AssamVPA2AsirvadEFL Bihar88.09% Nakshatr a - Chhattisg arh89.75% Nakshatr a - 		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency in line to the PoA-DD/1/ and VPA-DDs/2/.		
VPA rPartne rModel StateUp,yVPA2 3AsirvadEFL Nakshatr a - Assam87.87%VPA2 3AsirvadEFL Nakshatr a - Assam88.09%VPA2 3AsirvadEFL Nakshatr a - - 		How were the values in the monitoring report verified?	The data was verified during onsite visit/47/ conducted by the VVB where the end-users were asked about the operationality/functionality and usage of the CEP distributed. The end-users responded positively that the product was functional and was used daily. The end users were also questioned about the number of times they filled water in the WPS, to which the end users replied that during summers the number was greater than that of winters. The value of the parameter as per VPAs are:		
VPA2 3Asirvad Asirvad 3EFL Nakshatr a - Assam87.87%VPA2 3Asirvad Sirvad 3EFL Nakshatr a -Bihar88.09%VPA2 3Asirvad Sirvad Asirvad 3EFL Nakshatr a -Bihar88.09%VPA2 3Asirvad Sirvad Asirvad 3EFL Nakshatr a - Chhattisg arh89.75%VPA2 3Asirvad Sirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad Asirvad 			VPA Partne Model - Up,y r State		
VPA2 3Asirvad Sirvad a -BiharEFL 			VPA2 Asirvad EFL 87.87% 3 Nakshatr a -		
VPA2 Asirvad EFL 89.75% 3 Asirvad EFL 89.75% a - Chhattisg arh VPA2 Asirvad EFL 92.44% 3 Nakshatr 3 Asirvad EFL 92.44%			VPA2 Asirvad EFL 88.09% 3 Nakshatr a -Bihar		
VPA2 Asirvad EFL 92.44% 3 Nakshatr			VPA2 Asirvad EFL 89.75% 3 Nakshatr a - Chhattisg		
			arh VPA2 Asirvad EFL 92.44% 3 Nakshatr a - Ibarl/bar		
VPA2 Asirvad EFL 89.85% 3 Nakshatr			VPA2 Asirvad EFL 89.85% 3 Nakshatr		

				Karnatak a	
		VPA2 3	Asirvad	EFL Nakshatr a -Kerala	87.72%
		VPA2 3	Asirvad	EFL Nakshatr a -	88.97%
				Maharas htra	
		VPA2 3	Asirvad	EFL Nakshatr a -	92.29%
				Madhya Pradesh	
		VPA2 3	Asirvad	EFL Nakshatr a -Odisha	90.55%
		VPA2 3	Asirvad	EFL Nakshatr a -Tamil Nadu	87.54%
		VPA2 3	Asirvad	EFL Nakshatr a -Uttar Pradesh	77.98%
		VPA2 3	Asirvad	EFL Nakshatr a -West Bengal	86.18%
		VPA2 3	Midland	EFL Nakshatr a – Bihar	85.90%
		VPA2 3	Samast a	EFL Sampoor na – Bihar	91.67%
		VPA2 3	Svasti	EFL Asha – Madhya Pradesh	90.15%
		VPA2 3	Svasti	EFL Asha - Maharas htra -	90.00%
		VPA3 3	Midland	EFL Nakshatr a - Bihar	80.39%
		VPA3 3	Midland	HUL Pureit - Punjab	82.32%
		VPA3 3	Midland	HUL Pureit - Haryana	76.67%
If applicable, has reported data been checked with available data?	s the cross- other	The valu survey of was foun	e was cros carried ou id to be co	s-checked v t by CME/3 nsistent.	with the 39/ and

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	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
Findings	None	
Conclusion	Sustainability criteria was four is as per the GS PoA-DD /1/, a of the monitored value was four No discrepancy in data monit QA/QC procedures was found.	nd to be fulfilled. The monitoring and reporting nd registered VPA-DDs/2/. The representation und to be accurate which was easily verifiable. oring, data management, transfer of data or

SDG 13: SDWS 30, Usage time of the project technology by premises type p in year y, Hours per day, $t_{p,y}$

Relevant SDG Indicator	SDG 13: Climate Change				
Means of	Criteria/Requirements	VVB Assessment			
vermcation	Measuring /Reading /Recording frequency	Annually			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PoA- DD/1/ and VPA-DDs/2/.			
	How were the values in the monitoring report verified?	The value of the parameter is a default value taken from the applied methodology – Emission Reduction from Safe Drinking Water Supply version 1/09/, option 3. The value is taken to be 5 hours per day.			
	If applicable, has the reported data been cross- checked with other available data?	Not Applicable			
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to"be appropriate and trustworthy.			
Findings	No findings were raised.				
Conclusion	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD/1/ and VPA-DDs/2/. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or QA/QC procedures was found.				

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SDG 13: SDWS 31; Average days the project technology is present for endusers in the premises p in year y, Days, $DP_{p,y}$

Relevant	SDG13: Climate Change				
Indicator					
Means of	Criteria/Requirements	VVB Assessment			
verification	Measuring /Reading /Recording frequency	Continu	uously		
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the I DD/1/ and VPA-DDs/2/.			the PoA-
	How were the values in the monitoring report verified?	the This was verified during the onsite conducted by the VVB where er were questioned as to how long the has been there at their household time of installation. The answer obt the end users was on an average The values applied in the param mentioned in the table below:		e visit/47/ end users he product d from the btained by ge 1 year. meter are	
		VPA	Partner	Model - State	DP <i>p</i> , <i>y</i>
		VPA 23	Asirvad	EFL Nakshatra - Assam	351
		VPA 23	Asirvad	EFL Nakshatra - Bihar	360
		VPA 23	Asirvad	EFL Nakshatra - Chhattisgar h	353
		VPA 23	Asirvad	EFL Nakshatra - Jharkhand	356
		VPA 23	Asirvad	EFL Nakshatra - Karnataka	358
		VPA 23	Asirvad	EFL Nakshatra - Kerala	349
		VPA 23	Asirvad	EFL Nakshatra - Maharashtr a	360
		VPA 23	Asirvad	EFL Nakshatra - Madhya Pradesh	355
		VPA 23	Asirvad	EFL Nakshatra - Odisha	358

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			-		
		VPA	Asirvad	EFL	344
		23		Nakshatra -	
				Tamil Nadu	
		VPA	Asirvad	EFL	359
		23		Nakshatra -	
				Uttar	
				Pradesh	250
			Asirvad	EFL	358
		23		Naksnatra -	
				Bongal	
			Midland	FEI	320
		23	malana	Nakshatra	525
		25		– Bihar	
		VPA	Samasta	EFL	335
		23		Sampoorna	
				– Bihar	
		VPA	Svasti	EFL Asha –	332
		23		Madhya	
				Pradesh	
		VPA	Svasti	EFL Asha –	349
		23		Maharashtr	
				a -	254
		VPA	Midland	EFL	354
		33		Naksnatra -	
			Midland	Dillai HIII Duroit	254
		22	Mulanu	Punjah	554
		VPA	Midland	HIII Pureit -	354
		33	Thalana	Harvana	551
	If applicable, has the	The value was cross checked with the			th the
	reported data been cross-	survey	records of	the CME/39	/ and
	checked with other	was to	be consiste	nt.	
	available data?				
	Does the data management	ment The $\Omega \Lambda / \Omega C$ processes were deemed to be			
	ensure correct transfer of appropriate and trustworthy				
	data and reporting of			,	
	emission reductions and are				
	necessary QA/QC processes				
	in place?				
Findings	No findings were raised	<u> </u>			
Conclusion	Sustainability criteria was four	nd to he	fulfilled. The	monitoring ar	nd reporting
Conclusion	is as per the GS PoA-DD/1/. ar	nd regist	ered VPA-D	Ds/2/. The rec	resentation
	of the monitored value was for	und to be	e accurate w	hich was easil	y verifiable.
	No discrepancy in data monit	oring, d	ata manage	ment, transfe	r of data or
	OA/OC procedures was found.				

SDG 13: Average number of individual project technologies in each project premises type p in year y, Number, $DN_{p,y}$

Relevant SDG	SDG 13: Climate Change	
Indicator		
Means of	Criteria/Requirements	VVB Assessment
vernication		

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	Measuring /Reading /Recording frequency	Annually			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PoA-DD/1/ and VPA-DDs/2/.			
	How were the values in the monitoring report verified?	Based on the onsite visit/47/ conducted by the VVB where the end users were asked about the total number of the product received and sales database/13/ provided by the CME, this value was verified and accepted. The verified value was 1 i.e. each household received only 1 WPS during this verification period.			
	If applicable, has the reported data been cross- checked with other available data?	Not Applicable			
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	nt The QA/QC processes were deemed to b of appropriate and trustworthy. of re es			
Findings	No findings were raised				
Conclusion	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD/1/ and VPA-DDs/2/. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or OA/OC procedures was found.				

E.5.5. Implementation of sampling plan

Means of verification	The sampling plan was implemented by the CME in accordance with the Gold Standard methodology Emission Reduction from safe drinking water					
	and Surveys for CDM Project Activities and Programme of Activities/23/.					
Since the VPAs cover various states of India and various model of W distributed in the population, the sampling has been conducted fo state separately. Population with each state is reasonably cons homogenous. Therefore, the approach of simple random sampling for sampling frame is acceptable.						
	Parameters to be covered through monitoring surveys of sampled households:					
	The project developer has conducted combined usage, project and hygiene survey during which 2,580 households have been surveyed in total across all states in which WPS distributions occurred. From all these households, water quality tests were also conducted. Thus, following parameters are covered through monitoring surveys:					
	1. Mq,y 2. Xcleanboil,y					
	3. Up,y					

4. QpWp

5. HNp,y

Monitoring survey (by CME) duration:

The monitoring survey (field survey / tests) was carried out by CME representatives between following duration for the current monitoring period.

For Monitoring Period: 01/01/2021 to 31/12/2021:

VPA 22:

Survey Type	Monitoring Dates	Monitoring frequency	Monitoring survey applicable for this MP?
Usage /Project Survey	Not Applicable	Annual	No
Water Testing	Not Applicable	Annual	No

VPA 23:

Survey Type		Monitoring Dates		Monitoring frequency	Monitoring survey applicable for this MP?	
Usage	/Project	06/01/2022	to	Annual	Yes	
Survey		30/01/2022				
Water Testing		06/01/2022	to	Annual	Yes	
		30/01/2022				

VPA 33:

Survey Type	Monitoring Dates		Monitoring frequency	Monitoring survey applicable for this MP?
Usage /Project	04/01/2022 t	0	Annual	Yes
Survey	26/01/2022			
Water Testing	04/01/2022 t	0	Annual	Yes

<u>VPA 34:</u>

Survey Type	Monitoring Dates	Monitoring frequency	Monitoring survey applicable for this MP?
Usage /Project Survey	Not Applicable	Annual	No
Water Testing	Not Applicable	Annual	No

Sample size calculation for different tests

All monitored parameters were evaluated using simple random sampling with the requisite precision/confidence. The combined Usage/ Project and hygiene survey /42/ was done to determine usage and changes in circumstances experienced following the WPS project's deployment. The sample size was determined using the applied methodology guideline/09/. The representation of different age groups of distribution was also considered with 30 samples from each vintage picked in accordance with

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	methodological sampling requirements. To ensure accurate representation of the entire population, the usage surveys were conducted on randomly chosen water purifiers dispersed across the project distribution boundary.
	It is noted that the average lifetime of WPS model distributed in the VPAs, according to its technical specifications, is based on the Germ Kill Kit capacity or the Cartridge capacity. However, the lifetime may vary from individual product to product depending on usage handling and other physical factors. Parameter Usage Rate ensures that non-operationality rate of project devices found in representative sample is accounted for in ER calculations.
	All parameters of interest are included in the ER spreadsheet for the VPA's. These were checked for the input values as well as formula applied and were found consistent. The reliability (demonstration of precision achieved after the survey results) is depicted in the ER calculation sheets corresponding to final Monitoring Report, which were also found correct.
Findings	CL#05 was raised and resolved
Conclusion	The verification team confirmed that the sampling plan and the parameter values are in accordance with the monitoring plan provided in PoA DD/1/ and the VPA DDs/2/.

