



GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) VERIFICATION REPORT

PROJECT TITLE: PRODUCTION AND DISSEMINATION OF
CERAMIC WATER PURIFIERS BY HYDROLOGIC, IN THE KINGDOM
OF CAMBODIA

GS4GG PROJECT No.: 1020

CLIENT NAME: HYDROLOGIC SOCIAL ENTERPRISE LTD.

VERSION AND DATE: VERSION 01, 27/06/2025

CHINA CERTIFICATION CENTER, INC.

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Project Name: Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia	
Certification body: China Certification Center, Inc.	
Client: Hydrologic Social Enterprise Ltd.	
Date of this revision: 27/06/2025	Version No.: Version 01
GS4GG Project No.: 1020	Host Country: Kingdom of Cambodia
Methodology Applied: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.0-July 2015	
Monitoring Period: 01/01/2024 to 30/11/2024 (first and last days included)	
Activity Requirements applied: Community Services Activities	
Product Requirements applied: GHG Emissions Reduction & Sequestration	

Verification Summary:

China Certification Center, Inc. (CCCI) has performed the periodic verification of Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia (hereafter referred as 'the Project'), GS4GG Project Number 1020, covering the monitoring period 01/01/2024 to 30/11/2024. The verification was performed on the basis of GS4GG criteria, GS approved Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.0-July 2015, and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of the project design, monitoring report and additional background documents; ii) Site visit and follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

CCCI has verified the project Monitoring Report Version 2.0 dated 16/06/2025 /2/ for the monitoring period as indicated above. CCCI confirms that the Project is implemented as described in the registered Project Design Document for Gold Standard for the Global Goals Voluntary Offset projects. Installed equipment being essential for generating and measuring emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating SDG impacts as a GS-VER project.

CCCI can confirm that the SDG impacts are calculated without material misstatements. Our opinion relates to the Projects' SDG impact reported and related to the validated and registered project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that SDG impacts are appropriately calculated, CCCI confirms the following statement:

SDG	Total in 7 th MP
	01/01/2024 to 30/11/2024
SDG 1 - No Poverty	(a) 49,843 tonne of biomass save/year
	(b) 946 tonne of LPG save/year
	(c) 89.09% of household noted on money save
	(d) 85.32% of household noted on time save
SDG 3 - Good Health and Well-Being	317,810 people noted less smoke in kitchen
SDG 5 - Gender Equality	179,579 women and girls benefit from stop boiling water
SDG 6 - Clean Water and Sanitation	562,297 people access to safe drinking water
SDG 7 - Affordable and Clean Energy	792 TJ of energy save/year
SDG 8 - Decent Work and Economic Growth	114 staff employed/year
SDG 13 - Climate Action	GHG emission reductions - 35,018 tCO ₂ e/year
SDG 15 - Life on Land	307 hectare of forest save/year

SDG	Product Vintage year	Total in 7th MP
	01/01/2024 to 30/11/2024	01/01/2024 to 30/11/2024
SDG13 - GHG Emission reductions	35,018 tCO ₂ e GS VER	35,018 tCO ₂ e GS VER

Work carried out by:	Team Leader: Ms. Hong Dandan Team Member: Li Ying
Technical Review by:	Mr. Stefan Liang
Name, position and signature of the approver of the verification report	Mr. Zhou Hong, Director of GHG Department 

Abbreviations

AM	Approved Methodology
BE	Baseline emissions
CAR	Corrective Action Request
CCCI	China Certification Center, Inc.
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CP	Crediting Period
CWP	Ceramic Water Purifiers
DNA	Designated National Authority
EB	Executive Board
FAR	Forward Action Request
GHG	Green House Gas(es)
GS4GG	Gold Standard for the Global Goals
HSE	Hydrologic Enterprise Ltd.
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
LE	Leakage emissions
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MP	Monitoring Plan/Monitoring Period
MR	Monitoring report
ODA	Official Development Assistance
PD	Project developer
PDD	Project Design Document
PE	Project Emission
PP	Project Participant
PS	Project Survey
SD	Sustainable Development
SDG	Sustainable Development Goals
tCO ₂ e	Tonnes of Carbon di oxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
US	Usage Survey
VER	Voluntary Emission Reduction
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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1. INTRODUCTION

Hydrologic Social Enterprise Ltd. has commissioned CCCI to verify the emission reductions of the GS4GG project “Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia”, for the 7th monitoring period from 01/01/2024 to 30/11/2024, located in Cambodia.

This report summarizes the findings of the verification of the Project, performed on the basis of Gold Standard for the Global Goals (GS4GG) requirements, UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1. Objective

The objective of the verification is to provide a thorough and independent third party assessment of the registered project activity. In particular, the assessment shall:

- (a) Ensure that all sustainability development (SD) indicators and mitigation measures have been monitored and implemented in accordance with the registered PDD and transition annex /6/;
- (b) Ensure that the project activity has been implemented and operated as per the registered PDD or any approved revised PDD, and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- (c) Ensure that the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of GHG emission reductions and verifiable and in accordance with applicable GS4GG requirements;
- (d) Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan or any revised approved monitoring plan, and the approved methodology including applicable tool(s);
- (e) Evaluate both quantitative and qualitative information on emission reductions provided in the project documentation;
- (f) Evaluate the data collection system meets the requirements of the monitoring plan as per the applied methodology including applicable tool(s) and, where applicable, the applied standardized baseline.

1.2. Scope

The verification scope covers the relevant documents (e.g. the registered PDD including sustainable development requirements, the Monitoring Report, the emission reduction calculation spreadsheet, supporting documents available to the verifier and information collected through performing interviews and on-site assessment, GS4GG’s tools and guidelines publicly available, relevant rules, including the host country legislation, etc.) to be independently reviewed, the project geographical locations to be visited, the project relevant personnel to be interviewed with, and processes that are necessary to acquire objective evidence for the evaluation of the project compliance to the GS4GG verification requirements.

The above verification activities are conducted according to the GS4GG requirements as following list,

- (i) the Gold Standard for the Global Goals Principles and Requirements /54/,
- (ii) the Gold Standard for the Global Goals Safeguarding Principles & Requirements /55/,
- (iii) the Gold Standard for the Global Goals Community Services Activity Requirements /56/,

- (iv) the Gold Standard for the Global Goals Stakeholder Consultation and Engagement Requirements /57/,
- (v) the Gold Standard for the Global Goals GHG Emissions Reduction & Sequestration Product Requirements /58/,
- (vi) the Gold Standard for the Global Goals Validation and Verification Standard /59/,
- (vii) Validation and Verification Body requirements, Product requirements and references relevant to the project activity's reported emission reductions

In doing so, the principles of accuracy, completeness, relevance, reliability and credibility were followed.

The verification is not meant to provide any consulting service towards the PPs. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project.

1.3. GS Project Description

The project focuses on the production and distribution of Ceramic Water Purifiers (CWPs) in Cambodia, where access to clean drinking water remains a significant challenge in rural areas. Currently, villagers rely on boiling water from sources such as ponds, dug wells, and bore wells to make it safe for drinking and cooking. This practice consumes fuels like firewood, LPG, and coal, as confirmed through interviews with CWP users. The project aims to reduce or eliminate water boiling, thereby cutting CO₂ emissions associated with fossil fuel use.

