

Verification and certification report form for GS project activities

BASIC INFORMATION

Title and GS reference number of the project activity	HomeBiogas Programme in Kenya – VPA1, (GS12064)																				
GS Version	GS4GG																				
Scale of the project activity	☒ Large-scale ☐ Small-scale																				
Version number of the verification and certification report	2																				
Completion date of the verification and certification report	17/02/2026																				
Monitoring period number and duration of this monitoring period	Monitoring period number: 4 Duration: 01/12/2024 to 31/12/2025 (Inclusive of both days)																				
Version number of the monitoring report to which this report applies	3																				
Crediting period of the project activity corresponding to this monitoring period	01/03/2022 – 28/02/2027																				
Project participants	HomeBiogas LTD																				
Host Party	Kenya																				
Applied methodologies and standardized baselines	GS Methodology: Methodology for Animal Manure Management and Biogas Use for Thermal Energy Generation V.1.1																				
Sectoral scopes	Sectoral Scope 01 and 13																				
Estimated SDG Impact (for the monitoring period)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">SDG Goal</th> <th style="width: 45%;">SDG Impact</th> <th style="width: 30%;">Estimated Annual Average</th> </tr> </thead> <tbody> <tr> <td>13: Climate Action (mandatory)</td> <td>Amount of GHG Emission reduction</td> <td>53,239 tCO₂e</td> </tr> <tr> <td>1: No Poverty</td> <td>Proportion of population living in households with access to basic services</td> <td>100%</td> </tr> <tr> <td>2: Zero Hunger</td> <td>Number of farmers adopted practices promoted by the project</td> <td>15,000</td> </tr> <tr> <td>3: Good health and well being</td> <td>Percentage of project population using polluting fuels</td> <td>0% (87.5% reduction)</td> </tr> <tr> <td>SDG 5: Gender Equality</td> <td>Average time saving associated with cooking time and fuel collection</td> <td>3.55 Hrs</td> </tr> </tbody> </table>			SDG Goal	SDG Impact	Estimated Annual Average	13: Climate Action (mandatory)	Amount of GHG Emission reduction	53,239 tCO ₂ e	1: No Poverty	Proportion of population living in households with access to basic services	100%	2: Zero Hunger	Number of farmers adopted practices promoted by the project	15,000	3: Good health and well being	Percentage of project population using polluting fuels	0% (87.5% reduction)	SDG 5: Gender Equality	Average time saving associated with cooking time and fuel collection	3.55 Hrs
SDG Goal	SDG Impact	Estimated Annual Average																			
13: Climate Action (mandatory)	Amount of GHG Emission reduction	53,239 tCO ₂ e																			
1: No Poverty	Proportion of population living in households with access to basic services	100%																			
2: Zero Hunger	Number of farmers adopted practices promoted by the project	15,000																			
3: Good health and well being	Percentage of project population using polluting fuels	0% (87.5% reduction)																			
SDG 5: Gender Equality	Average time saving associated with cooking time and fuel collection	3.55 Hrs																			

	7: Affordable and Clean energy	Number of beneficiaries: Households	15,000 Nos
	8: Decent work and economic growth	Total Number of Jobs	60
	15: Life on Land	Total non-renewable wood fuel saved	12,800 tonnes /year
SDG Impact Certified	SDG Goal	SDG Impact	Achieved Value
	13: Climate Action (mandatory)	Amount of GHG Emission reduction	47,302 tCO ₂ e
	1: No Poverty	Proportion of population living in households with access to basic services	98%
	2: Zero Hunger	Number of farmers adopted practices promoted by the project	6,824 Nos
	3: Good health and well being	Percentage of project population using polluting fuels	13.24% (74.3% reduction)
	SDG 5: Gender Equality	Average time saving associated with cooking time and fuel collection	1.85 Hrs
	7: Affordable and Clean energy	Number of beneficiaries: Households	6,824 Nos
	8: Decent work and economic growth	Total Number of Jobs	61
	15: Life on Land	Total non-renewable wood fuel saved	13,252 tonnes /year
Name of the VVB		4K Earth Science Private Limited	
Name, position and signature of the approver of the verification and certification report		Chandrakala R  Managing Director	

SECTION A. Executive summary

4K Earth Science Private Limited (4KES) has been commissioned by “HomeBiogas LTD” to perform an independent verification of its registered GS VER project “HomeBiogas Programme in Kenya – VPA1”, (GS ID 12064) for the reported GHG emission reductions for the given monitoring period 01/12/2024 to 31/12/2025 (both dates included). The GS VER projects must undergo independent third-party verification and certification of emission reductions as the basis for issuance of Verified Emission Reductions (VERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the approved GS PoA DD & VPA DD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete.
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.

Scope:

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on review of monitoring report, supporting information and

- (a) The registered GS POA DD & VPA DD;
- (b) Previous verification reports, deviation requests, requests for revision of monitoring plan if applicable
- (c) GS4GG Transition Annex if applicable
- (d) The registered monitoring plan.
- (e) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board
- (f) Applicable GS4GG guidance
- (g) CDM Validation and Verification Standard (VVS)
- (h) GS Validation and Verification Standard (VVS)
- (i) All information and references relevant to the project activity's resulting in emission reductions.
- (j) Information related to monitoring of SD parameters.

The project is assessed against the requirements of the Gold Standard for Global Goals requirements and related rules and guidance.

4KES has based on the recommendations in the latest version of CDM Validation and Verification Standard, GS Validation and Verification Standard, employed a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

Description of project:

The proposed project activity involves the installation of biogas units, provided by HomeBiogas, at rural households in Kenya. These biogas units, with a gas tank volume of 2.5 m³ and a digester volume of 5.5 m³ (total system volume 8 m³), offer a clean and sustainable source of renewable energy for cooking. The project's objective is to distribute these biogas systems to approximately 50,000 households, replacing traditional wood stoves and reducing CO₂ emissions associated with wood burning. Furthermore, these biogas systems use animal manure as a feedstock, preventing CH₄ emissions from the disposal of animal waste in pits.

The implementation of these biogas units commenced on February 1, 2022, with an expected gas production start date of 20-25 days after installation. The installation will take place progressively throughout the year, and a project database will be maintained to track installation and commissioning dates for each unit, each assigned a unique identification number to avoid duplication during monitoring surveys.

Before the project's implementation, a baseline survey was conducted on 225 rural households in the project areas. The survey revealed that the beneficiaries predominantly used inefficient traditional cook stoves, primarily fuelled by firewood, with occasional use of charcoal and LPG. The use of firewood not only contributes

to deforestation but also leads to indoor air pollution, directly or indirectly affecting the health of women and children. This indoor air pollution is a significant global health issue, with 3.8 million premature deaths annually attributed to illnesses related to indoor air pollution caused by inefficient solid fuel use for cooking. The causes of these deaths include pneumonia (27%), strokes (18%), ischemic heart disease (27%), chronic obstructive pulmonary disease (20%), and lung cancer (8%). Women, who are more exposed to indoor pollution while cooking, face a higher risk.

Methodology:

4KES follows a rule-based verification approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard. Subsequently, after the contract is signed, the Gold Standard Verification work plan of the project activity is made available at Gold Standard registry in accordance with Gold Standard rules.

A desk review of the project documentation is undertaken, which is followed by a on-site audit by the local expert of verification team in accordance with the latest version of GSGG Principles & Requirements, Version 1.2 /5/. The verification protocol is filled by the verification team that is based on standard auditing practices and GS VVS, validated VPA-DD, applied methodology, applied standardized baseline and/or tools and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document, and is available on request. Following are the major milestones for the verification under consideration. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities (CARs/CLs), if any. The verification protocol is an internal document, and is available on request. After successful closure of findings (CARs/CLs), the draft verification report is prepared which went through Independent technical review as per 4KES internal procedures and the TR comments were given for any gaps in audit findings. After closure of the TR comments, final verification report is prepared then followed by final approval for the decision made. The approved verification report is given to PP which shall be submitted for request for issuance.

4K Earth Science Private Limited confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 47,302 tCO₂e (round down) emission reductions during period 01/01/2024 - 31/12/2025.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader (GS Approved Auditor)	IR	Acharya	Swati S	4KES – Central office	X	X	X	X
2.	Technical Expert (1.1 & 13.2) (GS Approved Auditor)	IR	S	Stalin	4KES – Central office	X	X	X	X
3.	Technical Expert under	IR	Acharya	Swati S	4KES – Central office	X	X	X	X

	observation (13.2)								
3	Verifier (GS Approved Auditor)	IR	S	Sriram	4KES – Central office	X	-	-	X

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer (1.1 & 13.2)	EI	Kandari	Sanjay	4KES – Central office
2	Approver	IR	R	Chandrakala	4KES – Central office

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Wrong data collection/ misinterpretation of household situation	Low	It's not complicated monitoring process. Appropriate trainings are conducted for the monitoring personnel.	By means of acceptance sample survey
2	Transfer of data from sampling survey sheet to ER sheet	Low	Possible human error during transfer of data to monitoring database	Thorough cross-check required on the transfer of data from survey sheets to the monitoring database sheet
3	Error in ER calculations	High	The sample size was large, hence increasing the chances of error in ER calculation	The ER calculations were checked for accuracy.

C.2. Consideration of materiality in conducting the verification

The prescribed thresholds for materiality, as per §326 of CDM VVS for PA,

Prescribed range of ERs/annum	>500,000	300,000-500,000	<300,000	SSC PAs	MSC PAs
Prescribed Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The identified/selected materiality threshold for the project activity under current monitoring period is 2% as project activity is large scale project activity with ER <300,000 tCO₂e

	MR Version (Draft)	MR Version (Final)
Emission reductions/annum	42,877 tCO ₂ e	47,302 tCO ₂ e
Identified Threshold	2.0%	2.0%

In the draft MR and ER, there were errors in the digester installation details in the database. These errors have been corrected in the final versions of the MR and ER. For further clarification, please refer to CAR 01. The impact of errors observed during verification for each monitoring parameter on the emission reduction calculation is provided below:

Parameter	Verification approach	Error identified	Corrected	Extrapolated error for population size (Qty and %)	Within Threshold
Parallel use of traditional stoves	Acceptance sample survey & random verification of reports of village level volunteers	No error identified.	NA	No impact	Yes
$U_{p,y}$	Acceptance sample survey	No error identified.	NA	No impact	Yes
$NLT_{,y}$	Acceptance sample survey	No error identified	NA	No Impact	Yes
$MS\%_{i,y}$	Acceptance sample survey	No error identified	NA	No Impact	Yes
$Nb_{p,y}$	Verification of database and number of days calculation in ER sheet	No error identified	NA	No Impact	Yes
$LE_{p,y}$	Assessment of PD justification	No error identified	NA	No Impact	Yes
$Pp_{i,y}$	Verification of KPT data	No error identified	NA	No Impact	Yes

SECTION D. Means of verification

D.1. Desk/document review

The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by assessment team using verification protocols (checklists). The assessment team cross-checked the information provided in the MR and information from sources other than those used, if available, and also conducts independent background investigations. 4KES conducted a desk review, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular 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 is included in the section 'Appendix 3' of this report.

D.2. On-site inspection

Site visit was conducted by the VVB for this Verification of GS project.

Verification team has used the following means for its assessment and to justify that they are sufficient for the purpose of verification. Along with desk review, audit team has conducted on-site audit interview as follows:

- A complete desk review of the MR, ER sheet, as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- An assessment of the implementation and operation of the GS Program of Activity as per the validated PoA DD & VPA-DD and also the specific claims of the CME & Implementing Entity.