E.5.6. Compliance with the calibration frequency requirements for measuring instruments

Means of	No monitoring equipment required to monitor the parameters, as
verification	verified through the registered monitoring plan as outline in the VPA-
	DDs/2/ and PoA-DD/1/.
Findings	No findings were raised.
Conclusion	The verification team has determined that no monitoring equipment has been used by the CME. Therefore, there was no requirement of calibration. This was in accordance with the accepted monitoring plan and the applied monitoring methodology.

E.5.7.Assessment of data and calculation of emission reductions or net removals

E.5.7.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of	1- SDG-13: Climate Action
verification	The equations used were found consistent with the PoA DD/1/, VPA DDs/2/ and the applied methodology Emission reduction from safe drinking water supply $v1.0/9/$
	For calculation of emission reduction, the following formula has been used ERy = BEy - PEy - LEy Where: ERy = Emission reductions in year y (tCO ₂ e/yr) BEy = Baseline emissions in year y (tCO ₂ e/yr) PEy = Project emissions in year y (tCO ₂ e/yr) LEy = Leakage emissions in year y (tCO ₂ e/yr)
	The baseline emission was calculated as: $BE_y = EF_b \times (1 - C_b - X_{cleanboil,y}) \times Q_y \times M_{q,y}$ Where:

BE_y	=	Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO_2e)
Сь	=	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 $(\%)$
$Q_{\mathcal{Y}}$	=	Quantity of safe drinking water provided by the project in year y (L) $% \left(L\right) =0$
$M_{q,y}$	=	Modifier for the water quality in year y
And EFb = SEw 10^9 Where, EF_b	,b,y	$f := \sum (xf * (EFb, f, CO2 * fNRB, f, y + EFb, f, nonCO2)) f$ = Emission factor for the use of fuel to obtain safe water
$SE_{w,b,y}$	=	in the baseline (Tco2e/L) = Specific energy required to boil water (Kj/L), to be
xf	-	calculated as per the paragraph below = Proportion of fuel f used in the baseline (fraction
EF _{b,f} ,co2 EF _{b,f} ,nonCO2	:	 determined based on an energy basis) CO2 emission factor from use of fuel f (Tco2/TJ) Non-CO2 emission factor arising from use of fuel f, when the baseline fuel f is biomass or charcoal (Tco2e/TJ). This parameter is omitted when f is a fossil fuel
fnrb,f,y	-	Fractional non-renewability status of woody biomass fuel during year y (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when f is a fossil fuel.
F	:	= Index for baseline fuel types
Also, $SE_{w,b,y} = 36$	50.83	3/ η _{wb}
Where,		
360.83 = D 5 minutes c	Defa of bo	ult amount of energy required to obtain 1 L of water after piling from a first principles approach Kj/l
$\eta wb = Effic$ average of	cienc base	y of the stoves for baseline water boiling (%). Weighted eline stove types.
Again, $Q_y = \sum N_{p,y}$ Where: $N_{p,y}$	× U; =	$_{p,y} \times QPW_{hh,p,y} \times DP_{p,y}$ Number of premises type p with at least one project technology in year y
<i>U p</i> , <i>y</i>	_	during year v (%)

	$QPW_{hh,p,y}$ = Volume of drinking water per premises p per day in year y (L) $DP_{p,y}$ = Days the project technology is present for end-users in				
	the premises p in year y				
	The calculation provided as a sample for one of the Model in MR/40/ has been reviewed and is found consistent with actual calculations applied in ER calculation sheet/5//6//7/ for that specific combination. It is noted that the sample calculation provided in MR is only one example of a specific group, which in no case reflect total baseline emissions from the technology i.e. from WPS distribution.				
	The value for SDG 13 for WPS 45,458 tCO ₂ e.				
	2- SDG-1: No Poverty				
	Percentage of households having access to basic services in baseline is considered 0 i.e. $BSA_{Baseline} = 0$				
	3- SDG-6: Clean Water and Sanitation				
	The number of households served with safely managed water services is considered 0 in the baseline i.e. $HHTS_{Baseline} = 0$				
	4- SDG-7: Affordable and Clean Energy				
	ACS_{Baseline} = 0 i.e. Number of operating WPS units under Baseline is considered 0				
	5- SDG-8: Decent Work and Economic Growth				
	Number of person (male and female) hired under Baseline = 0 i.e. QE $IG_{Baseline} = 0$				
	The calculations presented in the Monitoring Report /40/ and the corresponding ER sheet /05/06/07/ were found appropriate and complying with provisions prescribed in the registered monitoring plan/2/ of the respective VPA-DDs/2/, PoA-DD/1/ and applied methodology/9/.				
Findings	None				
Conclusion	The verification team verified that a) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.5.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet/05//06/07/ of final Monitoring Report/40/.				
	 b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.5.4.2 of this report. c) The calculations of baseline emissions as presented in the 				
	corresponding ER calculations sheet/5/ of final Monitoring Report/40/ were checked and found to be consistent with the formulae and methods described in the registered monitoring plan of VPA-DDs/2/, registered PoA-DD/1/ and the applied methodology/09/.				
	d) All assumptions used in the emission calculations were found appropriate and therefore justified				

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e) Appropriate emission factors, IPCC default factors/33/ and other
reference values have been correctly applied. This has also been
elaborated under Section E.5.4.1 of this report.
f) No standardized baseline was prescribed in the registered PoA-DD/1/.

E.5.7.2. Calculation of project value or estimation of project situation of each SDG Impact

Means of	1. SDG 13: Climate Action
verification	Project estimate/emissions are considered 0 as the project aims at implementing gravity-based water filter resulting in elimination of usage
	of kerosene and traditional stove for boiling water
	2 SDC 1: No Deverty
	2. SDG 1: NO POVERTY Percentage of households having access to basic services in baseline
	BSAProject for each VPA is mentioned below:
	VPA 22 = 0 VPA 23 = 79 45%
	VPA 33 = 74.80%
	$VPA \ 34 = 0$
	3. SDG 6: Clean Water and Sanitation
	Number of households served with satisfactory level of safe water
	VPA $22 = 0$
	VPA 23 = 13,105
	$VPA \ 33 = 948$ $VPA \ 34 = 0$
	4. SDG 7: Affordable and Clean Energy Number of operating WPS units under Project ACSproject in each VPA is
	given below:
	VPA 22 = 0 VPA 23 = 13.804
	VPA 23 = 13,034 VPA 33 = 1,013
	VPA $34 = 0$
	5. SDG 8: Decent work and Economic Growth Number of person (male and female) hired under Project (OE IG _{Project})
	for each VPA is given below:
	VPA 22 = 177 (Female = 30, Male = 127) VPA 23 = 138 (Female = 25, Male = 113)
	VPA $33 = 68$ (Female = 18, Male = 50)
	VPA 34 = 27 (Female = 5, Male = 22)
	The PoA-DD/1/, VPA-DDs/2/ and applied monitoring methodology/09/
	does not prescribe any project emissions to be considered. The onsite
	source to be considered in this regard.
Findings	None
Conclusion	The verification team verified that
	the verification of each monitoring parameter is elaborated under
	Section E.5.4.2 of this report. The complete monitoring data is also
	presented in the corresponding ER calculations sheet/5//06/07/ of final Monitoring Report /40/.
	b) The information provided in the monitoring report was cross checked
	with other sources, wherever appropriate and available, and such information is also included under Section E_{2} of this report
	 final Monitoring Report /40/. b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.5.4.2 of this report.

E.5.7.3. Calculation of leakage

Means of verification	The leakage considered for WPS under VPA 23 and VPA 33 is 5%.
Findings	None
Conclusion	A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.5.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet/5//06//07/ of final Monitoring Report /40/. The Information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.5.4.2 of this report.

E.5.7.4. Calculation of net benefits or direct calculation for each SDG Impact

For WPS

13 Climate Action VPA22-0 VPA23-42,857 VPA33-2,601 VPA33-2,601 VPA33-2,741 VPA34-0 0 tCO2eVERs (for all VPAs) VPA23-40,800 VPA23-40,800 VPA33-2,741 VPA34-0 1 No Poverty VPA22-0 VPA23-5.69% VPA33-6.40% VPA33-85.15% VPA33-79.450 VPA33-6.40% VPA34-0 VPA22-0 VPA23-79.450 VPA23-79.450 VPA33-74.800 VPA34-0 6 Clean water and sanitation 0 for all VPAs VPA22-0 VPA23-13,105 VPA33-948 VPA34-0 VPA22-0 VPA23-13,105 VPA33-948 VPA34-0 Affordable VPA22-0 VPA22-0 VPA22-0 VPA22-0 VPA22-0 VPA22-0 VPA22-0 VPA22-0						
1No PovertyVPA22-0 VPA23-5.69% VPA33-6.40% VPA34-0VPA22-0 VPA33-81.20% VPA34-0VPA22-0 VPA33-74.80% VPA34-06Clean water and sanitation0 for all VPAsVPA22-0 VPA33-948 VPA34-0VPA22-0 VPA33-948 VPA34-0AffordableVPA22-0 VPA22-0VPA22-0 VPA34-0VPA22-0 VPA33-948 VPA34-0VPA22-0 VPA34-0						
6 Clean water and sanitation 0 for all VPAs VPA22-0 VPA23-13,105 VPA33-948 VPA34-0 VPA34-0 VPA34-0 VPA22-0 VPA22-0 VPA22-13,105 VPA33-948 VPA34-0 VPA34-0 VPA22-13,105 VPA23-13,105 VPA33-948 VPA34-0	6 6					
Affordable VPA22-0 VPA22-0						
7and clean energy (WPS)0 for all VPAsVPA23-13,894 VPA33-1,013 VPA34-0VPA23-13,894 VPA33-1,013 VPA34-0						
8 Decent work and economic growth 0 for all VPAs VPA22-177 VPA22-177 VPA23-138 VPA23-138 VPA33-68 VPA33-68 VPA34-27 VPA34-27						
The calculation methods applied for all the SDG impacts were checked were checked were checked and VPA-DDs/2/. The verification team confirms that the statistical figures were checked and found acceptable.	ith :ed					
Findings No findings						
 Conclusion The verification team confirms that a) The complete data was available and is duly reported. b) As indicated above, the description with regard to cross-check reported data is included under respective parameter (refer Sect E.E.4 of this report). 	The verification team confirms thata) The complete data was available and is duly reported.b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section					

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c) Appropriate methods and formulae for calculating baseline GHG
emissions or baseline net GHG removals, project emissions and leakage
emissions were followed;
d) Appropriate emission factors, IPCC default factors and other reference
values were correctly applied.

E.6. Voluntary project activity

E.6.1. Compliance of the VPA implementation with the included VPA design document

Means of verificatio n	Ine reporting for this issuance has been done technology-wise, thus section E.6 shall be dealing with distribution of solar CEPs and its compliance with registered PoA-DD/1/, VPA-DDs/2/ and applicable standard. VPAs GS11500 (VPA 22), GS11499 (VPA 23), GS11490 (VPA 33) and GS11489 (VPA 34) described in this section targets the promotion, distribution and sale of different models of solar lighting systems implemented in this PoA. Micro Energy Credits Corporation Private Limited is the Coordinating and Managing Entity (CME) for the implementation of VPAs. The CME coordinates and manages each Partner Organization (PO)/VPA Implementer and assists them in implementing each element of the monitoring plan. <u>Solar Lighting Systems:</u> Solar Lighting System (SLS):				
	VPA Ref. #	GS 11500 (VPA 22)	GS 11499 (VPA 23)	GS 11490 (VPA 33)	GS 11489 VPA 34)
	Location / State	Assam (AS), Bihar (BH), Chhattisgarh (CG), Jharkhand (JK), Karnataka (KA), Kerala (KL), Madhya Pradesh (MP), Maharashtra (MH), Meghalaya (MG), Odisha (OD), Punjab (PJ), Rajasthan (RJ), Telangana, Uttar Pradesh (UP), Uttarakhand (UK), West Bengal (WB), and Tripura (TR) and several regions within the States.	Assam (AS), Bihar (BH), Chhattisgarh (CG), Jharkhand (JK), Karnataka (KA), Madhya Pradesh (MP), Meghalaya (MG), Odisha (OD), Puducherry (PD), Punjab (PJ), Rajasthan (RJ), Tamil Nadu (TN), Telangana (TL), Tripura (TR), Uttar Pradesh (UP) and West Bengal (WB) and several regions within the States.	Assam (AS), Bihar (BH), Haryana (HR), Meghalaya (MG), Rajasthan (RJ), Punjab (PJ), West Bengal (WB), Chhattisgar h (CG), Jharkhand (JK), Jammu & Kashmir (J&K), Karnataka (KA), Maharashtra (MH), Tripura (TR), Madhya Pradesh (MP), Odisha (OD), Uttarakhand (UK) and	Assam (AS), Bihar (BH), Gujarat (GJ), Haryana (HR), West Bengal (WB), Chhattisgar h (CG), Jharkhand (JK), Karnataka (KA), Telangana (TL), Maharashtra (MH), Tripura (TR), Madhya Pradesh (MP), Odisha (OD), Punjab (PJ), Rajasthan (RJ), Tamil Nadu (TN), and Uttar