The CWPs utilize porous ceramic (fired clay) to effectively filter out microbes and contaminants. With a pore size small enough to remove up to 99.99% of bacteria, these locally produced, pot-style filters offer a lightweight, portable, affordable, chemical-free, low-maintenance, and user-friendly solution.

Hydrologic's filters are made from a clay and rice husk mixture, treated with silver nitrate for enhanced microbial removal. Operating via gravity filtration, they achieve a flow rate of 2–4.5 liters per hour. The filters also cool water through evapotranspiration and, when paired with a proper storage container, ensure safe water storage. Regular scrubbing maintains filter efficiency by removing surface deposits.

Hydrologic Enterprise Ltd. (HSE) /12/ manufactures these filters using locally sourced clay, refining an ancient filtration method to improve flow rates. Their factory, located in Trapeang Samrong Village, employs local skilled and unskilled workers, providing stable income opportunities for the community while promoting sustainable water solutions.

Since the project's start date (01/12/2010), HSE has distributed 586,531 CWPs nationwide. In the monitoring period from 01/01/2024 to 30/11/2024, 31,945 units were sold, as verified by sales database /17/ and Sales invoices of CWP /18/.

The project aims to reduce or eliminate water boiling, thereby cutting CO₂ emissions from fossil fuel use. The project has created sustainable job opportunities, supporting the community's livelihood.

The certified emissions reductions for the current 7th monitoring period in CP2 from 01/01/2024 to 30/11/2024 is 35,018 tCO₂e.

Item	Project Location	Geo-coordinates of the provinces	CWP Factory Location	Geo-coordinates of the Factory
Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia	Cambodia	10°28'58.48"N~14°10'54.3"N 102°36'33.41"E~107°11'17.2"E	Cambodia	11.8504° N 104.7419° E

The project started date of operation: 09/02/2010.

GS registration date: 08/08/2012.

Project's 1st crediting period: 01/12/2010 to 30/11/2017 (Renewable)

Project's 2nd crediting period: 01/12/2017 to 30/11/2024

Monitoring Period to be verified: 7th 01/01/2024 to 30/11/2024 (first and last days included) which belongs to 2nd crediting period

1.4. Verification Team

The verification team consists of the following personnel:

FUNCTION	NAME	TA 3.1	TASK PERFORMED*
Team Leader	Ms. Hong Dandan	☒	☒ DR ☒ SV ☒ RI ☐ TR
Team Member	Ms. Li Ying	☒	☒ DR ☒ SV ☒ RI ☐ TR
Local Expert	Ms. Khouth Sochampawatd	-	☒ DR ☒ SV ☐ RI ☐ TR
Internal Technical Reviewer (ITR)	Mr. Stefan Liang	☒	☐ DR ☐ SV ☐ RI ☒ TR

*DR = Document Review; SV = On-site Visit; RI = Report issuance; TR = Internal Technical Review

2. VERIFICATION PROCESS

CCCI has assessed and determined that the implementation and operation of the project activity, and the steps taken to report emission reductions comply with the GS4GG criteria, rules and relevant guidance provided by the SustainCert or CDM-EB. The assessment involved a document review of relevant documentation.

2.1. Review of Documents

A desk review of the MR (Version 01, dated 25/03/2025) /2/ and supporting documents were conducted by the verification team. The aim of the desk review of the documentation is to verify the completeness of the data and the information presented, to carry out the compliance check of the MR with respect to the monitoring plan, the applied methodology including applicable tool(s) and, where applicable, the applied standardized baseline. Particular attention was given to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures. The 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 was also conducted.

The verification team has checked for double counting by reviewing all relevant registries that could hold emission reductions from the project activity, such as CDM (<http://cdm.unfccc.int>), VCS (<https://verra.org/>), IREC (<https://www.trackingstandard.org/>), ICAP (<https://icapcarbonaction.com/zh/>), GCC (<https://projects.globalcarboncouncil.com/>) and confirmed the project has not been registered as CDM, VCS, GCC, IREC project or under other voluntary carbon crediting scheme.

Additionally, each CWP has uniquely identifiable and traceable serial number kept by PD in the Serial number database /25/. During site visit, the verifier conducted a thorough review of the database /25/, cross-referencing all entries with previous monitoring period records. The examination confirmed no duplication of serial numbers across all distributed water filters. This unique identification system enables the PD to trace any individual filter back to its specific production details.

Besides, the water filter design provided by the PD features unique physical characteristics that differentiate it clearly from other commercially available water filters in the market in Cambodia.

Furthermore, the on-site observations at the HSE CWP production facility revealed that:

- Each manufactured water filter bears the company's distinctive brand marking for easy visual identification
- Field verification of sampled units confirmed that every device has a unique serial number attached to the device

This comprehensive identification system ensures complete traceability of all distributed water filters.

As a result, these emissions reductions cannot be claimed under any other voluntary market or emission reduction mechanism. The verification team has confirmed that there is **no risk of double counting** for the Gold Standard Verified Emission Reductions (VERs) or CO₂ certificates issued during this monitoring period.

Finally, through an examination of the Declaration of No Double Counting /38/, the verification team has confirmed that the emission reductions from this project were not double counted during this monitoring period.

The additional background documents related to the registered PDD /1/, validation report /4/, previous verification reports /5/ and etc., formed the basis of the final conclusion were as presented in Section 4 of this report.

Section 6 of this report contains a complete list of all documents and proofs reviewed by the verification team.

2.2. On-site Visit

Through the on-site visit of the project site, the verification team has checked the project CWP production, factory operation, CWP using situation by sampled end users, interviewed with key personnel of the PD, office and factory staffs, the sampled representatives of end users and the consultancy. The detail of the site visit assessment including the interviewees and the main topics of the interview are summarized in the following table.

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
1.	Im	Bora	Hydrologic Social Enterprise Ltd./ Project and Sales Manager	04/04/2025~08/04/2025	- General aspects of the project - Changes since validation / previous verifications - Calibration procedures - CWP distribution status - Project database - Sales database - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Sampling Plan - Sampling Method - Project survey - Baseline survey - Monitoring data management - Data uncertainty and residual risks - Procedural aspects of the verification

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
					- Environmental aspects - Job opportunities - Salary level - Water quality and quantity - Livelihood of the poor - Access to energy service - Monitoring plan - Monitoring training - Emission reduction calculation
2.	Khep	Chandler	Hydrologic Social Enterprise Ltd./Store Assistant	04/04/2025	- CWP Production Process - Warranty Card - Environmental aspects - Salary level - Staff Management - Position - Job Description - Salary level - Labor contract - Welfare - Food allowance - Safety training
3.	Sop	Abdulkarm	Hydrologic Social Enterprise Ltd./ Sale Support Officer	04/04/2025	
4.	Preap	Chanmonirah	Hydrologic Social Enterprise Ltd./ Inventory & Procurement Officer	04/04/2025	
5.	Khy	Chanrainysey	Hydrologic Social Enterprise Ltd./ Installment Officer	04/04/2025	
6.	San	Sreynoch	Hydrologic Social Enterprise Ltd./ HR Assistant	04/04/2025	
7.	Meas	Vary	Hydrologic Social Enterprise Ltd./ Account receive	04/04/2025	
8.	Nov	Samphors	Hydrologic Social Enterprise Ltd./ Make Pot in Factory	05/04/2025	
9.	Sok	Yech	Hydrologic Social Enterprise Ltd./Pressing in Factory	05/04/2025	
10.	Kim	Ran	Hydrologic Social Enterprise Ltd./Packaging in Factory	05/04/2025	