- Verification team has performed interview with PP in order to check implementation, project boundary, current situation, evaluation of data management, QA/QC system, monitoring and metering equipment, monitoring procedures, calibration etc.
- Verification team also interviewed end-user to crosscheck the implementation details and other monitoring details.
- Cross checks between information provided by interviewed personnel (i.e., by checking sources) to ensure that no relevant information has been omitted.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents.

Details of interviewees, topics covered and additional information are presented in the below section “D.3 Interviews”

Duration of on-site inspection: 18/01/2026 to 20/01/2026				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening Meeting	Office	18/01/2026	Swati S Acharya Stalin S
2	Visit to beneficiaries’ households	Project Location	18/01/2026 to 20/02/2026	Swati S Acharya Stalin S
3	Document Review & Closing Meeting	Office	20/01/2026	Swati S Acharya Stalin S

D.3. Interviews

No.	Interviewee			Date	Subject
	Last name	First name	Affiliation		
1.	Muthoni	Daniel	HomeBiogas LTD	18/01/2026 to 20/02/2026	- Roles and responsibilities - End user agreement - Technical details - Baseline - Monitoring requirement - General governance and implementation - Monitoring database management
2.	Muthoni	George	HomeBiogas LTD		
3.	Lahav	Muli	HomeBiogas LTD		
4	Muli	Everlyne	HomeBiogas LTD		
5		Srividya	Kosher Climate India Private Limited		- Issues in the MR - Data Analysis - ER Calculation
End users					
No	Name & Gender	Occupation	Location & ID No	Date	Subject
1.	Faith Njeri Njenga (Female)	Farmer	MUIRUNGI LARI 110705258701	18/01/2026	- Verification of PP survey data - Awareness about ownership of VERs - Working condition of digesters - SDG parameters verification
2.	Mary Nduta Kimani (Female)	Farmer	GITARI GATUNDU SOUTH 10220079	18/01/2026	
3.	Mercy Wanjiku K (Female)	Farmer	MARUGU KABETE 10230038	18/01/2026	
4.	Mary Wanjir Karanja (Female)	Farmer	GITWE GATUNDU SOUTH 10220861	18/01/2026	

5.	Mary Wahu Njenga (Female)	Farmer	GITARE GATUNDU SOUTH 10220578	18/01/2026
6.	John Wamui Mburu (Male)	Farmer	THIGIO LIMURU 110705258709	18/01/2026
7.	Naomi Nyambura Nyaga (Female)	Farmer	KAIRI GATUNDU NORTH 10220536	19/01/2026
8.	Lucy Waithera Kago (Female)	Farmer	GAITARA GATUNDU NORTH 10220206	19/01/2026
9.	Mathew Matheri (Male)	Farmer	GATHIMA KANDARA 10220382	19/01/2026
10.	Edward Waweru (Male)	Farmer	KOIMBI KIHARU 10230904	20/01/2026
11.	John kamau Njoroge (Male)	Farmer	KINYONA KIGUMO 10230746	20/01/2026
12.	Dunson Mugane Ngoni (Male)	Farmer	GITWE KIGUMO 10231530	20/01/2026
13.	Rose Waithaka (Female)	Farmer	NDUNYU CHEGE GATANGA 10240468	20/01/2026
14.	Harrysin Waimonde (Male)	Farmer	KAMBARA KANGEMA 10240539	20/01/2026
15.	Cecilia Wangeci (Female)	Farmer	KAHINGAI KANGEMA 10220908	20/01/2026

Note: The communication language widely spoken across Kenya, including in almost all households is English. This linguistic accessibility enabled the team to effectively interview the households and gather the necessary information during the verification process. The Verification team is also very much aware of the local requirements related to the project activity. Furthermore, the same team had conducted the previous verification (MP3) and possessed the technical expertise required to carry out the assessment effectively without the need for additional local support. Considering that there is no language barrier and any need for translation/interpretation required for the verification team, the team was able to efficiently collect beneficiary inputs through interviews in English.

Verification team cross verified parameters which are monitored through acceptance samples survey. Apart from acceptance sample survey, the verification team asked additional questions to the households. The additional questions asked by the verification team and the general reply received from the stakeholders are given below:

Questions asked to biogas users

Questions asked by verification team	Summary of Response by Stakeholders/end users
Since when you are using the biogas?	Verification team received varied responses from each household based on the implementation date. This is crosschecked with the project database and found no discrepancy.

Is biodigester is in operational condition?	All end users confirmed the biogas system in operating condition now.
Are you aware that the project claims emission reduction and the ownership of the ERs are with CME/implementer?	All the end users aware that the all the rights of emission reduction are with CME/HomeBiogas. They also confirmed about the agreement signed with CME/HomeBiogas for giving away the emission reduction rights to CME /HomeBiogas
Is there any repairs done to your biogas system or replaced?	Few households confirmed some minor repairs were done. However, they confirmed that does not affect the biogas generation.
If you have any issue with the device/project, you contact whom?	All households confirmed that they have the contact details of the village volunteer and for any requirement they can easily contact village volunteer.
Is indoor smoke reduced due to the use of Biogas?	All the households confirmed reduction in the indoor smoke and thereby reduction in health issues ie, eye related issues, respiratory issues.
Do you have any issue with the project?	No households mentioned any issues with the project.
Are they still want to use the traditional stoves?	People are happy with the biogas as it is clean cooking technology and they don't want to use traditional stoves.
Do they know the procedure or any protocol to report the non-usage in case of repair required?	Yes. They all have the contact numbers to report the any repairs.

D.4. Sampling approach

The sampling approach is conducted according to the “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities”. VVB had planned to apply the acceptance sampling. Verification team carried out the random sampling from the PP’s records and check (using its professional judgment) the acceptability of the data for each record in the PP’s sample records against VVB records i.e. Data checked during the site visit. The VVB has determined acceptance sample size based on the “Table. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activities and programmes of activities” version 09.0.

Using acceptance sampling approach, VVB checked the survey records from PP’s survey with the VVB interview records.

For the determination of VVB’s acceptance sample size, verification team has selected the following using its professional judgment:

1. Acceptable quality level (AQL) – 0.5%
2. Unacceptable Quality Level (UQL) – 15%
3. Producer risk - 10%
4. Consumer risk - 10%

VVB team has determined acceptance sample size based on the “Table. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activities and programmes of activities” version 09.0. From the above factors, the VVB determined the minimum sample size (n) as 15 and acceptance number as 1. VVB randomly selected the households from the survey sheet. Hence the acceptability of the survey data for each PP’s records were checked during the site visit.

The result of the survey is given below:

VVB Sample size	No of PP’s record beyond unacceptable level	Accepted
15	8	15

The following emission reduction parameters were verified though acceptance sample survey:

- Parallel use of traditional stoves
- Usage rate for technologies in project scenario p in year y
- Annual average number of animals of type LT
- Fraction of manure handled in baseline animal manure management system j

Also, the following SDG parameters are checked during the acceptance sample survey:

- Number of farmers adopted practices promoted by the project
- Percentage of project population using polluting fuels
- Average time saving associated with cooking time and fuel collection

Verification team interviewed the selected sample end users user to check the data reported by PP. Verification team found no error in the PPs survey records for any of the parameter. Hence verification team accepts all the data determined through sample survey by PP.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	-	-
Remaining forward actions requests	-	-	-
Compliance of the project implementation and operation with the validated VPA-DD	-	-	-
Post-registration changes	-	-	-
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	-	-	-
Compliance of monitoring activities with the registered monitoring plan	2	3	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of SDGs	-	2	-
Stakeholder Inputs & Legal Dispute	2	-	-
Crediting Period.	-	-	-
Others (Proof/Supporting Documents/Evidence, ER sheet)	1	1	-
Total	5	6	0

SECTION E. Verification findings

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

Means of verification	The project is transferred to GS4GG, and PP used GS monitoring report template, version 1.1 which is a valid version at the time of verification. All the sections of the form were filled as per the GS4GG guidelines and gave all the relevant details.
Findings	No findings
Conclusion	The monitoring report is prepared based on the Version 1.1 GS4GG monitoring report template which is valid at the time of assessment. All sections of the MR is filled correctly.

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

No FARs raised in the previous validation/verification report or in the performance review report.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	The project's primary objective is to provide biogas units to approximately 50,000 households. These biodigesters, each with an 8m ³ capacity (including a 2.5 m ³ gas tank), will be customized to suit the specific needs of each family.
------------------------------	---

	Manufactured by HomeBiogas and of balloon type, the gas tank has a volume of 2.5 m³, while the digester, excluding gas storage, measures 5.5 m³, making for a total system volume of 8 m³. Implementation of the biogas units commenced on February 1, 2022, and it is anticipated that they will begin producing biogas for consumption within approximately 20-25 days after installation. The installation process will take place incrementally throughout the year, with a comprehensive project database established to monitor the installation and commissioning dates of each unit. To ensure easy identification during monitoring surveys and prevent double counting, each constructed biogas unit will be assigned a unique identification number. In baseline situation, the households use traditional fire wood stove which is inefficient. In the project situation, the biogas is used for cooking and hence completely avoiding the usage of traditional stoves which results in savings in non-renewable biomass. Thereby, it avoids the related CO₂ emission from the avoidance of non-renewable biomass in cooking. The project leads to reduction of 47,302 tCO₂ during the monitoring period. The verification team determined the conformity of the actual project activity and its operation with the validated project design document. Verification team has, by means of a desk review and on-site audit, assessed that all physical features of the GS project activity proposed in the validated VPA-DD. The verification team has checked the information in the monitoring report and compared against the approved validated VPA-DD. During the on-site audit, the verification team has checked the project locations, implementation, technology applied, project equipment, and monitoring system against the information in the approved validated VPA-DD. Interviews with operational personnel and households and random samplings have been carried out.
Findings	No findings
Conclusion	The verification team has reviewed the project database and end user agreements. The verification team has checked with end users about all physical locations of the biogas unit on sample basis and found that the details are correctly matching with the monitoring report and monitoring details provided in the ER calculation sheet. The type of the biogas unit provided and the locations are consistent with the validated VPA-DD. Thus, the verification team has concluded that the project activity was implemented and operated as validated VPA-DD. The verification team, based on the on-site visit and document review, was able to conclude that the project activity has been commissioned and implemented as per the validated VPA-DD and that all physical features of the project are in place.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

No temporary deviation from the registered monitoring plan is sought in this verification.

E.4.2. Corrections

No correction is sought in this verification.

E.4.3. Changes to the start date of the crediting period

There is no change in start date of the crediting period.

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

E.4.4. Inclusion of a monitoring plan

Monitoring plan was already included in the validated VPA-DD. Hence, not applicable.

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

No permanent changes or deviation in the registered monitoring plan is sought.

E.4.6. Changes to the project design

No change in project design is sought in this verification.