					_
			Uttar Pradesh (UP) and many regions within those states are included	Pradesh (UP) and many regions within those states are included.	
СЕР Туре	SLS	SLS	SLS	SLS	
CEP Model	Multiple Models	Multiple Models	Multiple Models	Multiple Models	
VPA Implementer / PO	Shri Kshetra Dharmasthal a Rural Development Project (SKDRDP), Greenlight Planet India Pvt. Ltd. (GLP), Arohan Financial Services Ltd. (Arohan), Samasta Microfinance Ltd. (Samasta), Midland Microfin Ltd. (Midland), d.light Energy Private Limited (d.light), Arman Financial Services Limited (d.light), Arman Financial Services Limited (Arman), Evangelical Social Action Forum (ESAF) and Asirvad Microfinance	Arohan Financial Services Pvt. Ltd. (Arohan), Greenlight Planet India Pvt. Ltd. (GLP), , Asirvad Microfinance Ltd. (Asirvad), and Shri Kshetra Dharmasthal a Rural Development Project (SKDRDP)	Greenlight Planet India Pvt. Ltd. (GLP), Midland Microfin Ltd. (Midland), Satin Creditcare Network Ltd. (Satin)	Arman Financial Services Limited (Arman) and Greenlight Planet India Pvt. Ltd. (GLP)	
Total	217 8/4	44 023	21/ 510	102 220	
Quantity Sold / Disseminate d	217,844	44,023	214,319	102,220	

				<u>634</u> G(S-FUA-VER-FUR
	Maximum Estimated Qty CEPs in CPA (for comparable year of distribution)	850,000	850,000	1,500,000	1,500,000
	Estimated ERs (comparable period) (tCO2e)	193,548	167,370	90,104	50,972
	Actual ERs from the CEP Type (tCO ₂ e)	74,611	15,098	73,815	34,509
	provided by te monitoring repo CEP and the e counting. Total SLS distr follows: VPA 22: 217,84 VPA 23: 44,023 VPA 33: 214,53 VPA 34: 102,22 The year wise	chnology su ort. The PO h end user so ibuted under 44 3 19 20 implementa	ppliers /19/ and has a mechanism that there is no r the VPAs i.e., ation of SLS und	found to be co of allocating a p inter and/or i VPA 22, 23, 33 der VPA 22, 23	onsistent with the unique ID to each ntra-VPAs double & VPA 34 are a , 33 and 34 ar
		NDA 22		VDA 22	
	2017	- VFA 22	- VPA 25	177	0 843
	2017	-		94 177	56 848
	2010	132 777	13 419	120 165	35 539
	2020	85 067	30 604	-	-
	Total	217,844	44,023	214,519	102,220
	* No further sa 01/01/2021 to During onsite s installed to con team that the respective met	les have bee 31/12/2021 surveys, the firm the mod verified VP hodologies: VPA	en added during end users were del in use. It has As are way bel Capacity (M)	the current mon asked if we car been checked b ow the thresho W)/ Thre	itoring period i.e n see the produc by the verification old /02/ for thei eshold
			ERs (tCO2e	e) (MW)/	(tCO ₂ e)
	GS1150	00 (VPA 22)	0.61 MW	15 MW	
	GS1149	9 (VPA 23)	0.29 MW	15 MW	
	GS1149	0 (VPA 33)	0.40 MW	15 MW	
	GS1148	89 (VPA 34)	0.30 MW	15 MW	
Eindings	All technical sp be meeting the of PoA and ther in section A.3 c	ecifications/2 applied met efore, found of VPA-DDs/2	22/ were reviewe thodology requir acceptable by the 2/.	ed and SLS mod ements and PoA e verification tea	els were found to eligibility criteria m, as provisioned
TINUINUS	ino i mumys we	i e i alseu.			

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Conclusion	 The verification team is of the opinion that physical features of the VPAs
	have been implemented in accordance with the VPA-DDs/2/.
	• It is also confirmed, through the review of the supporting documentation,
	that physical features of the component VPAs have been implemented in
	accordance with the VPA-DDS/2/.
	• The VPAs was also found to be completely operational in line with the VPA-
	DDs/2/.
	The information provided in the relevant sections of the monitoring report
	are appropriately describe the implementation and operational status of
	the BoA
	LITE FUA.

E.6.2. Post-Design Certification changes

E.6.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

Not Applicable

E.6.2.2. Corrections

Not Applicable

E.6.2.3. Changes to the start-date of the crediting period

Not Applicable

E.6.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

Not Applicable as this is the first monitoring period of the VPA under GS.

E.6.2.5. Changes to project design of approved project

There are no changes made during this monitoring period.

E.6.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	The monitoring plan contained in the VPA-DDs/2/ was reviewed in relation to the monitoring requirements of the applied methodologies AMS.I.A version 14.0/10/ as well as the PoA DD/1/, bearing in mind the technology involved. In light of the review conducted, it was found that the monitoring plan in the VPA-DDs/2/ contains all the required parameters to be monitored in the context of the VPAs design and description and allows determination of emission reductions according to the PoA DD/1/ and applied methodology/08/
Findings	No findings raised.
Conclusion	The monitoring plan is in line with the approved methodology, Gold Standard Simplified Methodology AMS I.A Version 14.0/08/, that is included in the registered PoA DD/1/ and VPA-DDs/2/. The monitoring plan is in accordance with the applied methodology /08/ that is included in the VPA-DDs/2/.

E.6.4. Compliance of monitoring activities with the registered monitoring plan.

E.6.4.1. Data and parameters fixed ex ante or at renewal of crediting period

SDG13: LE $_{ker}$, The specific luminous efficiency of kerosene when burnt in a kerosene lantern, in Lumens/ W

Means of verification	LE_{Ker} The value of this parameter is considered is mentioned below as per VPA DDs/2/. This was checked with the revised accepted PoA-DD and included VPA-DDs/2/. This value is used towards determination of baseline emissions. The value of this parameter considered is mentioned below as per VPA-DDs.				
		VPA Number Value			
		VPA 22	0.13 Lumens/ W		
		VPA 23	0.13 Lumens/ W		
		VPA 33	0.13 Lumens/ W		
		VPA 34	0.13 Lumens/ W		
Findings	No findings were raised.				
Conclusion	The value mentioned in the Monitoring Report /41/ and Emission Reduction Spreadsheet /05/06/07/are consistent with the approach given in VPA-DDs/2/. Hence the applied value is correct and justified.				

SDG13: EF_{ker}, The specific CO₂ emissions of kerosene, tCO₂e/ GJ

Means of verification	EF_{Ker} The value is fixed and is derived from 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5 Default emission factors for stationary combustion in the residential and agriculture/forestry/fishing/fishing farms categories/32/. This value is used towards determination of baseline emissions. The value of this parameter considered is mentioned below as per VPA-DDs.				
		VPA Number Value			
		VPA 22	0.0/19 tCO ₂ /GJ		
		VPA 23	0.0719 tCO ₂ /GJ		
		VPA 33	0.0719 tCO ₂ /GJ		
	VPA 34 0.0719 tCO ₂ /GJ				
Findings	No findings were raised.				
Conclusion	The value mentioned in the Monitoring Report /40/ and Emission Reduction Spreadsheet /05/06/07 are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.				

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SDG13: z, Standard normal for a confidence interval of 90%

Means verification	of VPA DDs/2/ included VPA emissions. This value is	 z The value of this parameter is considered is mentioned below as per VPA DDs/2/. This was checked with the revised accepted PoA-DD/01/ and included VPA-DDs/2/. This value is used towards determination of baseline emissions. This value is used for the determination of baseline emissions. The value is used for the determination of baseline emissions. 		
	of this paral	VPA Number	Value	DDS.
		VPA 22	1.29	
		VPA 23	1.29	
		VPA 33	1.29	
		VPA 34	1.29	
Findings	No findings	were raised.		
Conclusion	The value m Spreadsheet The applied	The value mentioned in the Monitoring Report/40/ and Emission Reduction Spreadsheet/05/06/07/are consistent with the registered VPA-DDs/2/. The applied value is correct and justified.		

E.6.4.2. Data and parameters monitored (Carbon & SDG)

SDG13: lumens output for each solar lamp n deployed as part of project activity
(Ln), Lumens

Relevant SDG Indicator	SDG13: Climate Action	
Means of	Criteria/Requirements	Assessment/Observation
verification	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the PoA- DD/1/ and VPA-DDs/2/
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The values reported in the final MR /41/ were verified through the technical specifications provided by the suppliers of the respective model.
		The verified value of this parameter for solar lighting systems sold/distributed under the relevant VPAs at the end of the current monitoring period is lower of Lumen output of installed system.
		The values for each VPA consisting of different models are mentioned in the table below:

Value
140.538 Lumen, 80 Lumen,
65 Lumen, 140.538 Lumen,
140.538 Lumen, 90 Lumen, 25 Lumen
50 Lumen, 140.538 Lumen, 120 Lumen
be inline PoA-DD/1/ and VPA- nstraint. Additionally, each in the database only receives thing system and if any of the are found to have another SLS ring quarterly monitoring, no eductions are claimed from holds. Sures ensure that no single ets emission reductions higher hat were validated at the time VPAs registration (equivalent erosene consumption in the
ion team has verified the lumen odels disturbed in the current period and found to be ith the technical specifications respective product suppliers. In 5 models have more than one ght intensity, the conservative idered in line with VPA-DDs/2/.
tion team also checked the lighting systems in all of the buseholds during the onsite e information thus obtained checked against technical s of the device and it was it matched.
istribution of solar CEPs, each is given a "user account number". This number can be tablish that one household ly one product since the nique and cannot be repeated. ation team checked the of "user account identification solar CEPs across the VPA of conditional formatting and t only a single solar device has ed to each household. The team has also verified the ut file provided by CME that solidated list of all CEP sales

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		implemented in a single household.
	If applicable, has the reported data been cross- checked with other available data?	Type/ model of solar lighting systems given in ER sheets were further checked with the credit tracker output file/44/ during document review of the supporting documents shared by CME. No discrepancy in data was observed regarding models of solar lighting systems distributed.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Solar lighting systems installation information is maintained in the MEC tracker system that records address of the household. The tracker system is monitored continuously. It can be confirmed that management ensuring the correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
indings	No findings were raised.	
onclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/2/ (as per measurement methods and procedures to be applied) and applied methodology/08/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

SDG13: Total number of solar lamps of type i that have been deployed in period a, Ni,a, Lamps

Relevant SDG Indicator	SDG13: Climate Action	
Means of	Criteria/Requirements	Assessment/Observation
vermcation	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the PoA-DD/1/ and VPA-DDs/2/
	Monitoring equipment	Not applicable. The number in Credit Tracker Platform.

F

How were the values in the monitoring report verified?The values reported in the final MR /40/ (and corresponding ER sheets /05/06/07/) were verified through the Credit Tracker Platform /44/, /41/ that records the name of the customer, loan account number, branch name address/ description of location, contact telephone number(s) (where available), unique client ID and date of first loan disbursement date. The entire database for the VPA included in the current monitoring period is presented in the ER sheet as VPA DatabaseThe verified value for solar systems sold/distributed under the VPAs at the end of the current monitoring period are:VPAValue VPA 22VPA 22217,844
The verified value for solar systems sold/distributed under the VPAs at the end of the current monitoring period are:VPAValueVPA 22217,844
VPA 22 217,044
VPA 23 44,023 VPA 33 214,519 VPA 34 102,220
If applicable, has the reported data been cross- checked with other available data? Yes. The information provided in the VPA database/13/ and ER sheets/05/06/07/ was verified randomly with the sales receipt/ warranty cards/23/ and through interviews of the household representatives.
Does the data management ensure correct transfer of data and reporting of emission reductions and are not correct transfer of data and templates to facilitate accurate record keeping in their MIS system/Credit Tracker Platform.
The sale process and record keeping was' reviewed by conducting CME and PO interviews; the record keeping processes explained were found reliable.
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?
Findings No findings were raised
Conclusion The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/2/ (as per measurement methods and procedures to be applied) and applied methodology/08/. The monitoring

results were recorded consistently as per the approved frequency in the monitoring plan.