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
11.	Phon	Sophorn	Hydrologic Social Enterprise Ltd./Kiln in Factory	05/04/2025	
12.	Ho	Phumint	Hydrologic Social Enterprise Ltd./Kiln in Factory	05/04/2025	
13.	Soum	Pakk	Hydrologic Social Enterprise Ltd./Quality Check in Factory	05/04/2025	
14.	Neou	Tum	Hydrologic Social Enterprise Ltd./Factory Assistant in Factory	05/04/2025	
15.	Chneap	Tuleay	Hydrologic Social Enterprise Ltd./Store Assistant	07/04/2025	
16.	Thann	Chamroeun	Hydrologic Social Enterprise Ltd./ Admin Store Officer	07/04/2025	
17.	Khat	Sao	Puk Yuk village, Srour Youv commune, Stueng Saen district, Kompong Thom province/end user sample	05/04/2025	- CWP Style - Purchase price - Person/HH - CWP issues for using - After sale service - Warranty card - Air quality change - Water quality - If stop boiling water - Water consumption per day - Wood, Charcoal, LPG consumption - Money Saving - Time Saving - Accessibility to HSE - Any comments
18.	Ms.	Phanith	Puk Yuk village, Srour Youv commune, Stueng Saen district, Kompong Thom province/end user sample	05/04/2025	
19.	Touch	Srey Roth	Puk Yuk village, Srour Youv commune, Stueng Saen district, Kompong Thom province/end user sample	05/04/2025	

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
20.	Sun	Hery	Thlok village, Chamna Leu commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
21.	Soun	Sorn	Thlok village, Chamna Leu commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
22.	Lorn	Sinh	Thlok village, Chamna Leu commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
23.	Hong	Thim	Thlok village, Chamna Leu commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
24.	Lak	Sengvon	Thlok village, Chamna Leu commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
25.	Horn	Lorn	Trea village, Trea commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
26.	Mon	Touch	Trea village, Trea commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
27.	Veum	Phorn	Trea village, Trea commune, Stoung district,	06/04/2025	

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
			Kompong Thom province/end user sample		
28.	Khuth	Mong	Trea village, Trea commune, Stoung district, Kompong province/end user sample	06/04/2025	
29.	Doung	Nan	Trea village, Trea commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
30.	Soern	Nheb	Trea village, Trea commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
31.	Chan	Srey Mao	Neang Sa Lngeach village, Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
32.	Tuy	Vannin	Neang Sa Lngeach village, Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
33.	Larch	Yarth	Neang Sa Lngeach village, Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
34.	Tuy	LangKin	Neang Sa Lngeach village,	06/04/2025	

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
			Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample		
35.	Klun	Sok	Neang Sa Lngeach village, Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
36.	Ms.	Tevy	Neang Sa Lngeach village, Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
37.	Yeth	Chantrea	Neang Sa Lngeach village, Kompong Chen Cheung commune, Stoung district, Kompong Thom province/end user sample	06/04/2025	
38.	Sao	Heak	Kouk Dong village, Tuek Vill commune, Siem Reap district, Siem Reap province/end user sample	07/04/2025	
39.	Sem	Sanh	Kouk Dong village, Tuek Vill commune, Siem Reap district, Siem Reap province/end user sample	07/04/2025	
40.	Chun	Sarath	Kouk Dong village, Tuek Vill	07/04/2025	

No.	Interviewee			Date	Subject
	First name	Last name	Affiliation		
			commune, Siem Reap district, Siem Reap province/end user sample		
41.	Chan	Nga	Tuek Vil village, Tuek Vill commune, Siem Reap district, Siem Reap province/end user sample	07/04/2025	
42.	Mean	Prek	Tuek Vil village, Tuek Vill commune, Siem Reap district, Siem Reap province/end user sample	07/04/2025	
43.	Keo	Yeurn	Tuek Vil village, Tuek Vill commune, Siem Reap district, Siem Reap province/end user sample	07/04/2025	
44.	Chanvibol	Meng	Nexus/ Technical Services Manager	04/04/2025~08/04/2025	- MR editorial error - ER calculation

During on-site interview, above representatives have been interviewed with some questions that related the project and SDG impacts achieved by the project which has been assessed as below,

The PD was asked with general information of the project including monitoring plan, implementation of the monitoring system, monitoring data collection, produce and sales recording and archive, QA/QC procedure, production and sales of CWP, project implementation during this monitoring period, involved personnel and responsibilities of the staff, sampling plan, sampling method, monitoring survey including Project Survey and Usage Survey conducted for this monitoring period, etc.

All the replies to the questions have been provided by the PD and the information is checked as consistent with the ones given in MR of this monitoring period, and verified by site inspection of VVB.

The representatives of staff were asked with general information of their job, including general information of interviewee, name, mobile No. gender, age, position, join time, Salary level, Labor contract, working environment safe and healthy or not, training provided, any welfare, etc.

All the replies to the questions have been provided by the representatives of staff and the information is checked as consistent with the ones given in MR of this monitoring period, and verified by site inspection of VVB.

The representatives from end user were asked with general information of the users and her/his household, including Unique identifier for each CWP unit, CWP Style, Geographic details or address of the household, Name of the household representative interviewed, Gender of the interviewee, Number of individuals residing in the household, Contact number of the interviewee for follow-up verification, Purchase Cost, etc.

Besides, they were asked with CWP utilize situation in this MP, including prior participation in the sampling survey by PD, primary user who is the main person in household uses the CWP, Usage Start Date, Water Availability in the household 24 hours a day, any using issues and contact method with HSE, if get warranty card, Purchase Method, if using now, if ever stop in this MP and stopped time and reason, Documentation like invoice and household information providing, Behavior Change-if household discontinue boiling water for daily drinking purposes, and for households continuing to boil drinking water after CWP adoption, Fuel Consumption Patterns was asked, Technical Issues with information of any components of your CWP repaired or replaced and experience accessing after-sales service and any cost.

Furthermore, the related information of SDG impacts and benefits for the households were asked including Indoor Air Quality Improvement: Have you noticed a reduction in kitchen smoke compared to before using the CWP? Water Quality Perception: Do you consider the filtered water from the CWP safe and suitable for drinking? Economic Benefits: Has your household experienced cost savings and fuel savings since adopting the CWP? Time Savings: Has using the CWP reduced the time spent collecting fuel or treating drinking water?

Finally, they were asked if any comments to PD or CWP.

All the replies to the questions have been provided by the representatives from end users and the information is checked as consistent with the ones given in questionnaire collected by PD during the sampling survey for this monitoring period, and verified by site inspection of VVB.

The representative from sampled retailers were asked with related questions including their generation information and Sales & Order Process- name, interview date, location, contact method, CWP style for sale, sale price, When did your company begin selling HSE's CWPs? Does the sales agent supply CWPs to your company? How does your company document the sales records of CWPs? How does your company collect end-user information? How frequently does your company submit sales data to HSE? What data does your company provide to HSE? Did HSE review your sales data and provide feedback if issues were found?

All the replies to the questions have been provided by the representatives from sampled retailers representative and the information is checked as consistent with the ones given in MR of this monitoring period.