E.4.7. Changes specific to afforestation and reforestation project activities

Not applicable

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	The verification team checked compliance of project monitoring plan with the applied methodology "Methodology for Animal Manure Management and Biogas Use for Thermal Energy Generation" V.1.1 /7/
Findings	No findings
Conclusion	All parameters stated in the monitoring plan and the applied methodology has been fulfilled in the current monitoring report. All baseline emission parameters have been verified and found satisfactory. The discussion regarding each parameter has been elaborated in the further sections of this report. The monitoring plan as mentioned in the validated VPA-DD is in accordance with the applied methodology. In the opinion of the verification team the monitoring report complies with the requirement of the validated VPA-DD and applied methodology (Gold Standard Methodology: "Methodology for Animal Manure Management and Biogas Use for Thermal Energy Generation" V.1.1 in the context of the project activity.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The verification team has checked the ex-ante parameters and data stated in MR and compared with section B.6.2 of the validated VPA-DD whether all parameters fixed ex-ante for the crediting period have been applied correctly.	
	Parameter	Assessment
	Avoidance of double counting or double claiming among project participants	PD provided declaration confirming there is no double counting involved in this project/31/. As the PP is the manufacture of digesters and there is no other party involved in the project, there is no possibility of double counting. Hence, there is no double counting is expected. Hence, the details provided by PD are correct
	Avoidance of double counting or double claiming with other mitigation actions	The device from this project will not be included in any other project as each project device has provided with unique ID number. So, there is no chance of double counting of the project device with any other project. Also, this project is not registered in any other mechanism and will not be applying to any other mechanism in future. The same is confirmed from the declaration from the CME/31/. Hence, the details provided by CME are correct
	Regulatory framework for provision of animal	The verification team through secondary research confirms there is no national, sub-national and local regulations or guidance available for animal waste

	waste management and thermal energy services.	management and thermal energy services. Hence, the details provided by PD are correct									
	Project technology description	The project technology descriptions provided in section B.1 of the VPA-DD is cross verified from the manufacturer's specification/36/ and found to be correct. Hence, acceptable.									
	Expected technical life of project technology	The expected life time of biodigester (15 years) is confirmed through manufacturer specification/36/. Hence acceptable.									
	Baseline scenario survey results	The data and information determined through baseline survey sheet is checked through baseline survey sheet/23/ and found to be correct. The detailed assessment is provided in section D.5.3 of validation report/37/.									
	GWP_{CH_4}	The Global warming potential of methane (28) is as per the IPCC AR5 report is applicable. Hence, this is appropriate.									
	$MS\%_{BL,j}$	This value is based on the baseline survey. The same is verified from the baseline survey sheet and crosschecked during the site visit. As per the baseline survey result, the values are given below: <table border="1"> <thead> <tr> <th>Parameter</th><th>dairy cow</th><th>Market Swine</th></tr> </thead> <tbody> <tr> <td>$MS\%_{BL,liquid/slurry/Pit-storage}$</td><td>99.11%</td><td>99.11%</td></tr> <tr> <td>$MS\%, Daily Spread$</td><td>0.89%</td><td>0.89%</td></tr> </tbody> </table> Hence the value provided by CME is appropriate.	Parameter	dairy cow	Market Swine	$MS\%_{BL,liquid/slurry/Pit-storage}$	99.11%	99.11%	$MS\%, Daily Spread$	0.89%	0.89%
Parameter	dairy cow	Market Swine									
$MS\%_{BL,liquid/slurry/Pit-storage}$	99.11%	99.11%									
$MS\%, Daily Spread$	0.89%	0.89%									
	$VS_{LT,y}$	This value has been calculated based on the equation as per the methodology, the VVB checked the calculation and found that to appropriate. As per the equation, the values are given below, Dairy Cow: 3.952 Market Swine: 0.4263									
	$VS_{rate,LT}$	This value is based on the IPCC Default Value from table 10.13A of chapter 'Emissions from Livestock and Manure Management' under the volume 'Agriculture, Forestry and other Land use' of the 2019 IPCC Guidelines for National Greenhouse Gas Inventories. The value considered by PD are: Dairy Cow: 15.2 kg VS / (1000 kg animal mass) / day Market Swine: 8.7 kg VS / (1000 kg animal mass) / day As verified from IPCC, the value is found to be correct.									
	TAM_{LT}	This value is based on the IPCC Default Value from table 10A.5 of chapter Emissions from Livestock and Manure Management' under the volume 'Agriculture, Forestry and other Land use' of the 2019 IPCC Guidelines for National Greenhouse Gas Inventories. The values considered by PD are Dairy Cow: 260 Market Swine: 49									
	$B_{0,L,T}$	This value is based on the IPCC Default Value from table 10.16 of chapter 'Emissions from Livestock and Manure Management' under the volume 'Agriculture, Forestry and other Land use' of the 2019 IPCC Guidelines for National Greenhouse Gas Inventories. The value considered by PD are: Dairy Cow: 0.13 m³ CH₄/kg-dm Market Swine: 0.29 m³ CH₄/kg-dm As verified from IPCC, the value is found to be correct.									

	<i>MCF_{j,k}</i>	This value is based on the IPCC Default Value from table 10.17 of chapter ‘Emissions from Livestock and Manure Management’ under the volume ‘Agriculture, Forestry and other Land use’ of the 2019 IPCC Guidelines for National Greenhouse Gas Inventories. The value considered by PD are: <table><tr><th>Parameter</th><th>dairy_cow</th><th>Market_Swine</th></tr><tr><td>MCF,liquid/slurry/Pit-storage</td><td>62.0%</td><td>62.0%</td></tr><tr><td>MCF,daily spread</td><td>1.0%</td><td>1.0%</td></tr></table> As verified from IPCC, the value is found to be correct.	Parameter	dairy_cow	Market_Swine	MCF,liquid/slurry/Pit-storage	62.0%	62.0%	MCF,daily spread	1.0%	1.0%
	Parameter	dairy_cow	Market_Swine								
	MCF,liquid/slurry/Pit-storage	62.0%	62.0%								
	MCF,daily spread	1.0%	1.0%								
	<i>EF_{b,i,CO2}</i>	The CO2 emission factor of baseline fuel are taken by PD is as per the default value provided by methodology. The value considered are: Wood – 112 tCO₂/TJ Charcoal – 165.22 tCO₂/TJ LPG – 63 tCO₂/TJ As verified from IPCC, the values are found to be correct.									
	<i>EF_{b,i,nonCO2}</i>	The non-CO₂ emission factor of baseline fuel are taken by PD is as per the default value provided by methodology. The value considered are: Wood – 9.46 tCO₂/TJ Charcoal – 44.83 tCO₂/TJ LPG – 0.17 tCO₂/TJ As verified from IPCC, the values are found to be correct.									
	<i>EF_{p,i,CO2}</i>	The CO2 emission factor of project fuel are taken by PD is as per the default value provided by methodology. The value considered are: Wood – 112 tCO₂/TJ Charcoal – 165.22 tCO₂/TJ LPG – 63 tCO₂/TJ As verified from IPCC, the values are found to be correct.									
	<i>EF_{p,i,nonCO2}</i>	The non-CO₂ emission factor of project fuel are taken by PD is as per the default value provided by methodology. The value considered are: Wood – 9.46 tCO₂/TJ Charcoal – 44.83 tCO₂/TJ LPG – 0.17 tCO₂/TJ As verified from IPCC, the values are found to be correct.									
<i>NCV_{b,i}</i>	The net calorific value of baseline fuel are taken by PD is as per the default value provided by methodology. The value considered are: Wood – 0.0156 TJ/ton Charcoal – 0.0295 TJ/ton LPG – 0.0473 TJ/ton As verified from IPCC, the values are found to be correct.										
<i>NCV_{p,i}</i>	The net calorific value of baseline fuel are taken by PD is as per the default value provided by methodology. The value considered are: Wood – 0.0156 TJ/ton Charcoal – 0.0295 TJ/ton LPG – 0.0473 TJ/ton As verified from IPCC, the values are found to be correct.										

	$Pb_{i,y}$	Average fuel consumption for an individual baseline technology is determined through Kitchen Performance Test and through baseline survey. The fuel wood consumption and charcoal consumption are determined through KPT. CME selected 41 households randomly for the KPT (in which 32 households uses fuel wood as primary fuel and 9 households use charcoal as primary fuel). The sample size required is calculated as per the 90/30 confidence/precision requirements. As per this, the minimum sample size required is 5. However, CME conducted KPT at 41 households. Hence, the sample size selected is appropriate. The result achieved required precision level. Hence, value determined by CME is found to be appropriate. The LPG consumption is determined through baseline survey. The baseline survey sheet is checked and value is found to be correct.
	$f_{NRB,i,y}$	PD chose to ex-ante option for the fNBR. The assessment on appropriateness of the value (0.8249) is given in section D.5.3 of the VPA validation report.
Findings	CL 02 and CL 03 were raised and closed.	
Conclusion	The values of ex ante fixed parameters have been verified from the VPA-DD. Same has been crosschecked with the source mentioned in the VPA-DD and found to be consistent. The verification team confirms that the values used/applied are correct and justified. Also, the ex-ante values have been correctly applied in the calculation of emission reductions.	

E.6.2. Data and parameters monitored

Means of verification	The verification team has determined whether the approved monitoring plan has been properly implemented and followed by the PP that the monitoring has been carried out in accordance with the approved monitoring plan; and determined whether all parameters including project emission parameters, baseline emission parameters and leakage parameters used for emission reduction calculation stated in the registered monitoring plan are monitored or used appropriately as per the VPA-DD. During the verification all monitoring parameters listed in Section D.2 of MR were compared with section B.7.1 of the validated VPA-DD have been verified with regard to the: (i) appropriateness of the applied measurement / determination method, (ii) the correctness of the values applied for ER calculation, (iii) the accuracy, and applied QA/QC measures. The monitored values are assessed as follows: Avoidance of double counting or double claiming among project technology end users: CME signed agreement with all end users confirming that the carbon rights are transferred to CME and there will not be any double counting of the stove with any other project. The end user agreement is checked randomly (2% of total population) and confirmed the signing of end user agreement. Also, during site visit the assessment team checked with end user regarding the awareness of the carbon transfer rights and found that all end users are aware of the same. Also, every biogas units have unique ID number. Also manufacture and implementor are same in this project and hence not other party involved. From verification of the following carbon mechanism registry, it is also confirmed that the project is not registered under any other carbon mechanism: CDM: https://cdm.unfccc.int/Projects/projsearch.html VCS: https://registry.terra.org/ GCC: https://projects.globalcarboncouncil.com/ ICR: https://www.carbonregistry.com/
------------------------------	--

Cercarbono: <https://www.ecoregistry.io/projects>

Hence, there is no possibility of double counting. Moreover, this shall be monitored whenever project technology is sold or otherwise disseminated. The project is not sold or disseminated since the start date. Further, verification team also confirmed that the project is not double counted by checking the declaration on no double counting/31/ provided by PD.

Regulatory framework for provision of animal waste management and thermal energy services.: As verified from the online information, it is found that no regulatory framework for provision of animal waste management and thermal energy services are available in Kenya

Up,y: Weighted average usage rate in project scenario p during year y is determined through annual sample survey. As per the annual sample survey conducted, 100% households uses biogas stoves. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the PDD. As per GS standard, PP has followed the below mandatory requirement to determine the usage rate of the biogas units during the monitoring period as per validated PDD,

- The stoves used within last 30 days is defined as the devices are in 'Use' and if the stove is not used for last 30 days is considered as 'non-use'. This definition is found to be appropriate.
- PP conducted annual household survey on sample basis and the following are considered during survey, Kitchen observation by surveyor, Interviewed the primary cook, Photos of the cooking area is taken, GPS coordinates of the household has been noted down. The survey sheets & photos are checked and found to be appropriate. The usage survey details are cross verified through acceptance sample survey during the stie visit and the survey result found to be appropriate. The verification team also conducted interview with monitoring staff and found they are aware of the requirements and monitored appropriately.
- Verification checks done randomly by Homebiogas though physical visit & telephone to the sample households confirms recorded responses are correct. This is confirmed through interview with representative of CME, consultant and the implementer organisation.