SDG13: Average number of days lamps of type i that have been deployed in period a were operating in period v, di,a,v, days

Relevant SDG Indicator	SDG13: Climate Action	
Means of	Criteria/Requirements	Assessment/Observation
verification	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the PoA-DD/1/ and VPA-DDs/2/
	Monitoring equipment	Not Applicable
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	The credit tracker platform records the exact date of sale for solar lighting system that can be tracked by the implementing partners and CME. The value of this parameter calculated as the total days from date of installation of the SLS to the end date of monitoring period or the entire monitoring period, whichever is lesser. Individual number of days SLS have operated during the monitoring period is calculated and the average value is used for calculating the emission reductions. In the event of a non-functional CEP being identified during the monitoring, the number of crediting days for that device are considered '0'. It is noteworthy to see that apart from considering the methodological requirements for determination of this parameter value, an additional check on conservativeness of emission reduction estimation is also ensured by considering 0 crediting days for products identified as non- functional at any point during the quarterly or annual monitoring. This quarterly and annual monitoring is followed by CME. The value of the parameter for all the models distributed in each state of VPA reported in the MR is verified through the Credit Tracker Platform output file and found to be

		consistent. The dates of installations were also verified through sales receipts or installation cards /13/ of 33 randomly selected households for remote survey from the VPA with SLS distribution. The information obtained was consistent with dates provided in ER sheets/05/06/07/. It was thus confirmed that for households where distribution was done during the monitoring period (if any), emission reductions were only claimed for days passed since installation. The SLS model specific state-wise average values of parameter are equal to or lower than 365 days for
		the current monitoring period, which was found appropriate based on the evidence provided as mentioned above.
	If applicable, has the reported data been cross- checked with other available data?	The date of installation of the 11 randomly selected households per VPA for VVB onsite survey was further cross-checked with credit tracker screenshots/43/ of recorded details of these households. The values provided were found to be consistent. The applied value does not exceed 365 which is the total number of operational days in the monitoring period. The verified average values were equal to this as per the model distributed and date of installation.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are	The CME supervises the activities of the PO, providing training, guidelines and templates to facilitate accurate record keeping in their MIS system/Credit Tracker Platform.
	necessary QA/QC processes in place?	The sale process and record keeping was reviewed by conducting CME and PO interviews; the record keeping processes explained were found reliable.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings were raised	

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Conclusion The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/2/ (as per measurement methods and procedures to be applied) and applied methodology/08/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

SDG13: Average operating hours of kerosene lamps in the baseline, H, Hours/ day

Relevant SDG Indicator	SDG13: Climate Action	
Means of	Criteria/Requirements	Assessment/Observation
verification	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD/2/
	Monitoring equipment	Not Applicable
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	As per the applied methodology AMS I.A version 14/08/paragraph I "For the specific case of lighting devices a daily usage of 3.5 hours shall be assumed, unless it is demonstrated that the actual usage hours adjusted for seasonal variation of lighting is different based on representative sample survey (90% confidence interval +/-10% error) done for minimum of 90 days".
		For the current monitoring period default value of 3.5 hours/day is considered for this parameter for these VPAs.
	If applicable, has the reported data been cross- checked with other available data?	The value reported in the ER calculation sheet /05/06/07/ was checked with MR/40 and applied methodology AMS I.A version 14/08/ and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the QA/QC procedures are in place. The data provided in applied methodology/08/ has been appropriately reported and used in ER calculation sheet/05/06/07/ and MR/40/.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1//2/ (as per measurement methods and procedures to be applied) and applied methodology /08/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

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SDG13: Lamp failure rate: Share of lamps of lamp type i in checked sample group $g_{i,v}$ not operational in period v (LFR_{i,v}), %

Relevant SDG Indicator	SDG13: Climate Action	
Means of	Criteria/Requirements	Assessment/Observation
vermeation	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD/2/
	Monitoring equipment	Not Applicable
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	This parameter is determined by CME/PO/Monitoring partner through the quarterly survey to confirm the usage status of all SLS. The results collected are recorded in the Credit Tracker Platform /41/44/.
		If a solar lighting system is found to be not in use or non-operational during the survey, then the same is considered as "failed" during the entire monitoring period under concern. All SLSs distributed till the day of surveying are monitored.
		Lamp failure rate is calculated as:
		LFR = (Number of failed lamps/Total number of lamps monitored)
		The value of this parameter for different SLS models distributed during the current monitoring period is provided in the monitoring report /40/ and ER calculation sheets/5/6/7/.
		The verification team randomly selected 11 samples from each VPA for VVB's onsite survey from the VPA covered in this request for issuance and found that all 44 surveyed SLSs for the VPA were operational (as confirmed by the end users). The results were consistent with the monitoring survey results provided in ER calculation sheet/05/06/07/ for the surveyed households.
	If applicable, has the reported data been cross- checked with other available data?	The results were cross-checked with quarterly usage survey forms/39/ for the households surveyed to ensure consistency of data. No discrepancies
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		in data reporting of this parameter were observed. Additionally, the lamp failure rate values are also compared with values obtained from last monitoring period under CDM and it could be confirmed that for each sub-group the parameter value has increased (indicating increased number of failed lamps) since last monitoring period. This is reasonable and can be attributed to older age of the SLSs, thus making them more prone to discontinuation of usage.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the training was provided to the staff responsible for collection of data/32/. QA/QC procedure is in place.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/2/ (as per measurement methods and procedures to be applied) and applied methodology /08/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

SDG 13: This factor corrects the total number of lamps of Iype i by the share of these lamps that were found to be operational according to the sampling in period v., $CF_{i,v,LFR}$, %

Relevant SDG Indicator	SDG 13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
vermeation	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DDs/2/

	monitoring methodology? (Yes / No)		
	Monitoring equipment	Not Applicable	
	Calibration frequency /interval:	Not Applicable	
	How were the values in the monitoring report verified?	Value of this parameter is calculated using the value of lamp failure rate (LFR _{i,v}) using the below equation:	
		$CF_{i,\nu,LFR} = 1 - \left(LFR_{i,\nu} + z * \sqrt{\frac{LFR_{i,\nu} * (1 - LFR_{i,\nu})}{n_{i,\nu,total}}} \right)$	
		Values mentioned in the monitoring report were checked with the ER calculations sheet and found to be consistent.	
	If applicable, has the reported data been cross- checked with other available data?	Calculation approach reported in the ER calculation sheet was found to be satisfactory and in line with the registered monitoring plan.	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	This value is calculated based on the results of other monitored parameters with 90/10 confidence/precision. The statistical error is included in this parameter (confidence level 90%) when 90/10 precision is not met.	
Findings	No findings were raised		
Conclusion	The parameter has been more registered monitoring plan procedures to be applied) a results were recorded consi monitoring plan.	onitored appropriately, in accordance with the $n/1/2/$ (as per measurement methods and nd applied methodology /08/. The monitoring stently as per the approved frequency in the	

SDG13: Total number of lamps checked for which a valid result was obtained, $n_{i,v,total}$, Lamps

Relevant	SDG 13: Climate Action	
SDG Indicator		
Means of verification	Criteria/Requirements	VVB Assessment
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency in line to the PoA-DD/1/ and VPA-DDs/2/.
	How were the values in the monitoring report verified?	This parameter is determined using the sampling surveys. Simple random sampling is applied to determine the sample size for the surveys. Sample size for each type of

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	SLS model is calculated separately for each partner organization and each state.
	The verification team conducted a on-site visit wherein 11 randomly selected households from each VPA with SLS distribution were surveyed and asked about the operationality and usage of the project device. All sampled households were found to have an operational SLS which was subjected to regular, daily usage. The data of surveyed households was also consistent with results presented in ER sheets/05/06/07/, which were used in calculation of the parameter value.
	The monitored value are verified in the final Monitoring Report /40/. The required level of precision i.e., 10% or less, has been achieved at 90% confidence level.
	Minimum 30 samples or total number of deployed SLS were monitored wherever the sample size arrived as less than 30 for a particular group of SLS model/state/PO combination. In some cases, the actual number of installations were less than 30 therefore the entire population size was considered. The verification team was able to confirm that the sample size calculation is in line with the Guideline: Sampling and surveys for CDM project activities and programme of activities/24/.
	As an additional measure of conservativeness, CME has calculated this value using the assumption that all SLSs with status recorded as "installed_damaged" during quarterly and annual usage monitoring survey (which was done as a QA/QC procedure inline with revised approved PoA-DD/1/ and VPA-DDs/2/) are not working or in use. CME has considered no emission reductions from these devices with "installed_damaged" status even if they are functional and in use after introducing minor repairs or fixes. This has been verified through evidence provided i.e., some sample monitoring survey forms/39/. This has been reflected accurately in ER sheets/05/06/07/ as well.
If applicable, has the reported data been cross- checked with other available data?	The survey results, assumptions and sales records for different state/model/PO groups were checked by the verification team at random and were found acceptable. The results are reproducible in the ER sheets corresponding to final Monitoring Report/40/.

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		The verification team cross-checked the parameter related data in ER sheet against the filled monitoring survey forms of the CME/39/ of the 44 randomly selected samples for VVB's onsite survey. It was confirmed that all the responses on solar lighting systems' operationality as reported by the end users during onsite interviews were consistent with the CME's sample survey results/18/39/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes	The CME/PO select the households for monitoring survey to check the lamp usage status for each lamp Iype <i>i</i> in the monitoring period. The survey results are recorded in Credit Tracker.
	in place?	The training was provided to the staff responsible for collection of data/32/. Thus, the QA/QC procedure is in place for the training of staff, and the documentary evidences were shared by CME against these requirements/32/.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

SDG 13: Determination of whether or not the end user used kerosene for lighting prior to the project activity, kerosene usage in the baseline

Relevant SDG Indicator	SDG 13: Climate Change	
Means of	Criteria/Requirements	VVB Assessment
vermeation	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PoA- DD/1/ and VPA-DDs/2/.
	How were the values in the monitoring report verified?	Every household is asked about the baseline fuel used for lighting purpose at the time of loan application. The information gathered from the end users/purchaser of the product is recorded in the MIS system of POs and Credit Tracker Platform. This was confirmed from the credit tracker output file/44/.
		For the current monitoring period, it was inquired and confirmed during VVB onsite surveys of 11 randomly selected households per VPA that all those

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		households were using kerosene for lighting prior to the purchasing the SLS. Hence, the value of the parameter is considered 100%
	If applicable, has the reported data been cross- checked with other available data?	Data recorded in the system generated credit tracker output file/44/ is checked at random. Also, the sample households are randomly checked by the verification team for 11 randomly selected households per VPA by cross- checking the data in ERs sheet against baseline survey forms of these households/39/ (which were filled at the time of SLS installation). The form contains information about the baseline fuel in use by the household.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the training was provided to the staff responsible for collection of data/32/QA/QC procedure is in place.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Other SDGs

SDG 1: Percentage of households having access to basic service access to , $\mathsf{BSA}_{\mathsf{Project}},$ Percentage

Relevant SDG Indicator	SDG 1: No poverty			
Means of verification	Criteria/Requirements	Assessment/Observation		
	Measuring /Reading /Recording frequency	This parameter is mea	asured on annual basis	
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DDs/2/ Not Applicable Not Applicable The verified value for this parameter as per VPAs are:		
	Monitoring equipment			
	Calibration frequency /interval:			
	How were the values in the monitoring report verified?			
		VPA#	Value	
		VPA 22	79.45%	
		VPA 33	74.80%	

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	If applicable, has the reported data been cross-checked with other available data?	The records of WPS distributed in monitoring database, ex-post monitoring survey records were cross checked. Since the database is a primary source of data collection and the QA/QC were found to be robust as described below, the values were accepted. Not Applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	None	
Conclusion	The parameter has been mon registered monitoring plan/1/ (a to be applied) and applied me recorded consistently as per the	itored appropriately, in accordance with the as per measurement methods and procedures thodology /08/. The monitoring results were approved frequency in the monitoring plan.