2.3. Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to resolve identified issues that require further elaboration, research or expansion prior to CCCI's positive conclusion on the project implementation, monitoring practices and achieved emission reductions.

A Corrective Action Request (CAR) is raised, if one of the following situations occurs:

- (a) Non-conformities with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- (b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- (c) Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- (d) Issues identified in a FAR during validation or previous verification to be verified during verification have not been resolved by the project participants.

A Clarification Request (CL) is raised, if information is insufficient or not clear enough to determine whether the applicable requirements have been met.

A Forward Action Request (FAR) may also be raised during verification for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

2.4. Internal Technical Review

The verification report underwent an Internal Technical Review (ITR) before requesting issuance of GS VERs for the project activity.

The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal CCCI procedures.

The Team Leader provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process.

When performing an Internal Technical Review, the reviewer ensures that:

- The verification activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM/GS4GG rules and requirements.
- The review encompasses all aspects related to the project which includes project implementation, monitoring report and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, closure of CARs and CLs during the verification exercise, review of sample documents.

The reviewer may raise Clarification Requests to the verification team and will discuss these matters with the Team Leader.

After the agreement of the responses to the Clarification Requests from the verification team as well as the PD, the finalized verification report is accepted for further processing.

3. VERIFICATION CONCLUSIONS

In the following sections, the conclusions of the verification are stated.

The findings from the desk review of the original monitoring report and the findings from interviews during the on site interview are described in this section of the report.

3.1. Compliance of the project general description with the registered project design document

Means of verification	A draft MR (Version 01, dated 25/03/2025) /2/ was submitted to the verification team prior to the start of the site visit. It is checked that the appropriate form has been used for compiling the MR as per the Gold Standard for Global Goals Monitoring Report Template version 1.1 in October 2020 /53/. Further every section has been checked against the Monitoring Report Template /53/ and GS4GG Principles& Requirements /54/. Via on-site visit, CCCI confirmed that the project focuses on the production and distribution of Ceramic Water Purifiers (CWPs) in Cambodia, where access to clean drinking water remains a significant challenge in rural areas. Currently, villagers rely on boiling water from sources such as ponds, dug wells, and bore wells to make it safe for drinking and cooking. This practice consumes fuels like firewood, LPG, and coal, as confirmed through interviews with CWP users. The project aims to reduce or eliminate water boiling, thereby cutting CO₂ emissions associated with fossil fuel use. The CWPs utilize porous ceramic (fired clay) to effectively filter out microbes and contaminants. With a pore size small enough to remove up to 99.99% of bacteria, these locally produced, pot-style filters offer a lightweight, portable, affordable, chemical-free, low-maintenance, and user-friendly solution. Hydrologic's filters are made from a clay and rice husk mixture, treated with silver nitrate for enhanced microbial removal. Operating via gravity filtration, they achieve a flow rate of 2–4.5 liters per hour. The filters also cool water through evapotranspiration and, when paired with a proper storage container, ensure safe water storage. Regular scrubbing maintains filter efficiency by removing surface deposits. Hydrologic Enterprise Ltd. (HSE) manufactures these filters using locally sourced clay, refining an ancient filtration method to improve flow rates. Their factory, located in Trapeang Samrong Village, employs local skilled and unskilled workers, providing stable income opportunities for the community while promoting sustainable water solutions. Since the project's start date (01/12/2010), HSE has distributed 586,531 CWPs nationwide. In the monitoring period from 01/01/2024 to
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	30/11/2024, 31,945 units were sold, as verified by sales database /17/ and Sales invoices of CWP /18/. The project aims to reduce or eliminate water boiling, thereby cutting CO₂ emissions from fossil fuel use. The project has created sustainable job opportunities, supporting the community's livelihood. The certified emissions reductions for the current 7th monitoring period in CP2 from 01/01/2024 to 30/11/2024 is 35,018 tCO₂e. The Project Developer (PD) has established that the calculation of CWP usage rates excludes retired units - specifically those exceeding 5 years of service. The CCCI has confirmed that: 1. All project technologies included in emission reduction calculations were operational within their designated useful lifespan during the monitoring period 2. Units exceeding their technical lifetime have been: ○ Systematically excluded from project emission reduction calculations ○ Permanently removed from the crediting baseline This methodology ensures that only active, properly functioning CWPs within their validated service period contribute to the project's credited emission reductions. The project is applicable to the GS approved "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" (Version 3.0) /41/. The project location has been clearly provided in section A.2 of the MR, 1. Project Implementation Area: The distribution of CWP under this project is geographically limited to the Cambodia. 2. Production Facility Location: The manufacturing plant is situated at: • Address: Trapeang Samrong Village • Administrative Unit: Sub-district of Longveak, District of Kampong Tralach • Province: Kampong Chhnang • Country: Cambodia This has been verified by site inspection and with GPS device and the detailed location and coordinates of the factory have been provided which have also been verified by site inspection and the information is correct. The project was applied as a GS-VER project with the GS Reference number of GS1020. As part of the site visit, CCCI was able to confirm that the project description in MR is in accordance with the project description contained in the PDD /1/.
Findings	N/A

Conclusion	The verification team confirms that: ✓ The final version Monitoring report /2/ is complete and transparent and in accordance with the PDD /1/ and Global Goals Monitoring Report Template version 1.1 in October 2020 /30/.
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3.2. Assessment of remaining issues from the previous validation/verification period

The Verification Team checked the previous validation/verification reports /4/,/5/, there are three FARs were identified which has been demonstrated by PD in the section B.1.1 of MR and assessed as below,

No.1

During the 3rd verification of CP1 (Monitoring Period 3: 01/05/2013 – 30/04/2014), GS issued a FAR stating:

"According to the registered PDD "The ceramic filter element has an average lifespan of two years or more. Lifespan depends on the quality of the input water and the care taken to avoid breakage." The PD is requested to provide details on number of ceramic filter element replaced (age group wise) in next monitoring period."

In response to this FAR, the PD tracked and recorded ceramic filter element replacements (by age group) and included this data in Replacement Report /31/ for this monitoring period.

Verification Conclusion:

Review of Replacement Report /31/ confirmed that replacements were primarily for pots and spigots (taps) during this MP. The replacement rate was calculated at 0.2% of the cumulative units credited as of 30/11/2024, which was verified as accurate. The verification team confirms that this FAR has been successfully closed during this monitoring period.

No.2

During the 5th verification of CP1 (Monitoring Period 5: 01/05/2015-30/04/2016), GS issued a FAR stating:

"The PD shall improve the sale data collection system to avoid any duplicate in next monitoring period. More trainings shall be provided to database implementer."

The verification team has reviewed the formula developed by the Project Developer (PD) to detect duplicate entries in the sales database. The formula combines IF and COUNTIFS functions to identify duplicates based on the following criteria: A record is flagged as a duplicate only if both the user's name and address match exactly and Partial matches (e.g., name only) are not considered duplicates. The formula was applied to Project Database /24/, confirming it accurately identifies duplicates per the defined logic. No errors were detected in the formula's implementation or output.

Besides, in October 2024, the PD engaged a carbon consultant from Nexus to conduct a database refreshing training for customer service teams who worked as database implementers.

Verification Conclusion:

Training delivery was confirmed via Training Records /37/. The session aimed to enhance data integrity practices during the monitoring period (MP). No duplicate entries were found in Project Database /24/ using the validated formula. The verification team confirms the successful closure of this FAR during the current MP.