CME also followed the Good Practices:

- CME provided detailed training to all its monitoring staffs on the conducting usage survey. This is confirmed through verification of training records. During site visit the HomeBiogas team also confirmed that the random checks were conducted during the survey to confirm the procedure followed by the monitoring staff are correct.
- CME provided trainings to all Biogas users on the usage of the biogas stove at the start of the project. This is confirmed during the interview with end users.
- PP also conduct awareness campaign to end users regularly to encourage use of biogas stove. The same is confirmed through verification of records of awareness campaign and interview with the end users.

Hence, it is confirmed that the PD followed the mandatory monitoring requirement & good practice requirement as per the section 2.2 & 2.3 of the Usage rate guideline. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct and all the biogas systems are in operating condition. Verification team verified records which reveals that the biogas units are in operating conditions. No error is found in the CME data. Hence the value (98%) considered by CME is found to be correct. However, the CME has considered 90% usage rate as defined in the validated VPA-DD which is conservative and acceptable to the verification team.

Annual average number of animals of type LT in year y ($N_{LT,y}$): The parameter 'Annual average animal population in a household (number of heads of dairy cow & Swine) " is monitored through annual sample survey by the CME. The monitoring survey was conducted in November 2025, which falls within one year of the previous

	survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the VPA-DD. Verification team cross checked all the sample survey sheet of the CME and found that all the values are consistent with ER calculation sheet. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data. Hence the average value considered by CME (i.e., Dairy Cow – 3.556 and Market Swine- 0.000): is found to be correct and acceptable. Fraction of manure handled in project animal manure management system I ($MS\%_{i,y}$): This parameter is monitored through annual monitoring survey during the monitoring period by the CME. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the VPA-DD. Verification team cross checked the all the samples survey sheet of the CME and found that all the values are consistent with ER calculation sheet. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data. Based on the monitored values CME has calculated about $MS_{i,y}$ is 80.05% percentage of dung is fed to the digester. Hence, the value considered by CME are found to be correct and acceptable. Number of project technology-days included in the project database for each project scenario in year y ($N_{b,p,y}$): This is determined from the Project database as the sum of the number of project technology units times the calendar days during the year y that they were present at the end user locations. This is calculated annually and hence in line with the monitoring frequency mentioned in VPA-DD. The calculation is checked and found to be correct. Hence, the number of project technology-days considered by CME as given below is found to be correct. 01/12/2024 to 31/12/2024 - 126,101 01/01/2025 to 31/12/2025 - 2,022,108 Leakage in project scenario p during year y ($LE_{p,y}$): Leakage assessment provided by CME is assessed and found to be acceptable. The assessment is provided within two years form the last assessment and hence in line with the monitoring frequency mentioned in the VPA-DD. The detailed assessment of leakage is provided in section E.8.3 of this report. Quantity of fuel that is consumed in project scenario p during year y ($P_{p,t,y}$): The parameter "Quantity of fuel that is consumed in project scenario p during year y" is determined through the performance test (KPT) conducted by the PP for the current monitoring period. The field test was carried out in December 2025. During the monitoring survey, households were interviewed to identify whether any fuels other than biogas were used for cooking. KPT was subsequently conducted for those households using alternative fuels. LPG consumption, however, was determined based on the baseline survey only. This approach was checked and confirmed during the on-site assessment conducted by the verification team. The VVB also confirmed that the monitoring frequency and KPT conducted once every two years which s in line with the registered VPA-DD. The verification team cross-checked the KPT results and found all values to be consistent with the ER calculation sheet. In addition, 15 households were randomly surveyed, and the values reported by the CME were confirmed to be accurate. Therefore, the KPT data provided by the CME has been accepted, and no errors were identified. Based on the monitored values, the PP calculated the quantity of fuel consumed in the project scenario during year y as presented below. Accordingly, the values considered by the CME are deemed correct and acceptable.
Findings	CAR 02 and CAR 03 were raised and closed.

Conclusion	From the above assessment, the verification team able to confirm that the monitoring has been carried out in accordance with the validated VPA-DD /3/. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD/3/. The monitored data for the parameters has been verified by checking the procedure for information flow and found to be complete and consistent.
-------------------	--

SDG 1- No Poverty

Means of verification	The parameter of 'No poverty' appropriately able to monitor the following value Proportion of population living in households with access to basic services: 98% These values have been accessed from the project database maintained by the CME which is updated at regular interval. The percentage of operating bio digester in the monitoring period is determined through the monitoring survey conducted by the CME. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the VPA-DD. The sampling approach for monitoring survey is explained in the section D.4 above which is appropriate and acceptable to the verification team. As per monitoring survey, the percentage of operating digester is found 98%. Verification team checked the installation of bigas digestors through Application forms, commissioning records VER ownership agreements and found that the value applied by the CME is correct Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data.
Findings	CAR 01 was raised and closed.
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD

SDG 2- No Hunger

Means of verification	The parameter of 'Zero hunger' appropriately able to monitor the following value: Number of farmers adopted practices promoted by the project:6,824 These values have been accessed from the project database maintained by the CME which is updated at regular interval. The total no. of households using the digested slurry as fertilizer as per the training provided in the monitoring period is determined through the monitoring survey conducted by the CME. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the VPA-DD. The sampling approach for monitoring survey is explained in the section D.4 above which is appropriate and acceptable to the verification team. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data.
Findings	No finding raised.
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD

SDG 3- Good health and well being

Means of verification	The parameter of 'Good Health and well-being' appropriately able to monitor the following value Percentage of project population using polluting fuels – 13.24% (74.3% reduction) The Percentage of project population still using polluting fuels in the monitoring period is determined through the monitoring survey conducted by the CME. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the PDD. The sampling approach for monitoring survey is explained in section D.4 above which is appropriate and acceptable to verification team. As per monitoring survey the 13.24% households still using fuel wood for cooking. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data.
Findings	No finding raised.
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD

SDG 5- Gender equality

Means of verification	The parameter of 'Gender equality' appropriately able to monitor the following value Average time saving associated with cooking time and fuel collection– 1.85 hours reduction (4.2 hours) The time associated with fuel wood collection and cooking time in the monitoring period is determined through the monitoring survey conducted by the CME. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the VPA-DD. The sampling approach for monitoring survey is explained in section D.4 above which is appropriate and acceptable to verification team. As per monitoring survey average of 1.85 hours reduction in cooking time and during project scenario it was 4.20 hours. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data.
Findings	CL-01 is raised and closed satisfactorily
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD

SDG 7 - Affordable and Clean energy

Means of verification	The parameter of 'Affordable and Clean energy' appropriately able to monitor the following value: Number of beneficiaries: Households – 6,824 These values have been accessed from the project database maintained by the CME which is updated at regular interval. The percentage of operating bio digester in the monitoring period is determined through the monitoring survey conducted by the CME. The survey was conducted in November 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies
------------------------------	--

	with the monitoring frequency specified in the VPA-DD. The sampling approach for monitoring survey is explained in Section D.4 above which is appropriate and acceptable to verification team. As per monitoring survey the 6,824 number of households have been using the biodigesters. Verification team checked the installation of bigas digestors through Application forms, commissioning records CER ownership agreements and found that the value applied by the CME is correct. Also, verification team surveyed 15 households in it randomly and confirmed that the value provided by CME is correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data.
Findings	CAR 02 was raised and closed.
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD.

SDG 8 - Decent work and economic growth

Means of verification	The parameter of Decent work and economic growth appropriately able to monitor the following value Total number of jobs: 61 These values are assessed through employment record maintained by the HomeBiogas and it is updated continuously and hence in line with monitoring frequency mentioned in the PDD. The employment details have been verified from the HR records of the CME and found the values applied by the CME in the current monitoring period is appropriate and acceptable
Findings	CL-01 is raised and closed satisfactorily
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD

SDG 15 - Life on Land

Means of verification	The parameter of Life on Land appropriately able to monitor the following value Total non-renewable wood fuel saved: 13,252 tonnes The fuel wood saved during the current monitoring period is calculated based on the baseline KPT, project KPT and number of operating days. The project KPT was conducted in December 2025, which falls within one year of the previous survey conducted in November 2024. Therefore, it complies with the monitoring frequency specified in the PDD. The KPT data is verified and found to be correct. Hence, the data provided in the monitoring sheet was accepted. No error is found in the CME's data
Findings	No finding
Conclusion	Verification team confirm that the monitoring has been carried out in accordance with the validated VPA-DD. The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated VPA-DD

E.6.2.1. Implementation of sampling plan

Means of verification	The verification team checked whether the PPs have applied a sampling approach to determine the monitored values. For the parameters determined through sampling, the verification team checked the sampling approach followed for each monitoring parameters to confirm the sampling plan mentioned in the validated VPA-DD and applied methodology. Since the group size is greater than 1000, as per the applied methodology the Minimum sample size required is 100. PD selected 136 HHs for sampling on
------------------------------	---

	random basis to ensure representativeness of the project population and an unbiased selection. This is confirmed through the online random selection generator screenshot provided by the client. However, due to the unavailability of some of the households during survey, PD conducted survey only 133 households. Hence, PP has selected sample size of above 100, i.e. 133 and all the survey results achieve the minimum precision level of 10%. Hence, the sample size considered for all the parameters are found to be acceptable. However few CARs and CL has been raised for clarity in the sample size and data collected. After careful examination of the survey data, verification team find the sampling plan was implemented in satisfactory way.
Findings	No finding
Conclusion	Verification team concludes the following: • The sample size considered for all the parameters (which are monitored through sampling basis) are found to be appropriate • The precision level achieved from the monitored data also confirms that the sample size considered for the monitoring is sufficient. • For usage rate, PP's sample population was selected in all the ages as per the requirement of the methodology. • The sampling plan is implemented correctly in accordance with the validated VPA-DD and the applied methodology.

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Not applicable as no monitoring equipment involved.
Findings	NA
Conclusion	NA

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The verification team has checked whether calculations of baseline GHG emissions calculation have been carried out in accordance with the formulae and methods described in the registered monitoring plan. In detail the following has been verified: <u>Transparency:</u> It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae. <u>Parameter consistency:</u> It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. <u>Correctness:</u> It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology. <u>Completeness:</u> It has been checked whether all calculations are complete and without omissions For the SDG 13, the emission reduction calculations were carried out as per the applied GS methodology. The baseline emission involves carbon emission from 1. Fuel used for cooking among the target population 2. Animal waste management practiced in the target population
------------------------------	--

In order to determine total baseline emissions, the emissions per household are calculated as follows:

$$BE_{b,y} = BE_{ta} + BE_{awms}$$

Where:

$BE_{b,y}$ = Total Baseline emissions for baseline scenario b in year y (tCO₂e/yr)

$BE_{TA,y}$ = Baseline emissions from fuel consumption for cooking and water heating (tCO₂e/yr)

$BE_{AWMS,y}$ = Baseline emissions from animal waste handling (tCO₂e/yr)

I. Baseline emissions from fuel consumption for cooking and heating water are calculated as follows:

The Baseline emission from thermal application in year y shall be calculated as per the methods outlined in paragraph 3.5.12 of the methodology. As per the Thermal application method 1, based on avoided quantity of fuel consumption

$$BE_{TA,y} = \sum b,p (N_{b,p,y} \times U_{p,y} \times (f_{NRB,i,y} \times SE_{b,y,CO2} + SE_{b,y,non-CO2}))$$

Where:

$BE_{TA,y}$	Baseline emissions for total project activity in year y (tCO ₂ e.yr)
$\sum b,p$	Sum over all relevant baseline b/project p pairs
$N_{b,p,y}$	Number of project technology-days included in the project data base for each project scenario in year y. The start date is the day a plant starts producing biogas. A default of 2 weeks may be used for the period from installation date and start date.
$U_{p,y}$	Usage rate for technologies in project scenario pin year y (fraction)
$SE_{b,y,CO2}$	Specific CO ₂ emission for a baseline b technology in year y (tCO ₂ /technology*day)
$SE_{b,y,non-CO2}$	Specific non-CO ₂ emissions for a baseline b technology in year y (tCO ₂ /technology*day)
$f_{NRB,i,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (fraction).

$$SE_{b,y,CO2} = \sum P_{b,i,y} \times NCV_{b,i,fuel} \times EF_{b,i,CO2}$$

$$SE_{b,y,non-CO2} = \sum P_{b,i,y} \times NCV_{b,i,fuel} \times EF_{b,i,non-CO2}$$

Where,

i	Index for the type of baseline/fossil fuel consumed
$P_{b,i,y}$	Average yearly consumption of baseline fuel i per household before the start of the project activity or at the renewal of each crediting period, whichever is later (tonnes/household/day)
$NCV_{b,i}$	Net calorific value of the fuels i that is substituted in baseline b (TJ/tonne)
$EF_{b,i,CO2}$	CO ₂ emission factor arising from use of fuels i in baseline scenario (tCO ₂ /TJ)
$EF_{b,i,non-CO2}$	Non-CO ₂ emission factor arising from use of fuels in baseline scenario (tCO ₂ e/TJ)

$P_{b,i,y}$ may be determined via KPT survey or using number of persons served per household multiplied by default fuel consumption (if the baseline stoves are the conventional types) per person per year (parameter BGTA 20) in baseline scenario.