SDG 6: Number of households served with safely managed water services, Number of beneficiaries, Number

Relevant SDG Indicator	SDG 6: Clean Water and Sanitation		
Means of	of Criteria/Requirements Assessment/Observation		
verification	Measuring /Reading /Recording frequency	This parameter is measured on annual basis	
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DDs/2/	
	Monitoring equipment	Not Applicable	
	Calibration frequency /interval:	Not Applicable	

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	How were the values in the	The verified value for this parameter as per	
	momenting report vermed.	VPA#	Value
		VPA 22	13,105
		VPA 33	948
	The records of WPS distri monitoring database, ex-post m survey records were cross check the database is a primary source collection and the QA/QC were for robust as described below, the variation accepted.		WPS distributed in , ex-post monitoring cross checked. Since imary source of data /QC were found to be elow, the values were
	If applicable, has the reported data been cross- checked with other available data?	Not Applicable	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.	
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable	
indings	None		J
Conclusion	The parameter has been mon registered monitoring plan/1/ (a to be applied) and applied me recorded consistently as per the	itored appropriately, i as per measurement m thodology /08/. The r e approved frequency i	in accordance with the nethods and procedures monitoring results were in the monitoring plan.

SDG 7: Access to affordable and clean energy (Number of operating SLS units under Project), $ACS_{Project}$, Number

Relevant SDG Indicator	SDG7: Affordable and Clean Energy			
Means of verification	Criteria/Requirements Measuring /Reading /Recording frequency	VVB Assessment Continuously		
	Is measuring and reporting frequency in accordance with the monitoring plan	Yes, the frequency is in line to the PoA-DD/1/ and VPA-DD's/2/.		

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	and monitoring methodology? (Yes / No)			
	How were the values in the monitoring report verified?	The post monitoring records/40/ were checked to identify as part of the assessment as well as during the interviews conducted with the selected beneficiaries during on site visit the intended beneficiaries who are having access to affordable, reliable and modern energy services.		
		The value of the par be as mentioned belo be acceptable.	rameter considered to w, which was found to	
		VPA#	Value (Number)	
		VPA 22	213,829 SLS 0 WPS	
		VPA 23 42,791 SLS		
		VPA 33	209,894 SLS 1,013 WPS	
		VPA 34 98,538 SLS 0 WPS		
	If applicable, has the reported data been cross- checked with other available data?	Not Applicable		
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.		
Findings	None			
Conclusion	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD /1/ and registered VPA-DDs/2/. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or OA/OC procedures was found.			

SDG 8: Quantitative Employment and income generation, QE IG_{Project}, Number

Relevant SDG Indicator	SDG7: Affordable and Clear	n Energy
Means of verification	Criteria/Requirements	VVB Assessment
Vermedilon	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PoA-DD/1/ and VPA-DD's/2/.

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	How were the values in the monitoring report verified?	The employment records were checked to identify as part of the assessment		
		The value of the parameter considered to be as mentioned below, which was found to be acceptable.		
		VPA#	Value (Number)	
		VPA 22	177 (30 Females, 127 Males)	
		VPA 23	138 (25 Females, 113 Males)	
		VPA 33	68 (18 Females, 50 Males)	
		VPA 34 27 (5 Females, 22 Males)		
	If applicable, has the reported data been cross- checked with other available data?	The QA/QC processes were deemed to be appropriate and trustworthy.		
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?			
Findings	None	·	·	
Conclusion	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD /1/ and registered VPA-DDs/2/. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or QA/QC procedures was found.			

E.6.5.Implementation of sampling plan

Means of	The monitoring has been carried out in accordance with the monitoring plan contained in the PoA-DD/1/ and respective VPA-DDs/2/			
vermeation	Sampling Design/Target Population/Sampling Frame/Reliability:			
	In this sampling design, the VPAs that are covered under the current monitoring period (GS11500 (VPA 22), GS11499 (VPA 23), GS11490 (VPA33), GS11489 (VPA 34)) are the subject. The sampling frame considered confidence level and precision as 90/10 considering the requirement of Standard for sampling and surveys for CDM pAs and PoAs/23/.			
	The Credit Tracker Platform that records the contact details of the solar lighting systems end users, serves as the basis from which sampling frame is developed.			
	Sampling Method (AMS-I.A):			
	Considering the homogeneity regarding the usage of solar products for			
	the PO's in the relevant VPA's with solar lighting system sales, simple random sampling is applied to determine the parameter "Total number of			
	lamps checked for which a valid result was obtained". In first stage of			
	sampling the total sales population is divided per partner if more than one			

partner organization (PO) involved in the VPAs. Further if the solar lighting systems sold by the PO in more than one state then the sales population splits at state level.

Sample Size (Required and Actual) for Parameter of Interest: The sampling is applied to the proportion-based parameter $n_{ri,v,total}$ for the monitoring period requesting issuance. The sample sizes were determined, separately as per type of Solar lighting models and /or for the SLS models implemented by each PO per state.

In this regard, sample size calculation spreadsheets/05/06/07/was checked and found correct as per registered monitoring plan. Minimum 30 samples or total number of deployed SLSs were monitored wherever the sample size arrived as less than 30 for particular group of SLS model/state/PO combination. In some cases, the actual number of installations were less than 30, and therefore, the entire population size was considered. The verification team was able to confirm that the sample size calculation is in line with the Guideline: Sampling and surveys for CDM project activities and programme of activities/24/. Thus, the actual surveyed systems were either same or higher than the required number. To confirm whether the sample is representative of the different vintage of solar CEPs (in case of AMS-I.A), CME had submitted a separate excel file which was assessed by the verification team for the proportion of total sales in different vintages versus the proportion of selected sampled households in those vintages. The vintages were calculated based on implementation date. The same is found to be justified and appropriate. Hence the verification team was able to confirm that the samples are representative of the total population.

A sample vintage consideration for application of sampling plan for VPAs following AMS-I.A is as follows:

Vintage based on implementation date	Proportion in distribution	Required number of samples based on proportion in distribution	Number of samples monitored for Sunking Boom	
0-1 (01/01/2021 to 31/12/2021)	0	0	0	
1-2 (01/01/2020 to 31/12/2020)	53%	20	20	
2-3 (01/01/2019 to 31/12/2019)	47%	18	18	

Vintage split for GLP Sunking Boom in the state of Bihar: (sample size requirement-38)- VPA23

VPAs part of this issuance request have CEP sales in different vintages, and the number of samples (weightage based on number of CEPs installed and being used in the vintage) are assigned to each vintage accordingly. It was verified with credit tracker platform output files (VPA specific) /47/ and found to be consistent with the data available in vintage-wise consideration sheet/43/ average lifetime of various models of solar lights have been checked from their technical specifications.

All models distributed in VPA 22, 23, 33 and 34 have an average technical life of 5 years or more. However, this is an average estimate of the lifetime which might vary from individual product to product, depending on usage and handling. During verification team's on-site visit, through interviews

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with project implementer representatives it was confirmed that system is in place for after-sales maintenance services to help the households with issues faced with operationality of the device. The end users were also interviewed to cross check, and it was found that they are aware of the available after-sales services. Additionally, what must also be noted is that CME conducts an annual and quarterly monitoring for all end users to check the usage status of the project device, thus capturing nonoperational devices, which are then not accounted in calculation for emission reductions. Therefore, consideration of all solar lighting systems vintages included in the VPA has been accepted by the verification team.

Sample selection:

The samples were randomly selected using a computerized randomizer tool in Microsoft excel, and the verification team has reviewed the calculation. The samples were drawn from the complete sales databases (irrespective of their usage status determined during usage survey) for each relevant VPA-DD/2/. The sample can be confirmed to be representative of the total population in the context of the consideration of vintage of implementation of solar CEPs.

Implementation of survey:

Based on interviews with the CME and surveyors during the onsite surveys, in addition to simply asking this question to the end users, the surveyors were also trained to visually inspect the solar lighting system to corroborate the responses received. Therefore, the implementation of survey was considered reliable.

Monitoring survey (by CME) duration:

The monitoring survey (field survey / tests) was carried out by CME representatives between following duration for the current monitoring period:

VPA Ref. No.	Technology	Survey dates for current monitoring period
GS 11500	SLS	02/01/2022 to 15/02/2022
GS 11499	SLS	07/01/2022 to 13/02/2022
GS 11490	SLS	02/01/2022 to 15/02/2022
GS 11489	SLS	02/01/2022 to 22/03/2022

Therefore, it was concluded that the monitoring survey results obtained are applicable for the entire monitoring period.

Reliability and precision calculation:

The verification team has verified the ER calculation spreadsheets/05//06//07/ with the monitored data, where the actual achieved precision is calculated against the Guidelines outlined under "Standard for sampling and surveys for CDM project activities and programme of activities"/23/ and can confirm that the calculation of achieved reliability was done correctly.

Reliability and precision check are carried out for each monitored sample group under the VPA. The parameters reported in ER spreadsheet were checked for the input values as well as formula applied and were found consistent. The reliability (demonstration of precision achieved after the survey results) is depicted in the ER calculation sheets /5//06//07/ corresponding to final Monitoring Report /40/, which were also found appropriate.

Based on the verified results the verification team found that the required

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	precision is met in all the cases and therefore the survey results were directly used in the calculation of ERs.
Findings	CL#02 was raised and resolved.
Conclusion	The verification team confirmed that the sampling plan and the parameter values are in accordance with the monitoring plan provided in PoA DD/1/ and the VPA DDs/2/.

E.6.6. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	No monitoring equipment required to monitor the parameters, as verified through the registered monitoring plan as outline in the VPA-DDs/2/ and PoA-DD/1/.
Findings	No findings raised.
Conclusion	The verification team has determined that no monitoring equipment has been used by the CME. Therefore, there was no requirement of calibration. This was in accordance with the accepted monitoring plan and the applied monitoring methodology.

E.6.7. Assessment of data and calculation of emission reductions or net removals

E.6.7.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of	1. SDG-13: Climate Action
verification	The verification team verified that
	a) A complete set of data for the monitoring period was available for the monitoring period and the verification of each monitoring parameter is
	data is also presented in the corresponding ER calculations sheets /5/6/7/ of final Monitoring Report /40/.
	b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.4 of this report.
	c) The calculations of baseline emissions as presented in the corresponding ER calculations sheet of final Monitoring Report were checked and found to be consistent with the formulae and methods described in the registered monitoring plan of each relevant VPA-DDs/2/, PoA-DD/1/ and the applied methodology/08/.
	d) All assumptions used in the emission calculations were found appropriate and therefore justified
	e) Appropriate emission factors, IPCC default factors/30/ and other reference values have been correctly applied. This has also been elaborated under Section E.6.4 of this report.
	f) No standardized baseline was prescribed in the PoA-DD and therefore it has not been applied.
	g) There is no pro-rata approach applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.
	The following equations were used to determine the baseline emissions as provided in the monitoring report /40/ and applied in the corresponding ER calculations sheets /8/. The equations used were found consistent with the revised accepted PoA-DD/1/, VPA-DDs/2/ and the applied methodology
	AMS-I.A., version 14/08/:

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Total eRs achieved in the current monitoring period by all types of SLS distributed in the relevant VPA is calculated using the following equations:

$$BE_{v} = \sum_{a=1}^{n} (N_{i,a} * d_{i,a,v}) * l_{i} * h * \frac{1}{LE_{ker}} * EF_{ker} * 10^{-6} * 3.6 * CF_{i,v,LFR}$$

Where:

- $BE_{i,v}$ = Emissions generated in the absence of the project activity in period v by all lamps of type i
- $N_{i,a}$ = The total number of solar lamps oI type *i* deployed in period *a*

$$d_{i,a,v}$$
 = Average number of days lamps If type *i* that have been deployed in period *a* were operating in period *v*

$$l_i$$
 = Nominal lumen output of solar lamps of the type I deployed as part of the project activity

$$h$$
 = Average number of hours solar lamps are used per day

 LE_{ker} = The specific light output of kerosene when burnt in a kerosene lantern

$$EF_{ker}$$
 = The specific CO₂-emissions of kerosene

 $CF_{i,v,LFR}$ = This factor corrects the total number of lamps of type *i* by the share of these lamps that were found to be operational according to the sampling in period *v*. The statistical error is included in this parameter (confidence level 90%).

And:

$$CF_{i,\nu,LFR} = 1 - \left(LFR_{i,\nu} + z * \sqrt{\frac{LFR_{i,\nu} * (1 - LFR_{i,\nu})}{n_{i,\nu,total}}} \right)$$

Where:

- $CF_{i,v,LFR}$ = This factor corrects the total number of lamps of type *i* by the share of these lamps that were found to be operational according to the sampling in period *v*. The statistical error is included in this parameter (confidence level 90%).
- $LFR_{i,v}$ = Share of lamps of lImp type *i* in checked sample group $g_{i,v}$ not operational in period *v*.

z = Standard normal for a confidence level of 90%

$$n_{i,v,total}$$
 = Total number of lamps checked for which a valid result was obtained.