No.3

During the 3rd verification of CP2 (Monitoring Period 3: 01/01/2020-31/12/2020), GS issued a FAR stating:

“In section G.2, it shall be clearly confirmed whether any mitigation measures have been agreed to be monitored for the next monitoring period”.

As documented in Section B.1.1 of the Monitoring Report (MR), the PD has tracked and reported the three indicators specified in the following:

Sustainability Matrix No.1 indicator - To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is no carbon finance.

The PD monitors the break-even pricing of CWPs to ensure end users receive subsidized products, as documented in Break-Even Price /32/. This verification involved cross-checking with:

- Direct sale pricing (HSE_MP7-CP2-DS-Price /33/)
- Monitoring survey report /8/

Break-Even Price /32/ analysis reveals:

1. the average price for Original Tunsai (\$14.25) is much lower than the break-even price +10% profit margin (\$39.20).
2. the average price for Super Tunsai (\$39.34) is lower than the break-even price +10% profit margin (\$43.84),
3. the average price for Super Tunsai Plus (\$42.83) is lower than the break-even price +10% profit margin (\$45.03),
4. the average price for Tunsai Thom (41.14\$) is lower than the break-even price +10% profit margin (\$42.37)
5. the average price for Tunsai Thom Autofill (58.80\$) is a little bit higher than the break-even price +10% profit margin (\$55.72)

However, the weighted average price across all filters (36.82\$) remained below the target break-even price +10% (43.54\$). Monitoring Survey Report /8/ confirms these pricing levels comply with project requirements, demonstrating successful delivery of affordable filters to end users.

The verification team confirms the successful closure of this indicator of the FAR during the current MP.

Sustainability Matrix No.2 indicator - To address the concern of the place where the clay is taken, Hydrologic will buy the clay only from the licensed brick manufacturing factory that authorized by the Ministry of Industry and Handicraft.

During factory staff interviews, the verification team confirmed that the PD did not purchase additional clay during this monitoring period. This decision was made due to sufficient existing inventory from their 2018 purchase from a neighboring licensed brick factory. The Hydrologic factory is situated within a brick manufacturing zone, ensuring ready access to clay sources.

The factory's clay stock and procurement practices were physically verified during the VVB's site visit. The PD's clay supply chain remains stable and compliant with project requirements, with no need for additional purchases during this monitoring period.

The verification team confirms the successful closure of this indicator of the FAR during the current MP.

Sustainability Matrix No.3 indicator - To address the concern of corruption, the field Surveys will monitor and ask how much are people paying for the water filters and assess that the prices are not unreasonable. If the prices are unreasonable, PD shall investigate the reason and take appropriate action. PD believes that this risk is low because there are so many sales people that competition will keep the price low.

The monitoring survey report /8/ verifies that the mean purchase price for CWP (43.32\$) aligns with the current pricing (45\$) documented in "HSE_MP7-CP2-DS-Price" /33/. The verified pricing structure is determined to be reasonable and compliant with project standards.

3.3. Compliance of the project implementation with the registered project design document

Means of verification	During site visit, the verification team has performed document review and site visit audit to verify if: a) All physical features (technology, project equipment, and monitoring and metering equipment) of the registered GS4GG project activity are in place. b) The PP has operated the project as per the registered PDD. c) Information (data and variables) provided in the monitoring report that is different from that stated in the registered PDD, and has caused an increase in estimates of the emission reductions in the current monitoring period or is highly likely to increase the estimates of emission reductions in the future monitoring periods. By document review and stakeholder interview, the verification team: • Checked the sales database /17/ and project database /24/, sales invoices /18/; • Inspected the factory and production of CWP, checking the Certificate for factory operation /10/, CWP specifications /14/, and cross-checked them against the PDD /1/, monitoring plan /1/, and the monitoring report /2/;
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- Interviewed the representatives from PD, factory chief, end users and retailer representatives.
- Interviewed the office and factory staff responsible for the monitoring and implementation of the project;
- Reviewed the project webpage on the GS4GG website;

And below project implementation and verification summary are concluded, Distribution and Emission Reductions:

Cumulative CWP units sold to date: 586,531 (across multiple provinces in Cambodia), Units sold during current monitoring period (01/01/2024 to 30/11/2024): 31,945, Verified emission reductions achieved: 35,018 tCO₂e /3/ can be claimed as GS VER.

Data sources: Sales database /17/ and project database /24/

Project Consistency:

No significant operational deviations from the PDD observed, and verification details of PD's minor changes provided in respective sections.

Production, Manufacturing and Specifications:

HSE offered four product models before this monitoring period by checking the previous verification report. During the current monitoring period, based on market testing results, HSE introduced one more product named "Super Tunsai Plus" in the market, while maintaining identical technical specifications for all the products.

PD has provided detailed specifications along with picture of the 5 types of CWP in the MR section B.1. The technical parameters of the 5 types have been provided as below table.

Model	Original Tunsai
Filter Element Type	Ceramic Clay Pot
Filter Capacity (Volume)	Approx. 10 L
Filter Capacity (flow)	Typically – 2-4.5 L/Hr Typically – 30L/Day
Receptacle Type	Closed safe storage food grade plastic receptacle
Receptacle Storage Capacity (Volume)	Approx. 12 L
Spigot Type	Plastic
Plastic Type	Food Grade Polypropylene

Model	Super Tunsai	Super Tunsai Plus
Filter Element Type	Ceramic Clay Pot	Ceramic Clay Pot
Filter Capacity (Volume)	Approx. 10 L	Approx. 10 L
Filter Capacity (flow)	Typically – 2-4.5 L/Hr Typically – 30L/Day	Typically – 2-4.5 L/Hr Typically – 30L/Day
Receptacle Type	Closed safe storage food grade plastic receptacle	Closed safe storage food grade plastic receptacle
Receptacle Storage Capacity (Volume)	Approx. 14 L	Approx. 18 L
Spigot Type	Plastic	Plastic
Plastic Type	Food Grade Polypropylene	Food Grade Polypropylene
Model	Tunsai Thom	Tunsai Thom Autofill*
Filter Element Type	Ceramic Clay Pot	Ceramic Clay Pot
Filter Capacity (Volume)	Approx. 10 L	Approx. 10 L

Filter Capacity (flow)	Typically – 2-4.5 L/Hr Typically – 30L/Day	Typically – 2-4.5 L/Hr Typically – 30 L/Day
Receptacle Type	Closed safe storage food grade plastic receptacle	Closed safe storage food grade plastic receptacle
Receptacle Storage Capacity (Volume)	Approx. 18 L	Approx. 18 L
Spigot Type	Plastic	Plastic
Plastic Type	Food Grade Polypropylene	Food Grade Polypropylene

All five models share identical technical characteristics with variations solely in receptacle size and design, none of which impact the carbon reduction calculations. For carbon credit accounting purposes, since the ceramic pot in all four products processes the same water volume, they are collectively treated as a single product category in terms of sizing. These have been verified through CWP specifications /14/.

CCCI confirmed through factory site inspection and Certificate for factory operation /10/ checking. Technical specifications (including photographic evidence) have been provided in MR Section B.1. CWP specifications /14/ match reported CWP design.