Baseline emission from thermal application

Parameter	Unit	Firewood	Charcoal	LPG	Source
Pb,y	Tonnes/day	0.0085	0.0024	0.0000548	Baseline survey
NCVb,fuel	TJ/tonne	0.0156	0.0295	0.0473	IPCC
EFb,f,CO2	tCO2/TJ	112	165.22	63	IPCC-VOL-1-CH-1
EFb,f,non-CO2	tCO2/TJ	9.46	44.83	0.17	IPCC-VOL-1-CH-2
Np,y	day	1	1	1	Assumption
Up,y	Percentage	90%	90%	90%	As per methodology
f NRB,, y	-	0.8249	0.8249		CALCULATED
SEb,y,CO2	tCO2/technology*day	0.015	0.012	0.000	Calculated as per IPCC default value
SEb,y,nonCO2	tCO2/technology*day	0.001	0.003	0.000	Calculated as per IPCC default value
BEb,y	tCO2e/day	0.012	0.012	0.000	Calculated
Ratio		84.4%	3.1%		
BEb,y (Total)	tCO2e/day	0.011			

II. Baseline emissions from Animal waste management systems

The baseline emissions, from animal waste handling have been estimated using the IPCC TIER 2 approach which requires information about the characteristics of the manure and its management systems in the baseline. Manure characteristics include the amount of volatile solids (VS) produced by the livestock and the maximum amount of methane that can be potentially produced from that manure (B_0). The formulae are:

$$BE_{AWMS,y} = N_{b,p,y} \div 365 \times GWP_{CH_4} \times D_{CH_4} \times U_{Fb} \times U_{p,y} \times \sum_k \sum_{j,LT} N_{LT,y} \times VS_{LT,y} \times MCF_{j,k} \times MS\%_{BL,j}$$

Where:

$BE_{AWMS,y}$ Baseline emissions in year y tCO₂e

$N_{b,p,y}$ Number of project technology-days included in the project database for each project scenario in year y.

U_{Fb} Model correction factor to account for model uncertainties (0.94)²

$U_{p,y}$ Usage rate for technologies in project scenario pin year y (fraction). For baseline emission calculation at Design Certification, the ex-ante $U_{p,y}$ shall be estimated.

GWP_{CH_4} Global Warming Potential (GWP) of CH₄ applicable to the crediting period.

D_{CH4}	CH ₄ density (0.00067 t/m ³ at room temperature (20 deg celcius) and 1 atm pressure)			
LT	Index for all types of livestock			
j	Index for animal manure management system			
k	Climate region k			
$B_{o,LT}$	Maximum methane production potential of the volatile solid generated for animal type LT (m ³ CH ₄ /kg-dm).			
$MCF_{j,k}$	Annual methane conversion factor (MCF) for the baseline animal manure management system j by climate region k. (%)			
$N_{LT,y}$	Annual average number of animals of type LT in year y (numbers)			
$VS_{LT,y}$	Volatile solids production/excretion per animal of livestock LT in year y (on a dry mater weight basis, kg-dm/animal/year)			
$MS\%_{BI,j}$	Fraction of manure handled in baseline animal manure management system j. (%)			
Baseline emission from manure management system				
Parameter	Unit	dairy_cow	Market_Swine	Source
N_{b,p,y}	day	1	1	Assumptions
UF_b	%	0.94	0.94	Methodology
U_{p,y}	%	90%	90%	Assumptions
GW_{PCH4}	tCO ₂ e/tCH ₄	28	28	https://www.goldstandard.org/project-developers/standard-documents
DCH₄	t/m ³	0.00067	0.00067	Methodology
B_{O,LT}	m ³ CH ₄ /kg-dm	0.13	0.29	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories 1 (Table 10.16A)
MCF_{BL,liquid/slurry/Pit-storage}	%	62%	62%	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories 1 (Table 10.17)
MCF_{BL,Daily Sprad}	%	1%	1%	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories 1 (Table 10.17)
MS_{(T,k), liquid/slurry/Pit-storage}	%	99.11%	99.11%	Baseline Survey
MS_{(T,k), Daily Spread}	%	0.89%	0.89%	Baseline survey
N_{LT,y}	Nos	3.556	0.000	Monitoring Survey
VS_{rate,LT} KG VS	KG VS (1000 KG ANIMAL MASS)-1 DAY-1	15.2000	8.7000	https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch10_Livestock.pdf
TAMLT (kg)	kg	260	49	
ndy (year)	days	1	1	Assumption
VS_{LT,y}	kg-dm/animal/day	3.952	0.4263	Calculated
BE_{AWMS,y}	tCO ₂ e/yr	0.01782	0.0000	Calculated

	Total	tCO2e/yr	0.01782									
	From the above equations, CME has estimated the baseline emission per household per year. Based on the actual number of functioning days, the total baseline emission has been calculated. CME has submitted the calculation in the excel sheet. The baseline calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the validated VPA-DD.											
Findings	CAR 04 was raised and closed.											
Conclusion	The verification team confirms the following: • The calculations of baseline emission have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology. • The emission factor applied is an ex-ante value valid for the fixed crediting period. • Any assumptions used in emission or removal calculations have been justified. • Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. Hence, the total baseline reduction reported in the monitoring report for the monitoring period is verified to be correct and the summary is given below: <table><tr><th>Vintage</th><th>BE (tCO₂)</th></tr><tr><td>01/12/2024 - 31/12/2024</td><td>3,601</td></tr><tr><td>01/01/2025 - 31/12/2025</td><td>57,740</td></tr><tr><td>Total (01/12/2024 - 31/12/2025)</td><td>61,341</td></tr></table>				Vintage	BE (tCO ₂)	01/12/2024 - 31/12/2024	3,601	01/01/2025 - 31/12/2025	57,740	Total (01/12/2024 - 31/12/2025)	61,341
Vintage	BE (tCO ₂)											
01/12/2024 - 31/12/2024	3,601											
01/01/2025 - 31/12/2025	57,740											
Total (01/12/2024 - 31/12/2025)	61,341											

For other SDGs of the project activity

Means of verification	The baseline scenario of the different SDG indicator as follows		
	Item		
	Items	Baseline estimate	Assessment
	SDG1- No Poverty	0%	The SDG indicator monitored is: Proportion of population living in households with access to basic services. In the absence of the project activity there was no installation was present. Hence, the value is acceptable
	SDG 2- No Hunger	0	The SDG indicator monitored is: Number of farmers adopted practices promoted by the project In the absence of the project activity there was no biogas installation was present. Hence no households would have access to biogas slurry for land application. Hence the value considered is acceptable.
	SDG -3	87.5%	The SDG indicator monitored is:

	Good health and well being		Percentage of project population using polluting fuels As verified from baseline survey about 87.5% households use polluting solid fuels such as fuel wood and Charcoal. Other people used the LPG which is a clean fuel. Hence the value considered is appropriate.
	SDG 5 – Gender equality	6.05 hours	The SDG indicator monitored is: Average time saving associated with cooking time and fuel collection As verified from baseline survey about 6.05 hours spent by households in collection of fuel wood and cooking. Hence the value considered is acceptable
	SDG-7 Affordable and Clean energy	0	The SDG indicator monitored is: Number of beneficiaries: Households As verified from baseline survey no households have the biogas disasters. Hence the value considered is acceptable.
	SDG- 8 Decent work and economic growth	0	The SDG indicator monitored is: Total Number of Jobs In the baseline scenario, no jobs would have been generated. Hence the value considered is acceptable.
	SDG -15 Life on Land	0	This SDG indicator monitored is Total non-renewable wood fuel saved As per baseline KPT, about 3.09 t fuel wood is consumed.. Hence, the value considered is appropriate
Findings	No finding raised in this context		
Conclusion	The parameter is monitored appropriately, in accordance with the registered monitoring plan. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. All the monitored parameter values reported in the MR are found to be correct. Hence, the baseline SDG parameters reported in the monitoring report for the monitoring period is verified and found to be correct		

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	The verification team has checked whether calculations of baseline GHG emissions calculation have been carried out in accordance with the formulae and methods described in the registered monitoring plan. In detail the following has been verified: <u>Transparency:</u> It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae.
------------------------------	---

Parameter consistency: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet.

Correctness: It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology.