Since there are different models of SLS having different lumen output are distributed/sold under the relevant VPAs, hence the emission reductions achieved by each type of solar lighting system is calculated separately. The above equation is used to calculate the ER achieved by particular solar lighting system and total emission reductions are arrived at as summation of the same.

$$BE_{v} = \sum_{i=1}^{n} BE_{i,v}$$

Where,

 $BE_{i,v}$ is the emission reductions achieved in the period v by all lamps of type i

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	The value for SDG	VPA22	VPA23	VPA33	VPA34	
	13 for SLS:VPA					
	Total Solar Sales	217,844	44,023	214,519	102,220	
	BEv	74,611	15,098	73,815	34,509	
	2. SDG-7: Affordable and Clean Energy					
	$ACS_{Baseline} = 0$ i.e. Number of operating SLS units under Baseline is considered 0					
	3. SDG-8: Decent	Work and Ec	<u>onomic Grov</u>	<u>vth</u>		
	Number of person (r IG _{Baseline} = 0	male and fem	ale) hired un	der Baseline	= 0 i.e. QE	
	The calculation provided as a sample for one of the Partner-Model-State combination in MR/41/ has been reviewed and is found consistent with actual calculations applied in ER calculation sheet/5//6//7/for that specific combination. It is noted that the sample calculation provided in MR is only one example of a specific group, which in no case reflect total baseline					
Findings	No findings were rais	ed.				
Conclusion	 No findings were raised. The verification team verified that g) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.6.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet /5/6/7/of final Monitoring Report /40/. h) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.4.2 of this report. i) The calculations of baseline emissions as presented in the corresponding ER calculations sheet /5/6/7/of final Monitoring Report /40/ were checked and found to be consistent with the formulae and methods described in the registered monitoring plan of VPA-DDs /2/, registered PoA-DD /1/ and the applied methodology/08/. j) All assumptions used in the emission calculations were found appropriate and therefore justified k) Appropriate emission factors, IPCC default factors/30/ and other reference values have been correctly applied. This has also been elaborated under Section E.6.4.1 of this report. 					

E.6.7.2. Calculation of project value or estimation of project situation of each SDG Impact

Means verification	of	1. SDG 13: Climate Action Project estimate/emissions are considered 0 as the project aims at implementing solar lamp resulting in elimination of usage of kerosene.
		2. SDG 7: Affordable and Clean Energy
		Number of operating SLS units under Project ACS _{Project} in each VPA is
		given below:
		VPA 22 = 213,829
		VPA 23 = 42,791
		VPA 33 = 209,894

	VPA 34 = 98,538
	3. SDG 8: Decent Work and Economic Growth Number of person (male and female) hired under Project (QE IG _{Project}) for each VPA is given below: VPA 22 = 177 VPA 23 = 138 VPA 33 = 68 VPA 34 = 27
	The PoA-DD/1/, VPA-DDs/2/ and applied monitoring methodology/08/ does not prescribe any project emissions to be considered. The onsite visit conducted, and project design also did not reveal any potential source to be considered in this regard.
Findings	None
Conclusion	No project emissions are required to be calculated.

E.6.7.3. Calculation of leakage

Means of verification	The PoA-DD/1/, VPA-DDs/2/ and applied monitoring methodology/08/ does not prescribe any leakage emissions to be considered. The onsite visit conducted, and project design also did not reveal any potential source to be considered in this regard.
Findings	None
Conclusion	No additional leakage emissions (other than what is already considered in baseline calculations) were required in accordance with the methodology AMS-I.A, version 14 /08/

E.6.7.4. Calculation of net benefits or direct calculation for each SDG Impact

For SLS

Means of verification	SDGs Targete d	SDG Impact	Baseline estimate	Project estimate	Net benefit
	13	Climate Action	VPA22- 74,611 VPA23- 15,098 VPA33- 73,813 VPA34- 34,509 tCO2e	0 tCO₂e for all VPAs	VPA22- 74,611 VPA23- 15,098 VPA33- 73,813 VPA34- 34,509 tCO2e
	7	Affordable and clean energy	0 for all the VPAs	VPA22- 213,829 VPA23- 42,791 VPA33- 209,894 VPA34- 98,538	VPA22- 213,829 VPA23- 42,791 VPA33- 209,894 VPA34- 98,538
	8	Decent Work and Economic Growth	0 for all the VPAs	VPA22-177 VPA23-138 VPA33-68 VPA34-27	VPA22-177 VPA23-138 VPA33-68 VPA34-27
	The calcul with PoA-I	ation methods DD/1/ and VPA	applied for all DDs/2/. The ve	the SDG imp rification tear	acts were checked n confirms that the

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	stated figures were checked and found acceptable.
Findings	None
Conclusion	 The verification team confirms that e) The complete data was available and is duly reported; f) As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.5.4 and section E.6.4 of this report); g) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed; h) Appropriate emission factors, IPCC default factors/34/ and other reference values were correctly applied.

E.7. Comparison of actual SDG Impacts with estimates in approved PDD

SDGs Targeted	SDG Impact	Values estimated in ex ante calculation of approved PoA-DD for this monitoring period	Actual values achieved during this monitoring period
		SLS (tCO ₂ e VERs) VPA22- 193,548 VPA23- 167,370 VPA33- 90,104 VPA34- 50,972	SLS (tCO2e VERs) VPA22 - 74,611 VPA23 - 15,098 VPA33 - 73,815 VPA34 - 34,509
13	Climate Action	WPS (tCO2e VERs) VPA22- 51,299 VPA23- 66,262 VPA33- 7,095 VPA34-2,413	WPS(tCO ₂ e VERs) VPA22 - 0 VPA23 - 40,932 VPA33 - 2,741 VPA34 - 0
		Total VPA22-244,847 VPA23-233,632 VPA33-97,199 VPA34-53,385	Total VPA22- 74,611 VPA23- 56,030 VPA33- 76,556 VPA34- 34,509
1	No Poverty	VPA22- 95.00% VPA23- 94.33% VPA33- 93.28% VPA34- 94.9%	VPA22 - 0 VPA23 - 79.45% VPA33 - 74.80% VPA34 - 0
6	Clean water and Sanitation	VPA22- 14,819 VPA23- 14,805 VPA33- 15,069 VPA34- 14,805	VPA22 - 0 VPA23 - 13,105 VPA33 - 948 VPA34 - 0
7	Affordable and clean energy	SLS VPA22- 977,138 VPA23- 940,888 VPA33- 985,808 VPA34-940 888	SLS VPA22 - 213,829 VPA23 - 42,791 VPA33 - 209,894 VPA34 - 98,538

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			WPS VPA22- 15,600 VPA23- 15,600 VPA33- 16,099 VPA34- 15,600	WPS VPA22 - 0 VPA23 - 13,894 VPA33 - 1,013 VPA34 - 0
	8	Decent Work and Economic Growth	VPA22- 20 Jobs VPA23- 20 Jobs VPA33- 20 Jobs VPA34- 20 Jobs	VPA22 – 177 Jobs VPA23 – 138 Jobs VPA33 – 68 Jobs VPA34 – 27 Jobs
	The actual VPA-DDs/0 The primar respective Thus, the a	SDG targets agains 2/ is lower for all th y reason being in technology are mu chieved SDG targe	t the anticipated vane SDGs except SD the PoA-DD and uch lower than exp ts are much lower	alues in PoA-DD/01/ and G 8 as tabulated above. VPA-DDs sales for the pected in the VPA-DDs than anticipated.
Findings	CAR#04 was raised and resolved.			
Conclusion	The actual for the VPA SDG target by the veri	emission reduction: As is lower than th is stated in the VP/ fication team.	s achieved in the cu e emission reductio A-DDs/2/. Therefor	urrent monitoring period ons as well as for other re, it has been accepted

E.7.1.Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

Means of	The Monitoring Report /40/ and corresponding ER calculations sheet					
verification	/05/06//07/, show that the actual emission reductions achieved for					
	project SLS/WPS during this monitoring period are less than the					
	estimate provided in VPA-DDs/2/.					
Findings	None					
Conclusion	No justification was sought from the PD because the achievement of					
	emission reductions were lower than what had been estimated.					

E.8. Stakeholder Inputs and Legal Disputes

Principles	Mitigation Measures added to the Monitoring Plan	Assessment/Observation		
Principle 6.1. Labour F	Rights			
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	The CME had made sure that all employment complies with regional labour laws and regulations. The VPA does not entail any forced labour. All employees are confirmed to be minimum 18 years of age. The information is found confirmed and recorded in the monitoring report.	As verified by the VVB through the employment records/29/ and contracts no employee was found to be 18 years of age which is in line with national labour laws		
Principle 9.4 Release of	of pollutants.			
Could the Project potentially result in the release of pollutants to the environment?	The project distributed clean energy products which required a appropriate handling at their end of life to avoid release of pollutants at end of life. The PP has been accounted for this and ensured the mitigation measures are in place at the time of monitoring, including procurement of waste scrap, which has been documented in the monitoring report.	VVB has verified and evident through the interviews of Asirvad, Midland, Svasti and Samasta staff, if any waste scrap disposal happened in the current monitoring, the information confirmed by the photographic evidence of sample receipts/52/ shared by the CME.		



E.9. Stakeholder Inputs and legal Disputes:

Means of Verification	Since there were no negative comments reported in the Grievance mechanism for the current period, as confirmed from the logbooks and interviews of the end users, this section is not applicable. No Legal disputes have been indicated by the CME and PO during the interviews. CME has added declaration in the monitoring report indicating that no legal contest has arisen during this monitoring period. The stakeholder mitigations that were agreed to be monitored include aftersales mechanism to ensure customer complaints are registered and addressed continuously. Interviews of end-users were conducted by the VVB representatives, and all end-users confirmed that they were aware of the complaints mechanism and had contact information of the PO representatives in case they have any complaints regarding the CEPs. The measures to address such complaints may include repair or replacement of CEPs, depending on the degree of damage. The Continuous input / Grievance Expression process book is available at the office of Local Partner organization for those who don't have the access to electronic media for expressing there concerns and the end users can also register there complaint / grievance through the email customecare@bandhanbank.com, info@cedarretail.in, help@goldstand.org, info@muthoot.com, indira.ghosh@arohan.in. During the current monitoring period, 2,448 and 187 WPS for VPA 23, 21,452 under VPA 33 & 15,333 under VPA 34 repairs were done respectively. These have been confirmed by the ER Sheets/5/ of the respective VPAs. A step wise approach has been adopted by the CME for aftersales mechanism to resolve customer complaints. The steps involved are: Step 1: Complain Registration Step 2: Logging complaint Step 3: Collection of the complaint Step 3: Collection of the complaint Step 3: Feedback (optional)
	VVB confirms that all the technical failure and maintenance protocol has been appropriately listed by the CME in the MR
Findings	No finding was raised
Conclusion	Not Applicable

SECTION F.Internal quality control

The draft verification report that is prepared by the verification team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood were duly complied with and such opinion/conclusion

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is reached in an objective manner that complies with the applicable GS4GG 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 technical review team are independent of the verification 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 Gold Standard. 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 needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized on behalf of Earthood Services Private Limited.

SECTION G. Verification opinion

Earthood Services Private Limited (Earthood), contracted by, has performed the independent verification of the emission reductions for the GS 11500 (VPA 22), GS 11499 (VPA 23), GS 11490 (VPA 33) and GS 11489 (VPA 34) in the host country "India" for the monitoring period 01/01/2021 to 31/12/2021 (both dates inclusive), as reported in the Monitoring Report, Version 3.0 dated 11/05/2023/41/. The 'MicroEnergy Credits' is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. Earthood commenced the verification against the baseline and monitoring methodology "AMS I.A – Electricity generation by the user, Version 14.0"/08/ and Emission Reduction from safe drinking water supply v1.0, the monitoring plan contained in the VPA-DDs and Monitoring Report Version 3.0 dated 11/05/2023/41/.

VVB's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The verification team confirms that:

- The PoA was found completely implemented as per the description given in the registered VPA-DDs.
- The actual operation conforms to the description in the registered PoA DD/01/ and VPA-DDs/02/.

SECTION H. Certification statement

ESPL's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that the reported GHG emission reductions are fairly stated.