Warranty and Maintenance:

Comprehensive 2-year warranty covers: replacement of damaged parts and complete unit replacement when necessary, the warranty terms is verified by CCCI through warranty cards /15/. End-user support includes detailed maintenance instructions and proper care guidelines. Finally, CCCI verified that the warranty and maintenance system enhance CWP lifespan through guaranteed part replacement.

The verification team assessed HSE's CWP sales through the following methods:

- Conducting site inspections and interviews with PD sales staff and retailer representatives.
- Reviewing the sales database /17/ and cross-referencing with relevant sales invoices /18/.

Based on this verification, the team confirmed that HSE distributes CWPs through three primary channels:

1. direct sales to end users conducted by its own sales team,
2. wholesale transactions with retail sales agents who then supply retailers and local intermediaries,
3. bulk sales to NGOs that generally offer the products to consumers at subsidized rates.

All interviewees confirmed these sales activities during the site visit. Additionally, CCCI confirmed that the sales channel details documented in the MR are accurate and reasonable.

Via site visit and comparing with the information in previous verification reports /5/, CCCI herewith confirms that the project implementation is consistent since the last periodical verification as mentioned in the PDD. There are no major obstructions or gaps noted during this monitoring period.

The actual sales and project operations are found in accordance with the descriptions provided in the PDD. There is no deviation / change evidenced during this monitoring period and there were no delays compared to

	information in approved project.
Findings	CL 01, CL 02 were raised
Conclusion	The verification team confirms that: ✓ all physical features of the project activity have been fully implemented in accordance with the registered PDD /1/ and the monitoring equipment was installed as described in the registered PDD /1/ except only some of the local residents haven't moved in yet, which is no need for heating supply in the 2023-2024 heating season; ✓ The actual operation of the GS4GG project activity is implemented as per the registered PDD /1/ by the PP; ✓ Information (data and variables) provided in the monitoring report is in accordance with that stated in the registered PDD /1/.

3.4. Post-registration changes

Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

No temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline were identified during the verification.

Corrections

No corrections to project information or parameters fixed at validation, as described in the registered PDD have been made.

Changes to the start date of the crediting period

There is no change to the start date of the second crediting period.

Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

Via checking the previous verification report, CCCI confirmed that there was a permanence change of the sources of leakage in the registered PDD in which PP used firewood to fuel the kilns to fire the ceramic pots. However, since last MP, HSE has transitioned from wood to LPG for kiln fuel in ceramic pot production, implementing this change as part of its production line improvements to enhance working conditions and reduce greenhouse gas emissions. While this fuel switch has resulted in lower GHG leakage emissions than originally projected, the impact remains immaterial since the PDD's certified design already accounted for negligible leakage emissions. The LPG kiln's preparation and installation were fully completed by January 2023, the LPG Kiln installation summary report has been verified by VVB /11/.

Changes to the project design of a registered project activity

As above assessment to the permanence change, CCCI confirmed that the project's transition from wood-fired to LPG-fired kilns has resulted in lower GHG leakage emissions than originally estimated. While this reduction has no material impact since the PDD-certified design already accounted for negligible leakage emissions, the project proponent maintains rigorous monitoring of LPG consumption for ceramic pot production. The corresponding GHG emissions from LPG combustion are systematically calculated and documented in the emission reduction calculation sheets for comprehensive tracking and reporting purposes.

3.5. Compliance of monitoring system applied by the project with the registered monitoring plan

Means of verification	By means of comparison of the MR with the applied CDM methodology and all applicable GS4GG guidelines, the verification team has checked whether the monitoring system is in compliance with the monitoring plan /1/ and related requirements of the applied methodology /41/, whether the sample plan conducted accordingly, the source and the applied value of the SDG monitored parameter is acceptable; whether the parameters monitored explain the operational and management structure, responsibilities and institutional arrangement for data collection/archiving, QA/QC procedures. The monitoring system applied by the project compliance with the registered monitoring plan is demonstrated as below: SDG Monitoring parameters (1) Total distributed water purifier (CWP) units $T_{p,y}$. (2) Weighted average usage rate, $U_{p,y}$. (3) Water quality passing rate of water quality standard (WHO standard) per year, $WQ_{Passed,y}$; (4) Number of people attends the meeting in which Hygiene issue were explained, Hygiene Campaigns; (5) Number of person.days consuming water supplied by project scenario p through year y, $N_{p,y}$; (6) Quantity of purified water consumed in the project scenario p per person per day, $Q_{p,y}$; (7) The raw or unsafe water that is still boiled after installation of the CWP, $Q_{p,rawboil,y}$; (8) Quantity of safe water (treated or from safe supply) boiled in the project scenario p, after installation of the CWP, $Q_{p,cleannoil,y}$; (9) Average percentage of women and girls per household who use CWP, $Women\%_{HH}$. (10) Average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWPs, $Women\%$. (11) % of households notice that their kitchen is less smoke, $N_{Less_smoke,y}$; (12) Percentage of Traditional Stove Users with wood in the project scenario, <i>% of Traditional Stove Users with wood in the project scenario</i>; (13) Percentage of Improved Stove Users with wood in the project scenario, <i>% of Improved Stove Users with wood in the project scenario</i>; (14) Percentage of Traditional Stove Users with charcoal in the project scenario, <i>% of Traditional Stove Users with charcoal in the project scenario</i>; (15) Percentage of Improved Stove Users with charcoal in the project scenario, <i>% of Improved Stove Users with charcoal in the project scenario</i>;
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	(16) Percentage of LPG stove usage in the project scenario, <i>% of LPG stove usage in the project scenario</i>; (17) Percentage of small LPG stove usage in the project scenario, <i>% of Small LPG stove usage in the project scenario</i>; (18) Percentage of large LPG stove usage in the project scenario, <i>% of Large LPG stove usage in the project scenario</i>; (19) Leakage emissions for project scenario p during year y, $LE_{p,y}$; (20) Total amount of biomass fuel saves; (21) Total amount of LPG saves; (22) Percentage of household noted on money save after using the project technology; (23) Percentage of household noted on time save after using the project technology; (24) Number of people using CWP and note that their kitchen is less smoke; (25) The number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel; (26) Number of people with access to safe drinking water; (27) Amount of energy saved from avoiding boiling water; (28) Number of new job created by the project with safe and healthy work environment; (29) Amount of ER; (30) Area of forest save. It is confirmed that all the monitoring parameters listed in the PDD have been provided in the MR corresponding to each SDG impact. Refer to below section for detail assessment of each monitoring parameter. Furthermore, for monitoring parameters $Q_{P,y}$, $Q_{P,rawboil,y}$, $Q_{P,leanboil,y}$, $W_{Q,Passed,y}$, $N_{p,y}$, $U_{p,y}$, $W_{b,y,LPG(large)}$, $W_{p,y,LPG(large)}$ and $W_{b,y,WEIGHTED,LPG}$, PD has conducted related sampling method including Project Survey (PS), Water Consumption Field Test (WCFT), Baseline Water Boiling test (BWBT) and Usage Survey (US) which is in line with sampling plan in the PDD and applied methodology. Refer to below section 3.8 for detail assessment of the sampling method taken in this monitoring period. Ongoing monitoring studies a) Usage survey (US) PD has established a US sample size of 100, consistent with both the PDD's usage survey requirements (specifying a minimum total sample size of 100, including at least 30 samples per credited project technology age) and methodology stipulation /41/. Representative sampling techniques were applied to select end-users for the project survey,
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	ensuring proper representation across different technology ages. Verification confirmed compliance with methodology requirements during this monitoring period, as evidenced by the sampling frame /23/ and monitoring survey report /8/, which show a total sample size of 192 (exceeding 30 samples per age group). To achieve representative sampling while maintaining fieldwork efficiency, PD implemented a clustered random selection approach across provincial, village, and household levels. Review of the sampling method documented in the monitoring framework /23/ and survey report /8/ confirmed alignment with both the PDD sampling plan /1/ and methodology requirements /41/. CCCI's examination of all sampling records validated the reasonableness of the monitored parameters derived from the survey results for this reporting period. b) Leakage According to applied methodology /41/, leakage emissions must be accounted for if the project activity involves fossil fuel use under the Project Scenario. In compliance with this requirement, the PD has accounted for LPG, diesel and gasoline consumption. The inputs for leakage emission calculations are derived from purchase records for LPG, diesel, and gasoline /28/, which have been verified as consistent with the Monitoring Plan. c) Water quality testing The verification team confirmed, by reviewing the updated "Application of TPDDTEC Methodology to Safe Water Supply Projects" (30/06/2022) /42/, that Section 2.2.2 allows projects applying Annex 3 of TPDDTEC to adopt the "Water quality testing" requirements under parameter SDWS 18 from the "Methodology for Emission Reductions from Safe Drinking Water Supply v1.0," which mandates annual testing. PD has opted for this annual water quality testing approach and thus complies with all associated requirements and limitations for SDWS 18 as per the referenced methodology /43/. For this monitoring period, PD conducted water quality testing annually between 13/02/2024 and 27/02/2024, adhering to the prescribed monitoring frequency. A sample size of 45 (exceeding the minimum requirement of 30 per methodology /43/)/27/ was collected, satisfying the 90/10 rule defined in the water quality test protocol /26/, ensuring results with at least 90% confidence and a $\pm 10\%$ margin of error. Review of the sampling method in the water quality test protocol /26/ confirmed alignment with both the TPDDTEC application guidelines /42/ and SDWS 18 requirements in the safe water supply methodology /43/. d) Hygiene campaign and survey PD integrated general hygiene campaigns into sales meetings and supplemented these efforts with hygiene surveys alongside project and usage surveys /8/. Verification of the Hygiene Campaign Presentation Table /36/, CCCI confirmed 104,774 participants during this monitoring period, while cross-checking with the monitoring survey report /8/ validated the simultaneous execution of hygiene surveys. The survey results demonstrated that all respondents recognized handwashing
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before eating/drinking as somewhat or very important, with findings confirmed as both reasonable and credible.