Completeness: It has been checked whether all calculations are complete and without omissions

The Project emission from thermal application in year y shall be calculated as follows:

$$PE_y = \sum (b_{p,y} Nb_{p,y} \times Up_{p,y} \times (fNRB_{i,y} \times SEp_{p,y,CO_2} + SEp_{p,y,non-CO_2}))$$

E_y Project emissions for total project activity in year y (tCO₂e/yr)
 $\sum b_{p,y}$ Sum over all relevant baseline b/project p pairs
 $Nb_{p,y}$ Number of project technology-days included in the project database for each project scenario in year y
 $Up_{p,y}$ Usage rate for technologies in project scenario p in year y (fraction)
 SEp_{p,y,CO_2} Specific CO₂ emissions for a project p technology in year y (tCO₂/technology*day)
 $SEp_{p,y,non-CO_2}$ Specific non-CO₂ emissions for a project p technology in year y (tCO₂e/technology*day)
 $fNRB_{i,y}$ Fraction of biomass used in year y for project scenario p that can be established as non-renewable biomass (fraction). The parameter $fNRB_{p,y}$ is excluded from the when the observed project additional fuel is fossil fuel.

$$SEp_{p,y,CO_2} = \sum Pp_{i,y} \times NCVp_{i,fuel} \times EFp_{i,fuel,CO_2}$$

$$SEp_{p,y,non-CO_2} = \sum Pp_{i,y} \times NCVp_{i,fuel} \times EFp_{i,fuel,non-CO_2}$$

i Index for the type of project/fossil fuel consumed
 $Pp_{i,y}$ Average daily consumption of project fuel i per household (tonnes/household/day)
 $NCVp_{i,fuel}$ Net calorific value of the fuel(s) i that is used in project p (TJ/tonne)
 $EFp_{i,fuel,CO_2}$ CO₂ emission factor arising from use of fuels i in project scenario (tCO₂/TJ)
 $EFp_{i,fuel,non-CO_2}$ Non-CO₂ emission factor arising from use of fuels in baseline scenario (tCO₂e/TJ)

Project emission from thermal application

Parameter	Unit	Firewood	Charcoal	LPG	Source
$Pp_{i,y}$	Tonnes/day	0.000150	0.000008	0.000098	Monitoring Survey & Project KPT
$NCVp_{i,fuel}$	TJ/tonne	0.0156	0.0295	0.0473	IPCC
$EFp_{i,fuel,CO_2}$	tCO ₂ /TJ	112	165.2200	63	IPCC
$EFp_{i,fuel,non-CO_2}$	tCO ₂ /TJ	9.4600	44.8300	0.1665	methodology default value
$Nb_{p,y}$	day	1	1	1	Assumption
$Up_{p,y}$	Percentage	90%	90%	90%	Assumption
$fNRB_{i,y}$	-	0.8249	0.8249		Calculated

SEp_{y,CO_2}	tCO ₂ /technology*day	0.0003	0.0000	0.0003	Calculated as per IPCC default value
$SEp_{y,nonCO_2}$	tCO ₂ /technology*day	0.0000	0.0000	0.0000	Calculated as per IPCC default value
PE_y	tCO ₂ e/day	0.0002	0.0000	0.0003	
PE_y (Total)	tCO ₂ e/day	0.0005			

Project Emissions from Animal Manure Management

The project emissions involve emissions from the bio-digester, which include physical leakage and incomplete combustion of biogas, as well as emissions from the animal waste not treated in the bio-digester are calculated as per the following equation:

$$PE_{AWMS,y} = PE_{PL,y} + PE_{power,y} + PE_{transp,y} + PE_{storage,y}$$

$PE_{AWMS,y}$	Project emissions in year y (t CO ₂ e)
$PE_{PL,y}$	Emissions due to physical leakage of biogas in year y (t CO ₂ e)
$PE_{power,y}$	Emissions from the use of fossil fuel or electricity for the operation of the installed facilities in the year y (t CO ₂ e)
$PE_{transp,y}$	Emissions from incremental transportation of input manure for the digesters in the year y (t CO ₂ e)
$PE_{storage,y}$	Emissions from the storage of manure (t CO ₂ e)

Project emission from physical leakage has been calculated as below:

$$PE_{PL,y} = 0.10 \times N_{b,p,y} \div 365 \times U_{p,y} \times GWP_{CH_4} \times D_{CH_4} \times \sum_k \sum_{i,LT} B_{0,LT} \times N_{LT,y} \times VS_{LT,y} \times MS\%_{i,y}$$

$PE_{PL,y}$ = Project emissions from physical leakage in year y (t CO₂e)
 GWP = Global Warming Potential (GWP) of CH₄ applicable to the crediting period.
 D = CH₄ density (0.00067 t/m³ at room temperature (20 °C) and 1 atm pressure) L
 T = Index for all types of livestock
 i = Index for animal manure management system
 k = Climate region k
 $B_{0,LT}$ = Maximum methane producing potential of the volatile solid generated for animal type LT .
 $MS\%$ = Fraction of manure handled in project animal manure management system i

Since,

$PE_{power,y} = 0$ tCO₂e/year (no electricity is required to operate the digester)

$PE_{transp,y} = 0$ tCO₂e/year (no transportation is involved)

$PE_{storage,y} = 0$ tCO₂e/year (no storage is involved)

Hence,

$$PE_{AWMS,y} = PE_{PL,y}$$

Project emission physical leakage				
Parameter	Unit	dairy_cow	Market Swine	Source
$N_{b,p,y}$	day	1	1	Assumption
$U_{p,y}$	%	90%	90%	As per the usage survey guidance

GWPC _{H4}	tCO ₂ e/tCH ₄	28	28	https://www.goldstandard.org/project-developers/standard-documents
DCH ₄	t/m ³	0.00067	0.00067	Methodology
BoLT,y	m ³ CH ₄ /kg VS	0.1300	0.2900	IPCC
NLT,y	Nos	3.5564	0.0000	Monitoring Survey
VSLT,y	kg dry matter/head/year	3.9520	0.4263	https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch10_Livestock.pdf
MS%,i,y	%	80.05%	80.05%	Monitoring Survey
PEawms _{,h}	tCO ₂ e/day	0.0025	0.000	Calculated
PEawms _{,h (total)}	tCO ₂ e/day	0.0025		Calculated

In addition, the project emission from amount of dung that is not treated in the biogas unit are calculated using the baseline emission calculation formula:

$$BE_{AWMS,y} = N_{b,p,y} \div 365 \times GWP_{CH_4} \times D_{CH_4} \times UF_b \times U_{p,y} \times \sum_k \sum_{j,LT} N_{LT,y} \times VS_{LT,y} \times MCF_{j,k} \times MS\%_{BL,j}$$

Where

MS%_{BL,j} is the percentage of still treated in the baseline treatment method.

Project emission from manure management system

Parameter	Unit	dairy_cow	Market_Swine	Source
N _{b,p,y}	day	1	1	Assumptions
UF _b	%	0.94	0.94	Methodology
U _{p,y}	%	90%	90%	Assumptions
GWPC _{H4}	tCO ₂ e/tCH ₄	28	28	GS
DCH ₄	t/m ³	0.00067	0.00067	Methodology
Bo _{LT}	m ³ CH ₄ /kg-dm	0.13	0.29	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories 1 (Table 10.16A)
MCF _{BL,liquid/slurry/Pit-storage}	%	62%	62%	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories 1 (Table 10.17)
MCF _{BL,Daily Sprad}	%	1%	1%	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories 1 (Table 10.17)
MS _{(T,k), liquid/slurry/Pit-storage}	%	19.77%	19.77%	Baseline Survey
MS _{(T,k), Daily Spread}	%	0.18%	0.18%	Baseline survey
NLT,y	Nos	3.556	0.000	Monitoring Survey
VSrate _{LT} KG VS	KG VS (1000 KG ANIMAL MASS)-1 DAY-1	15.2000	8.7000	https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch10_Livestock.pdf
TAMLT (kg)	kg	260	49	

	ndy (year)	days	1	1	Assumption								
	VS _{LT,y}	kg-dm/animal/day	3.952	0.4263	Calculated								
	PE _{AWMS,y}	tCO ₂ e/yr	0.00356	0.00000	Calculated								
	Total	tCO ₂ e/yr	0.00356										
From the above equations, CME has estimated the project emission per household per year. Based on the actual number of functioning days, the total project emission has been calculated. PP has submitted the calculation in the excel sheet. The project calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the validated VPA-DD.													
Findings	No findings												
Conclusion	The verification team confirms the following: • The calculations of baseline emission have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology. • The emission factor applied is an ex-ante value valid for the fixed crediting period. • Any assumptions used in emission or removal calculations have been justified. • Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. Hence, the total project emissions reported in the monitoring report for the monitoring period is verified to be correct and the summary is given below: <table><tr><th>Vintage</th><th>PE (tCO₂)</th></tr><tr><td>01/12/2024 - 31/12/2024</td><td>824</td></tr><tr><td>01/01/2025 - 31/12/2025</td><td>13,215</td></tr><tr><td>Total (01/12/2024 - 31/12/2025)</td><td>14.039</td></tr></table>					Vintage	PE (tCO ₂)	01/12/2024 - 31/12/2024	824	01/01/2025 - 31/12/2025	13,215	Total (01/12/2024 - 31/12/2025)	14.039
Vintage	PE (tCO ₂)												
01/12/2024 - 31/12/2024	824												
01/01/2025 - 31/12/2025	13,215												
Total (01/12/2024 - 31/12/2025)	14.039												

Other SDG parameters

Means of verification	The project scenario of the different SDG indicator as follows		
	Item		
	Items	Project estimate	Assessment
	SDG1- No Poverty	98%	The SDG indicator monitored is: Proportion of population living in households with access to basic services. As verified from monitoring survey results, 98% project households have the access to the biogas units. This is also confirmed through acceptance sampling. Hence, the value is acceptable
	SDG 2- Zero Hunger	6,824	The SDG indicator monitored is: Number of farmers adopted practices promoted by the project As verified from monitoring survey results all 100% project households confirmed using the digested slurry for agriculture purpose as fertilizer as trained by the CME. This is also

			confirmed through acceptance sampling. Hence, the value is acceptable
	SDG -3 Good health and well being	13.24% (74.3% reduction)	The SDG indicator monitored is: Percentage of project population using polluting fuels As verified from project survey about 13.24% households still use polluting solid fuels such as fuel wood and Charcoal which is a reduction of 74.3% from baseline. This is also confirmed through acceptance sampling. Hence, the value is acceptable
	SDG 5 – Gender equality	1.85 hours (4.20 hours reduction from baseline)	The SDG indicator monitored is: Average time saving associated with cooking time and fuel collection As verified from monitoring survey about 1.85 hours spent by households in collection of fuel wood and cooking which is reduction of 4.20 hours from baseline scenario. This is also confirmed through acceptance sampling. Hence the value considered is acceptable.
	SDG-7 Affordable and Clean energy	6,824	The SDG indicator monitored is: Number of beneficiaries: Households This is verified form the project database and found to be correct. Hence the value considered is acceptable.
	SDG- 8 Decent work and economic growth	61	The SDG indicator monitored is: Total Number of Jobs This is verified from the CME's employment record. Hence the value considered is acceptable.
	SDG -15 Life on Land	13,252 tonnes	This SDG indicator monitored is Total non-renewable wood fuel saved As per verified from baseline KPT results, project KPT result, the number of operational days and fNRB, about 13,252 t of NRB is saved during the monitoring period. The calculation is verified and found to be correct. Hence, the value considered is appropriate
Findings		No finding raised in this context	
Conclusion		The parameter is monitored appropriately, in accordance with the registered monitoring plan. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. All the monitored parameter values reported in the MR are found to be correct. Hence, the baseline SDG parameters reported in the monitoring report for the monitoring period is verified and found to be correct.	

E.8.3. Calculation of leakage GHG emissions

Means of verification	The following potential sources of leakage were identified in the validated VPA-DD and as per applied methodology,	
	Leakage Source	Assessment
	(a) The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.	The baseline cookstove (traditional stove) do not have any economic value as these can be made easily with local materials. Hence, shifting the baseline stoves outside the project boundary is unlikely. Hence, considering this leakage as zero is appropriate.
	(b) Non-project users who previously used lower emitting energy sources use the non-renewable biomass or fossil fuels saved under the project activity.	As per baseline survey, target population are highly dependent on non-renewable biomass or fossil fuels for cooking. Moreover, the lower emitting technology (such as LPG) is considered as high lifestyle standard. Hence, people who used lower emitting technology in the baseline is unlikely shift to non-renewable biomass or fossil fuel saved under this project. Hence, considering this leakage as zero is found to be appropriate.
	(c) The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.	As checked from GS database, there are 122 GS projects registered in Kenya. Considering the fuel wood saving from this project activity, the impact over fNRB is negligible. Hence considering this leakage as zero is appropriate.
	(d) The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.	The target population does not use fuels for space heating. Hence, this leakage is zero.
	(e) By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.	The biogas technology leads to lower emissions compared to the fuels in the baseline scenario. Hence, considering this leakage as zero is appropriate.
Findings	No findings	
Conclusion	The leakage emission is considered as zero.	