In our opinion, the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report (final) Version 3.0 dated 11/05/2023/41/. ESPL, based on outcome of verification activities, certifies in writing that, during the monitoring period 01/01/2021 to 31/12/2021 (inclusive of both the dates) for the VPA 22, 23, 33 and 34 and the registered GS PoA – GS11450 "MicroEnergy Credits – Microfinance for Clean Energy Product Lines – India" achieved the verified amount of 74,611 tCO₂e for VPA 22, 56,030 tCO₂e for VPA 23, 76,556 tCO₂e for VPA 33 and 34,509 tCO₂e for VPA 34 in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the PoA.

The verified amount of emission reductions is stated below as per implemented VPAs and as per commitment period:

Verified emission reductions to be certified as per monitoring period:

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Monitoring period	VPA	22	VPA	23	VPA	33	VPA	34
From 01/01/2021 till 31/12/2021	74,611 VERs	tCO2e	56,030 VERs	tCO2e	76,556 VERs	tCO₂e	34,509 VERs	tCO2e
Total	74,611 VERs	tCO2e	56,030 VERs	tCO ₂ e	76,556 VERs	tCO ₂ e	34,509 VERs	tCO2e

Appendix 1. Abbreviations

Abbreviations	Full texts				
General					
ACM	Approved Consolidated Methodology				
AM	Approved Methodology				
BE	Baseline Emission				
CAR	Corrective Action Request				
CDM	Clean Development Mechanism				
CER	Certified Emission Reduction				
CME	Coordinating and Managing Entity				
CL	Clarification Request				
CO ₂	Carbon dioxide				
СР	Crediting Period				
DR	Desk Review				
EB	Executive Board				
EI	External Individual				
ESPL	Earthood Services Private Limited				
FAR	Forward Action Request				
GHG	Green House Gas				
GSC/GSP	Global Stakeholder Consultation Process				
IPCC	Intergovernmental Panel on Climate Change				
IR	Internal Resource				
KP	Kyoto Protocol				
LSC	Local Stakeholder Consultation Process				
MoC	Modalities of Communication				
MoV	Means of Verification				
MP	Monitoring Plan				
ODA	Official Development Assistance				
PA	Project Activity				
PCP	Project Cycle Procedure				
PD	Project Developer				
PDD	Project Design Document				
PE	Project Emission				
РоА	Programme of Activities				
PoA DD	Programme of Activities Design Document				
PS	Project Standard				
RCP	Renewal of Crediting Period				
RFR	Request for Registration				
tCO ₂ e	tonnes of Carbon dioxide equivalent				
ТРН	Tonnes Per Hour				
TR	Technical Reviewer				

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UNFCCC	United Nations Framework Convention on Climate Change			
V	Version			
VPA	Verified Project Activity			
VVB	Validation and Verification Body			
VVS	Validation and Verification Standard			
ICS	Improved Cookstove			
GS4GG	Gold Standard for Global Goals			
MoV	Means of Verification			
SDG	Sustainable Development Goals			
WPS	Water Purification System technology			

Appendix 2. Competence of team members and technical reviewers

Competence State	ement					
Name	Shifali Guleria	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	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	Sushant Vashisht				
Education	M.Sc. Environmental science and Technology				
Experience	6 months				
Field	Environment science and technology				
Approved Roles					
Team Leader	NO				
Validator	NO				
Verifier	NO				
Methodology	NO				
Expert					
Local expert	NO				
Financial Expert	NO				
Technical	NO				
Reviewer					
TA Expert (X.X)	NO				
Trainee	YES				
Reviewed by	Shifali Guleria (Quality Manager) Date 10/05/2022				
Approved by	Deepika Mahala (Technical Date 10/05/2022 Manager)				

Competence Statement					
Name	Sukanya Phukan				
Education	M.Sc (Environmental Science and B.Sc (Zoology)	Technolo	ogy)		
Experience	-				
Field	Environment Science				
	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	Shifali Guleria (Quality Manager)	Date	20/09/2022		
Approved by	Deepika Mahala (Technical Manager)	Date	20/09/2022		

Competence Statement						
Name	Ashish Yadav					
Education	M.Sc Environmental Sciences B.Sc Biotechnology	M.Sc Environmental Sciences B.Sc Biotechnology				
Experience	1 Year					
Field	Wastewater treatment					
	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	Shifali Guleria (Quality Manager)	Date	20/09/2022			
Approved by	Deepika Mahala (Technical Manager)	Date	20/09/2022			

Competence Statement						
Name	Abhishek Koul	Abhishek Koul				
Education	Bachelor of Technology in Mechanic	cal Engir	neering			
Experience	-					
Field	-					
	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	Shifali Guleria (Quality Manager)	Date	20/09/2022			
Approved by	Deepika Mahala (Technical Manager)	Date	20/09/2022			

Competence Statement							
Name	Kaviraj Singh						
Education	Ph.D. (Environmental Engineering)	Ph.D. (Environmental Engineering), IIT Delhi					
	Masters (Energy & Environmental),	DAVV I	ndore				
Experience	15 Years +						
Field	Climate Change & Environment						
	Approved Roles						
Team Leader	YES						
Validator	YES						
Verifier	YES						
Methodology	AMS-I.D., AMS-II.D., ACM0006, AMS-I.A., AMS-I.C., AMS-II.B.,						
Expert	AMS-III.H, ACM0002, ACM0001, AM0080, ACM0018, AM0056,						
	VM0042, AMS-111.G, AMS-111.AF., V	M0032					
Local expert	YES (India)						
Financial Expert	YES						
Technical	YES						
Reviewer							
TA Expert (X.X)	YES (TA 1.1, TA 1.2, TA 3.1, TA 13	.1, TA 1	3.2)				
Reviewed by	Shifali Guleria (Quality Manager)	Date	02/12/2022				
Approved by	Deepika Mahala (Technical Manager)	Date	03/12/2022				

Competence Statement

Name	Shreya Garg			
Country	India			
Education	M.Sc. (Climate Science & P	olicy), TERI Univ	versity	
Experience	9 Years +			
Field	Climate Change			
	Approved R	oles		
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 1.1, TA 1.2, TA 3.1, TA 13.1)			
Reviewed by	Shifali Guleria	Date	21/12/2022	
Approved by	Deepika Mahala	Date	21/12/2022	

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Appendix 3. Documents reviewed or referenced.

No.	Author	Title	References to the document	Provider
1.	MEC	PoA-DD	Version 4.0	CME
2.	MEC	VPA-DD VPA 22 VPA 23 VPA 33 VPA 34	Version. 3 Version. 3 Version. 3 Version. 2	CME
3.	ESPL	Validation Report for inclusion of VPA	Version 01, dated 24/02/2023	Others
4.	GS4GG	Monitoring report template Guide	Version 1.1, published on 14/10/2020	GS4GG
5.	MEC	 a. ER Calculation Summary Sheet VPA 33 b. ER Calculation Summary Sheet VPA 34 	Pertaining to latest MR	CME
6.	MEC	ER Calculation sheet_VPA 22	Pertaining to latest MR	CME
7.	MEC	ER Calculation sheet_VPA 23	Pertaining to latest MR	CME
8.	UNFCCC	AMS I.A – Electricity generation by the user	Version 14.0	Others
9.	GS4GG	Emission Reduction from safe drinking water supply	Version 1.0	GS4GG
10.	CDM	CDM webpage of the PoA: https://cdm.unfccc.int/P rogrammeOfActivities/p oa_db/B46TH0V2GLIZK 1UPWJ3SMNA8QRX7FY/ view	Last accessed on 13/10/2022	Others
11.	The Gold Standard Foundation	GS webpage of the PoA: https://registry.goldsta ndard.org/projects/detai ls/3501	Last accessed on 13/10/2022	Others

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12.	MEC	Carbon Title transfer document	-	CME
13.	MEC	Sales Records	Various	CME
14.	MEC	Census Records	-	CME
15.	MEC	Spot check user records and the pictures of the stoves	-	CME
16.	MEC	Training records	-	CME
17.	MEC	Monitoring survey reports for parameters monitoring for WPS and SLS	-	CME
18.	MEC	Questionnaire used during the survey for each type of CEP	December 2020	CME
19.	MEC	Technical specifications of SLS (Various)	-	CME
20.	MEC	Original copies of sales receipts / invoices/ warranty cards	-	CME
21.	UNFCCC	CDM PS for PoA	Version 3.0	Others
22.	UNFCCC	CDM VVS for PoA	Version 3.0	Others
23.	UNFCCC	Standard: sampling and surveys for CDM project activities and programme of activities	Version 9.0	Others
24.	UNFCCC	Guidelines: sampling and surveys for CDM project activities and programme of activities	Version 4.0	Others
25.	GS4GG	Principle and requirements	Version 1.2	Others
26.	GS4GG	PoA Requirements	Version 2.0	Others
27.	GS4GG	CSA Requirements	Version 1.2	Others
28.	GS4GG	GHG emission reduction and sequestration product requirements	Version 2.1	Others
29.	MEC	Employment Records	-	CME
30.	IPCC	IPCC Guidelines for National Greenhouse Gas Inventories 2.1 (http://www.ipcc- nggip.iges.or.jp/public/2 006gl/pdf/2_Volume2/V 2_2_Ch2_Stationary_Co mbustion pdf)	-	Others
31.	GS4GG	Form: GS-MR-FORM	Version 1.1, Dated 14/10/2020	Others
32.	MEC	Training photos, Records	-	CME

33.	The Go Founda	he Gold Standard REQUIREMEN oundation GUIDELINES MONITORING		REMENTS AN LINES: USAGE RAT ORING,	-	CME
34.	IPCC		GWP: https:// ssets/u -wg1-c	IPCC AR /www.ipcc.ch/site/ ploads/2018/02/ar hapter2-1.pdf	-	Others
35.	IPCC		GWP: https:// essmer	IPCC AR5, /www.ipcc.ch/ass nt-report/ar5/	-	Others
36.	MEC		Grievar	nce Logbook	-	Others
37.	MEC		MEC agreem	and PO's nent	-	CME
38.	MEC		Manufa Specific (Variou	cturer cation of WPS is)	-	CME
39.	MEC		Quarter monito	rly and annual ring survey forms	Filled	CME
40.	MEC		Monitor	ring Report (final)	Version 3.0, dated 11/05/2023	СМЕ
41.	MEC		Credit screens output	tracker platform shots/ online – file	-	CME
42.	MEC		Grievar	nce Logbook	-	CME
43.	MEC		Credit Screens	Tracker Platform shots	-	CME
44.	MEC		Tracker	r output file	-	CME
45.	UNFCCC		Tool 30 the fr renewa	0: Calculation of action of non- ble biomass	Version 3.0	Others
46.	UNFCC	C	Commu Activity	unity Services Requirements	Version 1.2	Others
47.	ESPL		On-Site	e audit records	-	Others
48.	MEC		Nationa (2012) Jeevan 2024)/	al Water Policy and the Jal Mission(2019-	-	Others
49.	MEC		Laborat Water (tory tests for Quality	-	CME
50.). BIS		the I drinking specific 10500: http://o ments/	ndian Standard g water ation (IS 2012) cgwb.gov.in/docu wq-standards.pdf	2012	Others
51.	MEC		Annual Campa	Hygiene ign Records	-	СМЕ
	52.	MEC		Sample Employment contract	-	CME

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

Table 1. Remaining FAR from validation and/or previous verification FAR ID 01 Section no. Date : DD/MM/YYYY Description of FAR XX Project participant response Date : DD/MM/YYYY Documentation provided by project participant Date : DD/MM/YYYY VVB assessment Date: DD/MM/YYYY

Table 2.CL from this verification

CL ID	01	Section no.	КРІ	Date : 22/02/2023		
Descriptio	n of CL	·	-	•		
In Table 1-	Sustainable Develo	pment Contri	butions Achieved,			
1. CME ha	s mentioned under r of providing basic	SDG 1 "Nur	nber of WPS distributed uses to households" Howe	under the project as an ver distribution of WPS		
is obser	ved in only 3 VPAs	i.e. VPA 23,	32 and 33 and SLS is dist	tributed in all the VPAs.		
CME is	requested to clarify	why distribut	ion of SLS is not consider	ed under SDG 1.		
2. Descrip	tion mentioned und	ler SDG Impa	act of both SDG 6 and S	DG 7 (WPS) are same.		
Howeve	r, the input values	are different i	n both the SDGs. CME Sh	all clarify		
Project pa	rticipant respons	e		Date: 23/02/2023		
1. SDG	7 already accounts	for number of	of SLS distributed under t	the project. Adding it in		
SDC	1 would be duplica	tion. For WPS	, SDG tool has suggested	an approach for SDG1		
whice a second	is different than a		nas been included in SD			
2. SDG	impact indicator r	nentioned for	SDG 6 and SDG / are re	evised in the MR to the		
10110	willy: SDG 6 Indicator	· Proportion o	f population using safely r	managed drinking water		
	service		i population using salely i	nanaged drinking water		
	5. SDG 7 Indicator	: Number of h	ousehold with operationa	I WPS		
Document	ation provided by	v project part	ticipant			
VVB asses	sment			Date: DD/MM/YYYY		
1. VVB	1. VVB confirms that to avoid duplication, CME has considered only WPS in SDG 1.					
2. VVB confirms that the SDG Impacts of SDG 6 and SDG 7 (WPS) are changed in the						
revised MR.						
CL#01 is c	losed					

CL ID	02	Section	E.6.5	Date : 22/02/2023	
		no.			
Description of CL					

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In Section D.4 of the MR, page no 192, CME has mentioned that the total sample requirement						
of 30 for vintage analysis. However, CME has monitored 32 samples. CME is requested to						
clarify as to why the samples monitored is greater than the total samp	ole requirement					
Project participant response Date : 23/02/2023						
The clerical error in Section D.4 of MR has been corrected. Revised MR has been submitted.						
Documentation provided by project participant						
VVB assessment	Date: 23/02/2023					

VVB confirms the section has been revised by the CME. New vintage percentages are updated in Section D.4 which is found to be appropriate by the VVB.