Monitoring framework

The MR contains a table illustrating the Organization Structure of the Monitoring Team being implemented by the project owner in order to implement the project activity which is confirmed consistent with the PDD and monitoring flow chart /22/. The Hydrologic team are responsible for the providing project database serve as sample frame for the survey, recording sale data and recording the customer database or project database for this monitoring period. And all the data was reviewed by the Carbon expert (Nexus consultant). Besides, a consultant firm (third party /62/) is responsible for conducting field survey and field test. The organizational structure is considered sufficient to fulfil the monitoring requirements of the methodology and ensure that emission reductions verified for this monitoring period.

Operation and maintenance of CWP

The verification team's factory inspection confirmed that each purchased CWP kit contains a cleaning brush for ceramic pots along with the user manual to facilitate proper use and maintenance by end users. Examination of warranty cards /15/ in the CWP kits verified the established after-sales service strategy, while on-site interviews with end users and field staff demonstrated consistent implementation of after-sales services by all field personnel.

Maintenance of a Total Sales Record - Verification of Sales and Project Data Management

PD has established and maintained both the sales database tracking CWP distribution and the project database containing end-user information. This verification process conducted by CCCI included:

Sales Data Verification

- The sales database /17/ contains complete records of all CWPs sold/distributed
- Verification was performed through cross-checking with sampled sales invoices /18/

All relevant CWP information was confirmed to be properly recorded.

End-User Data Verification

The project database /24/ maintains comprehensive end-user records, it contains verified contact details for all registered users. As of 30/06/2024, the database includes 94,965 end users aged 1-7 years. Hence, the dataset is complete and suitable for random sampling applications.

CCCI conducted:

- On-site inspections
- Interviews with:
 - PD staff

- Sampled end-users
- Retailer representatives

- Review of the data management system documented in MR

CCCI confirms that PD has provided a complete and accurate description of project data management, maintained verifiable records of water purifier sales and established systems that are actual, correct, and properly documented.

Quality Assurance and Quality Control

The related QA/QC procedure has been conducted by PD for the monitoring process including data verification and cross check by monitoring team and project owner which has been verified by checking the related records, survey reports and training records /37/.

It is confirmed that the QA/QC procedure has been implemented by PD properly during this monitoring period and the data management is confirmed as effective.

Non-Double counting assessment

The verification team has checked for double counting by reviewing all relevant registries that could hold emission reductions from the project activity, such as CDM (<http://cdm.unfccc.int>), VCS (<https://verra.org/>), IREC (<https://www.trackingstandard.org/>), ICAP (<https://icapcarbonaction.com/zh/>), GCC (<https://projects.globalcarboncouncil.com/>) and confirmed the project has not been registered as CDM, VCS, GCC, IREC project or under other voluntary carbon crediting scheme.

Additionally, each CWP has uniquely identifiable and traceable serial number kept by PD in the Serial number database /25/. During site visit, the verifier conducted a thorough review of the database /25/, cross-referencing all entries with previous monitoring period records. The examination confirmed no duplication of serial numbers across all distributed water filters. This unique identification system enables the PD to trace any individual filter back to its specific production details.

Besides, the water filter design provided by the PD features unique physical characteristics that differentiate it clearly from other commercially available water filters in the market in Cambodia.

Furthermore, the on-site observations at the HSE CWP production facility revealed that:

- Each manufactured water filter bears the company's distinctive brand marking for easy visual identification

	Field verification of sampled units confirmed that every device cover contains an exclusive sales number for tracking purposes This comprehensive identification system ensures complete traceability of all distributed water filters. As a result, these emissions reductions cannot be claimed under any other voluntary market or emission reduction mechanism. The verification team has confirmed that there is no risk of double counting for the Gold Standard Verified Emission Reductions (VERs) or CO₂ certificates issued during this monitoring period. Finally, through an examination of the "Declaration of No Double Counting" /38/, the verification team has confirmed that the emission reductions from this project were not double counted during this monitoring period. In conclusion, the MP is completely in accordance with the approved methodology applied by the GS project and PDD.
Findings	CAR 01 and CAR 02 were raised.
Conclusion	The verification team confirms that: ✓ the monitoring system including data and parameters which are required to be monitored, monitoring and reporting procedures, measuring instruments, QA/QC procedures, all complies with the applied monitoring methodology and monitoring plan in the registered PDD /1/.