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The Emission reduction of biogas units is directly calculated and the same is reported under baseline emission.
------------------------------	---

	ER_y=BE_y- PE_y - PL_y <i>Where</i> ER_y Emission reduction for total project activity in year y (tCO ₂ e/yr) BE_y Baseline emissions for baseline scenario b in year y tCO ₂ e/yr) PE_y Project emissions in year y (t CO ₂ e/yr)											
		Thermal Application (tCO2/hh/ day)	Manure Management (tCO2/hh/day)	Total (tCO2/hh/day)	Total For the monitoring period							
	BE _y	0.0107	0.0178	0.0286	61,341							
	PE _y	0.0005	0.0060	0.0065	14,039							
	LE _y	0.0000	0.0000	0.0000	0							
	ER _y	0.0102	0.0118	0.0220	47,302							
	Total Number of Biodigesters Installed				6,824							
	Total Number of biogas days				2,148,209							
	Usage rate as per sample survey				97.79%							
	Usage rate considered for ER calculation				90.0%							
CME has submitted the calculation in the excel sheet/2/. The emission reduction calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the validated VPA-DD /3/ From the calculated emission reduction calculated as per above formula, the emission reduction for the monitoring period is estimated. CME has submitted the calculation in the excel sheet/2/. The emission reduction calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the validated VPA-DD /3/.												
Findings	No finding											
Conclusion	The verification team confirms the following: • The calculations of emission reduction have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology. • The emission factor applied is an ex-ante value valid for the fixed crediting period. • Any assumptions used in emission or removal calculations have been justified. • Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. • Hence, the emission reduction reported in the monitoring report for the monitoring period) is verified to be correct • The summery of emission reductions achieved during this monitoring period are as below: <table><tr><td>Vintage</td><td>ER* (tCO₂)</td></tr><tr><td>01/12/2024 - 31/12/2024</td><td>2,777</td></tr><tr><td>01/01/2025 - 31/12/2025</td><td>44,525</td></tr><tr><td>Total (01/12/2024 - 31/12/2025)</td><td>47,302</td></tr></table> *rounded down values				Vintage	ER* (tCO₂)	01/12/2024 - 31/12/2024	2,777	01/01/2025 - 31/12/2025	44,525	Total (01/12/2024 - 31/12/2025)	47,302
Vintage	ER* (tCO₂)											
01/12/2024 - 31/12/2024	2,777											
01/01/2025 - 31/12/2025	44,525											
Total (01/12/2024 - 31/12/2025)	47,302											

For Other SDGs of the project activity:

Means of verification	The net benefit of the different SDG indicator as follows,		
	Items	Net Benefit	Assessment
	SDG 1- No Poverty	98% households having basic access	The net value is calculated from the baseline estimate and project estimate which is correct. The assessment of appropriateness of the values are provided in Section E.3.6.1 & E.3.6.2.
	SDG 2 – No Hunger	6,824 Number of households adopted practices promoted by the project	
	SDG -3 Good health and well being	13.24% project population using polluting fuels (74.3% reduction from baseline)	
	SDG 5 – Gender Equality	1.85 hours saving associated with cooking time and fuel collection	
	SDG-7 Affordable and Clean energy	6,824 Number of household installed with biodigester	
	SDG- 8 Decent work and economic growth	61 jobs created	
	SDG -15 Life on Land	13,252 t non-renewable wood saved during the monitoring period	
Findings	No finding		
Conclusion	The estimated SDG outcomes as per validated VPA-DD and the actual values achieved for the monitoring period are correctly reported in the section E.4 of MR and found correct.		

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in VPA-DD

Means of verification	The verification team has checked whether the MR includes a comparison of actual values of the monitoring period with the estimations in the validated VPA-DD.	
	Section E.5 of the MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the validated VPA-DD.	
	Emission reduction estimated as per the validated VPA-DD	Actual emission reduction achieved as per Monitoring report
	53,239 t CO ₂ e (Estimated based on average emission reduction provided in validated VPA-DD and the number of days in the monitoring period in the respective year)	47,302 t CO ₂ e
	Hence, the actual emission reduction achieved during the monitoring period is 11.15% less than the estimation in the validated VPA-DD.	
Findings	CAR 05 was raised and closed.	

Conclusion	The estimated emission reduction as per validated VPA-DD and the actual emission reduction achieved for the monitoring period are correctly reported in the section E.5 of MR. The actual achieved emission reduction is 11.15% less than the validated VPA-DD estimation. Hence no justification is required.
-------------------	---

E.8.6. Remarks on difference from estimated value in VPA-DD

Means of verification	The verification team has determined the VER achieved during this monitoring period with the estimated value and reason for increase if any.
Findings	No findings
Conclusion	The actual achieved emission reduction is 11.15% less than the validated VPA-DD estimation due to the number of digesters installed are much lesser than the estimated value. Hence no justification is required.

E.9. Stakeholder Inputs & Legal Dispute

Means of verification	All the inputs from stakeholders are related to repair and maintenance of home biogas. As verified from the complaint register, repairs & maintenance requests are received from project households. PD has attended all the cases and resolved the same. There were no grievances with regard to project implementation received during the current monitoring period. Verification team checked the complaints register and confirmed that no grievances have been registered during the current monitoring period. Verification team checked with HomeBiogas Kenya team whether any legal consent or dispute arise during the monitoring period and the PD also confirmed that there are such no legal contests or dispute that has arisen with the project during the monitoring period. Verification team also interviewed stakeholders and independently checked through google to check any legal dispute ongoing with PP and found no such legal dispute is pending.
Findings	CL 01 and CL 04 were raised and Closed satisfactorily.
Conclusion	The verification team confirms the following: • The only grievances received from biogas are related to repairs & maintenance of stoves. All the cases received during the monitoring period are attended and resolved during the monitoring period itself. • No other grievances received during the current or previous monitoring period • No legal consent or dispute arise during the monitoring period.

SECTION F. Internal quality control

The verification report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by 4KES are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable Gold Standard & CDM 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. The independent technical reviewer(s) may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before submit final report to Client/Gold Standard. The final approval decision is taken by the Approver.

The final decision is authorized by the Approver, 4KES, once the report is finalized by the Head of DOE/DOE Manager.

SECTION G. Verification opinion

The verification team confirms that the the evidence is of sufficient quantity, appropriate quality and reliable. The reported values, notation, units and sources in the monitoring report for all the monitoring parameters have been cross checked with the emission reduction sheet and monitoring report. During the course of

verification, the data submitted by PP was cross verified with the values mentioned in the emission reduction sheet/2/ and monitoring report/1/. The procedure for data monitoring, recording, transfer and compilation was also verified and found in compliance with the monitoring plan as mentioned in the approved revised validated VPA-DD/3/.

Evidences (Documents/interview/on-site audit) referred for verification of individual monitoring parameter and fixed parameters are defined in section E.6 above. It is confirmed by the assessment team that the reported emission reductions have been conservatively calculated. A list of referred documents for verification is also included in Appendix 3 of this report.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 47,302 tCO₂e emission reductions during period 01/12/2024 - 31/12/2025.

SECTION H. Certification statement

4K Earth Science Private Limited has been contracted by 'HomeBiogas Ltd' to undertake independent verification and certification for the greenhouse gas (GHG) emission reductions reported and the contribution to sustainable development indicators from the GS Project activity "HomeBiogas Programme in Kenya – VPA1", (GS ID 12064) for the monitoring period 01/12/2024 - 31/12/2025. (including both dates) in the Monitoring Report Version 01.

The verification is based on the validated VPA-DD and the monitoring report for this project. Our verification approach was based on the requirements as defined under the Gold Standard requirements

The management of the 'Homebiogas Ltd' are responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions & monitoring of SDG parameters on the basis set out within the project Final Monitoring Report. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the 'HomeBiogas Ltd'. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 03.

In our opinion the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report (final) Version 3. 4KES based on outcome of verification activities, certifies in writing that, during the monitoring period 01/12/2024 - 31/12/2025. (including both days), the registered GS VPA "HomeBiogas Programme in Kenya – VPA1" achieved the verified amount of 47,302 tCO₂e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the project.

The Verified and certified emission reduction during the monitoring period 01/12/2024 - 31/12/2025 (including both dates) is stated below:

Vintage	Duration	Gold Standard Voluntary emission reductions (tCO ₂ e)
2024	01/12/2024 - 31/12/2025	2,777
2025	01/01/2025 - 31/12/2025	44,525
Total (2024-25)	01/12/2024 - 31/12/2025	47,302

Appendix 1. Abbreviations

Abbreviations	Full texts
4KES	4K Earth Science Pvt. Ltd
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CH ₄	Methane
CL	Clarification Request
CO ₂ e	Carbon dioxide equivalent
DOE	Designated Operating Entity
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
FT	Field Test
GHGs	Greenhouse Gas(es)
GS	Gold Standard
GWP	Global Warming Potential
HH	Household
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
KPT	Kitchen Performance Test
LE	Leakage Emissions
LPG	Liquefied Petroleum Gas
MDG	Millennium Development Goal
MP	Monitoring Plan
MR	Monitoring Report
NCV	Net Calorific Value
NGO	Non-Governmental Organisation
NRB	Non-Renewable Biomass
PE	Project Emissions
PDD	Project Design Document
PS	Project Standard
PCIA	Partnership for Clean Indoor Air
PCP	Project Cycle Procedure
SD	Sustainable Development
SDG	Sustainable Development Goal
SHG	Self Help Group
QA/QC	Quality Assurance/Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction
VVB	Validation and Verification Body
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

<u>Certificate of Competence</u>							
Name	☐ Mr. ☒ Ms.	Swati S Acharya					
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.						
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
<i>Appointed</i>	Yes	Yes	No	Yes	No	No	No
<i>Appointed Date</i>	23-06-2025						
Authorized to work as Technical Expert for:							
Authorized Technical Area	Sectoral Scope		TA Code		Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.2		Renewables		
	Transportation		7.1		Transport		
Authorized to work as Local Expert for:							
<i>Country/Countries</i>	India						
Compliance check by:				Ma Paa Puratchikkanal			

<u>Certificate of Competence</u>							
Name	☒ Mr. ☐ Ms.	Stalin S					
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.						
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
<i>Appointed</i>	Yes	Yes	No	Yes	Yes	Yes	Yes
<i>Appointed Date</i>	23-06-2025						
Authorized to work as Technical Expert for:							
Authorized Technical Area	Sectoral Scope		TA Code		Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.1		Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)		1.2		Renewables		
	Energy distribution		2.1		Energy distribution		
	Energy demand		3.1		Energy demand		
	Waste handling and disposal		13.1		Solid waste and wastewater		
	Waste handling and disposal		13.2		Manure		
Authorized to work as Local Expert for:							
<i>Country/Countries</i>	India						



<u>Compliance check by:</u>	Swati S Acharya
------------------------------------	-----------------

<u>Certificate of Competence</u>							
Name	☒ Mr. ☐ Ms.	Sriram S					
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.						
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
Appointed	Yes	No	No	No	No	No	No
Appointed Date	23-06-2025						
Authorized to work as Technical Expert for:							
Authorized Technical Area	Sectoral Scope		TA Code		Technical Area within the scope		
	-		-		-		
Authorized to work as Local Expert for:							
Country/Countries	India						
<u>Compliance check by:</u>							
Swati S Acharya							

<u>Certificate of Competence</u>							
Name	☒ Mr. ☐ Ms.	Sanjay Kandari					
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.						
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
Appointed	Yes	Yes	No	Yes	Yes	No	No
Appointed Date	23-06-2025						
Authorized to work as Technical Expert for:							
Authorized Technical Area	Sectoral Scope		TA Code		Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.1		Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)		1.2		Renewables		
	Energy distribution		2.1		Energy distribution		
	Energy demand		3.1		Energy demand		
	Waste handling and disposal		13.1		Solid waste and wastewater		
	Waste handling and disposal		13.2		Manure		
Authorized to work as Local Expert for:							
Country/Countries	India						
<u>Compliance check by:</u>							
Swati S Acharya							

Appendix 3. Documents reviewed or referenced.