CL#02 is closed

CL ID	04	Section	NA	Date : 22/02/2023	
		no.			
Descriptio	n of CL				
In VPA 23,					
During the reported th to assemble the Monitor	site visit dated, 2 at they were not ins and use the water ing survey.	29/11/2022, I structed neith purifier. The	-ocation "Parsa", One en er by PD nor by the Partne water purifier got operation	d user "Laxmina devi" er organization that how onal when PD conducted	
CME shall c	larify.				
Project pa	rticipant respons	е		Date : 23/02/2023	
product has arrived 2 d things befo dismantled, this inciden	s been in use since ays before the mo re leaving for vaca , and team helped t which doesn't me ation provided by	installations. nitoring. In ru itions. When t them assemb an they werer project par	Customer was out of stati iral areas, people would i the team arrived for mon le the product. Customer it using the product since ticipant	ion for 15 days and had usually pack high value itoring, the device was might have referred to the inception.	
VVB asses	sment		n their valuable products	Date: DD/MM/1111	
VVB has confirmed from the annual monitoring survey submitted by CME that the CEP was in use. CL#04 is closed.					
CL ID	05	Section no.	E.5.5	Date : 22/02/2023	
Description of CL					
Since operational lifetime of the project device is shorter than the crediting period. PP is requested to clarify the approach adopted to account for technical failures and maintenance issues.					

Project participant response

Date : 23/02/2023

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CME has ensured through the partner organizations' that the users get access to Germ Kill Kit (GKK) and cartridges easily. Written notices are pasted in the display board of branches telling users how to get these replacement GKK's. The same is communicated to customers during weekly and monthly group meetings as well. Additionally, there is a well-designed complaint registration system developed by POs which essentially assist them in systematically tracking and resolving the customer complaints in timely manner. This also helps facilitate the after sales service and repair/replacement of water purifier (HUL PureIt and EFL Nakshatra) based on nature of complaint.

CME also ensures that the units are replaced in order to continue claiming emission reductions. The technology/equipment will be replaced prior to the life span so that end users can access the same level of water purification. If no replacement or retrofitting is provided, emission reduction claims are limited to the expected technical life. The same has been added to the monitoring report. The sample copies of notices, flipcharts and documents detailing POs complain registration mechanism are submitted to VVB.

Documentation provided by project participant

Revised monitoring report

Technical specification sheet for Eureka Forbes Nakshatra (EFL-Nakshatra) and HUL Classic Pureit (HUL-Pureit)

Notices and Flipcharts

Complaint Registration Mechanism document

VVB assessment

Date: 23/02/2023

The average lifetime of WPS models distributed in the VPA, according to technical specifications, is lesser that 15 years. However, as explained by PD and confirmed through desk review and interviews, GKKs and filter kits are available to end-users through partner organisations which they can buy once their current filter is utilised. The households have access to phone numbers of representatives of partner organisations to make such complaints and requests. Additionally, since the monitoring plan in VPA-DD now ensures that the devices will be replaced before the expected end of life, the justification provided by PP is found sufficient to close the finding.

CL#05 is closed.

			•	-		
CL ID	06	Section	E.5.4.2	Date : 22/02/2023		
		no.				
Descriptio	n of CL					
According to parameter table SDWS 24, option 2 under applied safe water methodology, "The WCFT must be designed to ensure that monitoring is representative of typical technology use practices and that: - it is transparent and can easily be replicated,						
 It is evidently conservative, the sample is randomly selected so as to not introduce a material bias, and the impact of daily and seasonal variations on the expected average water consumption is accounted for" 						
The parame conclude co evidence.	eter table in monit ompliance with ab	coring report i pove points. (s not found to provide s CME shall clarify with su	ufficient information to upport of documentary		

Project participant response

Date : 23/02/2023

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The Pureit, Nakshatra, Asha and Sampoorna model water purifier has a capacity of 23 litres, 16 litres, 11 litres and 16 litres storage respectively. At the time of surveying, the device is filled to its maximum capacity at the beginning of the day. At the end of the day, the leftover water is measured using a simple volumetric jar and the difference is taken as the water consumed per day. In case, the entire capacity of water purifier is consumed, it will be refilled for the second time to determine the actual water consumed. So, every time the filter is emptied it is again filled to its maximum capacity during the measurement day. This was done for 3 consecutive days. The average of 3 days was then divided by the total number of members in the household to get the value for the parameter. It is ensured that the survey is not done on a day when the water consumption is higher than normal days hence, weekends and festive days are avoided. The same has been added to the monitoring report and revised document has been shared

Documentation provided by project participant	
Revised MR	
VVB assessment	Date: 03/01/2023
Parameter table SDWS 24 is now found updated in MR in line with requiremethodology. The procedure and methodology mentioned in the reasonable.	irements of the applied MR are found to be
CL#06 is Closed.	

CL ID	07	Section	NA	Date : 22/02/2023
		no.		
Description of CI				

In VPA 33

- 1. During the site visit for VPA 33, Dated 12/12/2022, Location "Nawashehr", Punjab. It was observed that the installation date of the baseline user "Reshmo Rani" mentioned in the Audit plan "20/06/2017" found to be inconsistent with the installation date mentioned in the warranty Card "14/02/2017". PD shall clarify the inconsistency.
- 2. During the site visit for VPA 33, Dated 12/12/2022, Location "Nawashehr", Punjab. It was observed that the User ID of the baseline user "Asha Rani" mentioned in the Audit plan "003203608" However, the User ID found in the warranty Card is "00323608". PP shall clarify.
- 3. During the site visit for VPA 33, Dated 13/12/2022, Location "Rayya", Punjab. It was found that in Baseline user Lakhwinder kaur, the user ID mentioned in the Audit Plane "004512404" is inconsistent with User ID mentioned in the warranty Card "004512395". PP shall clarify.

CME shall clarify.

Project participant response

Date: 23/02/2023

These are clerical errors. Revised warranty cards provided along with the tracker screenshot, CTT which also mentions the UID and LID.

Documentation provided by project participant

VVB assessment

Date: 23/02/2023

VVB confirms through the CTT provided by the CME that the inconsistencies observed during the onsite audit were clerical errors from CME's end and the data received during the onsite audit are consistent with the CTTs provided by CME. **CL#07 is closed.**

Table 3. CAR from this verification

CAR ID	01	Section	E.5.4.1	Date: 25/12/2022
		no.		

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Description of CAR

According to SDWS 7 parameter table in applied methodology (pg 22), "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".

CME shall clarify why only filter's technical lifetime was added and why device's lifetime was not discussed in line with the applied methodology.

Project participant response

Date : 27/12/2022 The technical specification of the water purification systems, provided by the manufacturer, does not specify the life span of the water purification system unit/console rather it mentions only the life span (in terms of litres of purified water) of the Germ Kill Kit (GKK) and cartridges which is clearly specified in the VPA-DD.

Documentation provided by project participant

VVB assessment

Date: 03/01/2023

As mentioned by project developer and confirmed from technical specifications of the device, only filter life is defined in terms of liters of water it can purify. Since the specifications are not clear about the device's life and filter inside the device is the primary component of the device ensuring purity of the water, the justification provided by project developer is found to be sufficient to close the finding.

CAR#01 is closed.

CAR ID	02	Section	E.1	Date : 22/02/2023
		no.		
Descriptio	n of CAR			
1. There a	are several inconsi	stencies obse	rved in the monitoring	report with respect to
templat	e guidelines of the	MR. CME is re	quested to update.	
2. CME is r	requested to remov	e the highligh	ted texts throughout the I	MR.
Project pa	rticipant respons	e		Date: 23/02/2023
1. Inco	nsistencies in the t	emplate are re	ectified. Revised monitorir	ng report is shared.
2. High	lighted text is remo	oved. Revised	monitoring report is share	ed
Document	ation provided by	v project part	ticipant	
1. Revi	sed monitoring Rep	ort		
VVB asses	sment			Date: DD/MM/YYYY
VVB confirm	ns that,			
1. The inconsistencies in the initial MR have been corrected in the revised MR submitted by				
the CME				

2. All the highlighted texts have been removed from the revised MR.

CAR#02 is closed.

CAR ID	03	Section	E.5.1	Date: 22/02/2023
		no.		
Descriptio	n of CAR			
1. The val	ue of ERs mention	ed in point d	for VPA 33, under Section	on B.2, page no. 37 is
inconsis	tent with ER Sheet	" ER summar	y", cell no. C7.	
2. The valu	ue mentioned for nu	umber of WPS	installed in VPA 34, page	no 37, is ERs from SLS
as per E	ER Sheet "ER Solar	Summary" ce	ll no. B8. Data for WPS c	ould not be established
from the	e ER Sheet provided	d by the CME.	As per CME no WPS were	distributed in VPA 34.
3. CME has mentioned that no WPS were distributed under VPA 34. However, in Section B.2,				
page no	. 38, manufacturer	specifications	of WPS are included.	
CME is requ	lested to review the	e above-menti	oned inconsistencies.	
Project pa	rticipant respons	е		Date : 23/02/2023

Project participant response

Values updated in the MR. Revised version is shared. **Documentation provided by project participant**

Documentation	proviaea d	y project	participa
Revised monitorin	g Report		

VVB assessment

- sment Date: DD/MM/YYYY
- 1. VVB confirms that the MR is been updated and the values of ERs in Section B.2 is consistent with ER Sheet tab "ER Summary", cell no. C7.
- 2. All references of WPS and their technical specifications have been removed for VPA 34 in the revised MR.

CAR#03 is closed

CAR ID	04	Section	E.7	Date : 22/02/2023	
Descriptio	n of CAR				
1. The value inconsist	ues mentioned in Se tent with the respe	ection E.5, Co ctive VPA-DD	lumn: Values estimated in s	Ex ante calculation are	
2. The value this moments of the contract of t	ues mentioned in Se nitoring period are i	ection E.5 und nconsistent w	er SDG 1, Column: Actual ith values mentioned in Ta	values achieved during able 1, page no. 3 of the	
CME is requ	lested to review an	d update.		D	
Project pa	rticipant respons	e	· · · ·	Date: 23/02/2023	
1,2 Values	updated in the MR.	Revised versi	on is shared.		
Document	ation provided by	v project part	ticipant		
Revised mo	nitoring Report				
VVB asses	sment			Date: DD/MM/YYYY	
1. VVB cor	nfirms that the all t	the values un	der Section E.5 Column:	Values estimated in Ex	
ante ca	culation are made	consistent wit	h the respective VPA-DDs		
2. The values mentioned in Section E.5 under SDG 1, Column: Actual values achieved during					
this monitoring period are consistent throughout the document.					
CAR#04 is	closed.				

Table 4.FAR from this verification

FAR ID	XX	Section No.		Date : DD/MM/YYYY		
Descriptio	n of FAR					
XX						
Project pa	rticipant respons	е		Date : DD/MM/YYYY		
Documentation provided by project participant						
VVB asses	sment			Date: DD/MM/YYYY		

There is no FAR raised from this verification.