No.	Author	Title	References to the document	Provider
1	HomeBiogas	Monitoring Report (first version)	Version 01, dated 29/12/2025	HomeBiogas
		Monitoring Report (Final Version)	Version 03, dated 12/02/2026	
2	HomeBiogas	VER Calculation Sheet (First Version)	Corresponding to MR Initial Version 01	HomeBiogas
		VER Calculation Sheet (Final Version)	Corresponding to MR Final Version 03	HomeBiogas
3	HomeBiogas	Approved VPA-DD	Version 5, Dated 13/02/2024	HomeBiogas
4	4KES	VPA Validation Report	Dated 16/02/2024	HomeBiogas
5	HomeBiogas	Approved PoA-DD	Version 4, Dated 30/12/2023	HomeBiogas
6	HomeBiogas	Stakeholder Consultation Report	Version 3, dated 30/12/2023	HomeBiogas
7	Gold Standard	Gold Standard Methodology: "Methodology for Animal Manure Management and Biogas Use for Thermal Energy Generation" V.1.1	Version 01.1	Publicly available
8	IPCC	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book 3. 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories	Web Link	Publicly available
9	UNFCCC	Kyoto Protocol (1997)	Web Link	Publicly available
10	Gold Standard	Template: Key project information & VPA design Document (PDD)	Version 1.1	Publicly available
11	UNFCCC	CDM Project Standard for programmes of activities	Version 03	Publicly available
12	UNFCCC	Standard: Sampling and surveys for CDM project activities and programme of activities	Version 09	Publicly available
13	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities	Version 04	Publicly available
14	UNFCCC	CDM Validation and Verification Standard for programmes of activities	Version 03	Publicly available
15	UNFCCC	Glossary "CDM terms"	Version 11	Publicly available
16	HomeBiogas	ODA Declaration letter		HomeBiogas
17	Gold Standard	Principles and Requirement	Version 2.1	Publicly available
18	Gold Standard	Community Services Activity Requirements	Version 1.2	Publicly available
19	Gold Standard	Programme of Activity requirements	Version 3.0	Publicly available
20	Gold Standard	Safeguarding principles and requirements	Version 2.1	Publicly available
21	Gold Standard	GS4GG preliminary Review report		HomeBiogas

22	HomeBiogas	Biogas basic record set: - End user agreement for VER ownership - Project database	-	HomeBiogas
23	HomeBiogas	Baseline Survey sheets	-	HomeBiogas
24	HomeBiogas	Baseline KPT data: • Test sheets • Photographs	-	HomeBiogas
25	HomeBiogas	Project KPT data: • Test sheets • Photographs		HomeBiogas
26	HomeBiogas	Employment records	-	HomeBiogas
27	HomeBiogas	Training Records	-	HomeBiogas
28	HomeBiogas	Baseline KPT	-	HomeBiogas
29	HomeBiogas	Grievances records register		HomeBiogas
30	HomeBiogas	Biodigesters & stove specification		HomeBiogas
31	HomeBiogas	No double counting declaration	-	HomeBiogas
32	World Bank	Kenya Population information: https://data.worldbank.org/country/kenya?view=chart	-	Publically available
33	FAO	Global Forest Resources Assessment 2015, Country Report Kenya	-	Publically available
34	GTZ	GTZ Eastern Africa Online Resource Base (https://energypedia.info/wiki/Biomass_Energy_Resources_in_Kenya)	-	Publically available
35	FAO	Estimating Biomass and Biomass Change of Tropical Forests: a Primer: Appendix 1 - List of wood densities for tree species from tropical America, Africa, and Asia https://www.fao.org/3/W4095E/w4095e0c.htm	-	Publically available
36	HomeBiogas	Manufacturer Specification		HomeBiogas

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

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

FAR ID	xx	Section no.	Date: DD/MM/YYYY
Description of FAR			
<i>No FARs from previous verification</i>			
Project developer response			Date: DD/MM/YYYY
NA			
Documentation provided by project developer			
NA			
VVB assessment			Date: DD/MM/YYYY

Table 2. CL from this Verification

CL ID	01	Section no.	E.9	Date: 30/01/2025
Description of CL				
CME is requested to submit the following documents / supporting's:				
1. Details of the employment generated 2. End user agreements 3. Sample survey sheets 4. Grievance Expression Process Book				
Project developer response				Date: 10/02/2026
The following documents have been submitted:				
1. Employment details 2. Sample end user agreements 3. Sample survey sheets 4. Grievance register				
Documentation provided by project developer				
1. Employment details 2. Sample end user agreements 3. Sample survey sheets 4. Grievance register				
VVB assessment				Date: 12/02/2026
The documents are provided and found to be ok. Thus, CL 01 is closed.				

CL ID	02	Section no.	E.6.1	Date: 30/01/2025
Description of CAR				
PD shall submit the declaration stating that no double counting has taken place for the current monitoring period.				

Project developer response	Date: 10/02/2026
Declaration for double counting has been submitted	
Documentation provided by project developer	
Declaration for double counting	
VVB assessment	Date: 12/02/2026
No double counting declaration was provided by PD which is found to be acceptable. Thus, CL 02 is closed.	

CL ID	03	Section no.	E.6.1	Date: 30/01/2025
Description of CAR				
Kindly provide the Project performance field tests/KPT document for the reference.				
Project developer response				Date: 10/02/2026
Project KPT has been provided				
Documentation provided by project developer				
Project KPT sheet				
VVB assessment				Date: 12/02/2026
The project KPT sheet was checked and found to be acceptable. Thus, CL 03 is closed.				

CL ID	04	Section no.	E.9	Date: 30/01/2025
Description of CAR				
The PD shall include details on how many repair requests were attended to, and their date of action.				
Project developer response				Date: 10/02/2026
Grievance register has been submitted				
Documentation provided by project developer				
Grievance register				
VVB assessment				Date: 12/02/2026
Grievance register was checked and found to be ok. Thus, CL 04 is closed.				

CL ID	05	Section no.	others	Date: 30/01/2025
Description of CAR				
The PD shall submit the SDG Impact Tool for verification.				
Project developer response				Date: 10/02/2026
SDG impact tool has been submitted				
Documentation provided by project developer				
SDG impact tool				
VVB assessment				Date: 12/02/2026
SDG Impact Tool was checked and found to be ok. Thus, CL 06 is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	E.6.2	Date: 30/01/2025
Description of CAR				
The details of installation of digesters shall be provided in month wise. Further, the total installation mentioned is not consistent with the with the database shared during the site visit.				
Project developer response				Date: 10/02/2026
Monthly distribution of the digesters has been updated in the MR.				
Documentation provided by project developer				
Updated MR				
VVB assessment				Date: 12/02/2026
The PD has corrected the total installations in the MR which is consistent with the ER sheet and database. Thus, CAR 01 is closed.				

CAR ID	02	Section no.	E.6.2	Date: 30/01/2025
Description of CAR				
In section D.1 of the MR, BGTA 4 – The description states that “<i>The detailed description of the project technology (including both biogas digester and biogas stove) shall include as a minimum: ... rated thermal efficiency of biogas stove...</i>”. However, the thermal efficiency of biogas stove is not included in section B.1 of the MR. BGTA 4 – The Value(s) applied states “<i>Refer section A.3 above</i>”. However, section A.3 refers to “Reference of applied methodology”. BGTA 7- The footnote for “Source of data” is incorrect. Please check. BGTA 14, BGTA 16 - The value applied for LPG in MR is not consistent with ER sheet and VPA-DD.				
Project developer response				Date: 10/02/2026
Section B.1 has been updated to include the thermal efficiency specification of the stove and thermal efficiency certificate has been provided. BGTA 4- The parameter has been updated to reference the appropriate section. BGTA 7- The source link has been updated. BGTA 14, BGTA 16- The section has been updated to be consistent with the ER sheet and the VPA-DD				
Documentation provided by project developer				
Updated MR Thermal efficiency certificate				
VVB assessment				Date: 12/02/2026
The above-mentioned statements have been rectified in the revised MR. The VVB has reviewed the revised MR and found it to be appropriate; therefore, CAR 02 is closed.				

CAR ID	03	Section no.	E.6.2	Date: 30/01/2025
Description of CAR				
For all monitored parameters, the PD shall ensure a specific frequency complied with for the current monitoring period is mentioned, instead of ‘annual or more frequently’.				
Project developer response				Date: 10/02/2026
The sections have been updated to mention the monitoring frequency of each parameter.				
Documentation provided by project developer				
Updated MR				
VVB assessment				Date: 12/02/2026
In the revised MR, the PD has updated the specific monitoring frequency mentioned for all parameters. The VVB has reviewed the revised MR, confirmed that the corrections have been made, and found them to be appropriate; therefore, CAR 03 is closed.				

CAR ID	04	Section no.	E.8.1	Date: 30/01/2025
Description of CAR				
In section E.1 of the MR, for SDG 13, under sub-section II- Baseline emissions from Animal waste management systems, BE_{AWMS,y} value for market swine is not consistent with the ER sheet.				
Project developer response				Date: 10/02/2026
The section has been updated to be consistent with the ER sheet.				
Documentation provided by project developer				
Updated MR				
VVB assessment				Date: 12/02/2026
BE_{AWMS,y} value for baseline emissions from animal waste management systems has been rectified by the PD in the revised MR. The VVB has reviewed the correction and found it to be appropriate; therefore, CAR 04 is closed.				

CAR ID	05	Section no.	E.8.5	Date: 30/01/2025
Description of CAR				
In ER sheet and section E.5.1 of the MR, the values included in the column "Total estimation for the MP" is the actual values and not the estimated values. Please check and revise accordingly.				
Project developer response				Date: 10/02/2026
The table has been updated to represent the actual achieved values in this monitoring period.				
Documentation provided by project developer				
Updated MR				
VVB assessment				Date: 12/02/2026
The VVB has checked and reviewed the revised MR and confirmed that the table has been updated to reflect the actual values achieved during this monitoring period; therefore, CAR 05 is closed.				

CAR ID	06	Section no.	Others	Date: 30/01/2025
Description of CAR				
In the ER sheet – 'Project Survey MP4 sheet',				
- The serial numbers of the biogas units are incorrectly mentioned, e.g., for Sl. No. 12 and Sl. No. 23. Please check and correct all the serial numbers mentioned in the Project survey sheet. - Some information like Serial No of biogas units, GPS coordinates, etc are missing in the sheet. Please check and update.				
The same shall also be checked for 'Database 2025' sheet.				
Project developer response				Date: 10/02/2026
The ER sheet has been updated				
Documentation provided by project developer				
Updated ER sheet				
VVB assessment				Date: 12/02/2026
The VVB has checked and reviewed the ER sheet and found that the Project survey sheet has been revised and found to be appropriate. CAR 06 is closed.				

Table 4. FAR from this verification

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
Project developer response				Date: DD/MM/YYYY
Documentation provided by project developer				
VVB assessment				Date: DD/MM/YYYY

- - - - -