3.6. Compliance of monitoring activities with the registered monitoring plan

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

Data/parameter	$f_{NRB,y}$
Value	30%
Source	Default value of CDM Tool 33 version 2.0 /47/
Means of verification	Confirmed as in line with the GS requirement. For this monitoring period, PD applied an f_{NRB} value of 30%, derived from the CDM Tool 33 version 2.0 /47/. Verification confirmed that TPDDTEC V3.0 permits f_{NRB} to be fixed during baseline studies for a given crediting period, with updates allowed when necessary. Starting with CP2-MP4, PD reassessed available data for an f_{NRB} update in accordance with methodology requirements. The validated value of 95.01% which was cross-referenced with GS case 751 /64/ confirmed GS's approval of this updated Cambodian f_{NRB} value. However, via checking the performance review by GS for the CP2-MP6 verification /65/, CCCI confirmed that PD has updated the f_{NRB} calculation using the latest data from source of "Biomass Non-Renewability Assessment Cambodia" while the value is calculated as 92.97%. While for this MP, as confirmed by PD, they voluntarily reduced the f_{NRB} value from 92.97% to 30% which is a default value of CDM Tool 33 version 2.0 /47/ which is much lower and more conservative than that of 95.01% or 92.97% used in previous MPs. This prudent adjustment acts as an interim measure before implementing the revised f_{NRB} value in the subsequent monitoring period (CP3-MP1), following the the f_{NRB} Application Rule Update for GS4GG Certification /44/ which is published on 24/04/2025. The f_{NRB} Application for GS4GG Certification /44/ has been checked and the default value from CDM Tool 33 version 2.0 is verified as applicable and conservative for this monitoring period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters updated as per GS requirement have been sufficiently and correctly listed.

Data/parameter	$f_{ff,b,y}$
Value	100%
Source	AMS-III.AV Version 5 /46/
Means of verification	Confirmed as in line with the PDD /1/. Fraction of non-renewable fuel for fossil fuels (LPG) of 100% derived is from default value in AMS-III.AV, Version 5 /46/
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$NCV_{b,wood} / NCV_{p,wood}$
Value	0.015 TJ/ton
Source	IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 1, Introduction, Table 1.2, p1.19. /66/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the IPCC default value /66/

Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	NCV_{b,LPG} / NCV_{p,LPG}
Value	0.047 TJ/ton
Source	IPCC (2006) "IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 1, Introduction, Table 1.2, p 1.18. /66/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the IPCC default value /66/
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	Wood to charcoal conversion factor
Value	6
Source	AMS-II.G. /45/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the AMS-II.G. default value /45/
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	EF_{b,wood,CO2} / EF_{p,wood,CO2}
Value	112.00 tCO ₂ /TJ
Source	IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 /66/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the IPCC default value /66/
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2}
Value	9.46 tCO ₂ /TJ ((CH ₄ = 0.3 tCO ₂ e/TJ * GWP 28) + (N ₂ O=0.004 tCO ₂ e/TJ * GWP 265))
Source	- For wood emission CH ₄ /N ₂ O: IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 /66/ - For GWP: RULE UPDATE dated on 03/06/2021: Applicability of global warming potential for gold standard for the global goals project based on AR5 /67/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the IPCC and AR5 default value /66/, /67/
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	EF_{b,LPG,CO2} / EF_{p,LPG,CO2}
Value	63.1 tCO ₂ /TJ

Source	IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 /66/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the IPCC default value /66/
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	EF_{b,LPG,non-CO2} / EF_{p,LPG,non-CO2}
Value	0.1665 tCO ₂ /TJ ((CH ₄ =0.005 tCO ₂ e/TJ *GWP 28) + (N ₂ O=0.0001 tCO ₂ e/TJ *GWP 265))
Source	- For wood emission CH ₄ /N ₂ O: IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 /66/ - For GWP: RULE UPDATE dated on 03/06/2021: Applicability of global warming potential for gold standard for the global goals project based on AR5 /67/
Means of verification	Source is confirmed as in line with the PDD /1/ The value is verified in line with the IPCC and AR5 default value /66/, /67/. However, CCCI verified that this value is minimal comparing with the value of EF _{b,LPG,CO2} /EF _{p,LPG,CO2} which is deemed negligible in the ER calculation. As a result, it is set to zero in the ER calculation for simplicity.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	X_{boil}
Value	5.8%
Source	Approved 2 nd Crediting Period PDD, Baseline Report /13/ and C _j & X _{boil} calculation sheet /16/
Means of verification	PD has utilized a value to represent premises that would have adopted non-GHG emitting technologies such as chlorine treatment (where available) in the absence of the project activity, as documented in the 2017 Baseline Report /13/ and supported by the C _j & X _{boil} calculation sheet /16/. This figure, derived from survey findings summarized in the report's executive summary, has been verified as both conservative and valid for application.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	C_j
Value	25.97%
Source	Approved 2 nd Crediting Period PDD, Baseline Report /13/ and C _j & X _{boil} calculation sheet /16/
Means of verification	PD has utilized a value to represent a fraction / portion of users of the project technology who were in baseline scenario already using safe drinking water without boiling it, as documented in the 2017 Baseline Report /13/ and supported by the C _j & X _{boil} calculation sheet

	/16/. This figure, derived from survey findings summarized in the report's executive summary, has been verified as both conservative and valid for application.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,TRAD,wood}$ $W_{p,y,TRAD,wood}$
Value	-300.38 grams /liter -300.38 grams /liter
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and HSE(2019)_MonitoringSurvey_V6Final, Table 54 /19/
Means of verification	PD has applied a value of 300.38 g/l for this monitoring period, selecting "Option 2" from the Rule Update - Application of TPDDTEC Methodology to Safe Water Supply Projects (30/06/2022) /42/ to determine $W_{b,y,TRAD,wood}$ and $W_{p,y,TRAD,wood}$ through field testing. The Baseline Water Boiling Test (BWBT) was conducted to measure fuel consumption per liter of purified water. Since BWBT values are not updated during this monitoring period, PD utilized the value from HSE (2019) MonitoringSurvey_V6Final, Table 54 /19/ in the monitoring report, confirming the accuracy of the updated value for this period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,TRAD,charcoal}$ $W_{p,y,TRAD,charcoal}$
Value	-125.00 grams /liter (capped value) -125.00 grams /liter (capped value)
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and HSE(2019)_MonitoringSurvey_V6Final, Table 54 /19/
Means of verification	PD has applied a value of 125.00 g/l for this monitoring period, selecting "Option 2" from the Rule Update - Application of TPDDTEC Methodology to Safe Water Supply Projects (30/06/2022) /42/ to determine $W_{b,y,TRAD,charcoal}$ and $W_{p,y,TRAD,charcoal}$ through field testing. The Baseline Water Boiling Test (BWBT) was conducted to measure fuel consumption per liter of purified water. Since BWBT values are not updated during this monitoring period, PD utilized the value from HSE (2019) MonitoringSurvey_V6Final, Table 54 /19/ in the monitoring report, confirming the accuracy of the updated value for this period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,IMP,wood}$ $W_{p,y,IMP,wood}$
Value	-357.7 grams /liter

	-357.7 grams /liter
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and HSE(2019)_MonitoringSurvey_V6Final, Table 54 /19/
Means of verification	PD has applied a value of 357.7 g/l for this monitoring period, selecting "Option 2" from the Rule Update - Application of TPDDTEC Methodology to Safe Water Supply Projects (30/06/2022) /42/ to determine $W_{b,y,IMP,wood}$ and $W_{p,y,IMP,wood}$ through field testing. The Baseline Water Boiling Test (BWBT) was conducted to measure fuel consumption per liter of purified water. Since BWBT values are not updated during this monitoring period, PD utilized the value from HSE (2019) MonitoringSurvey_V6Final, Table 54 /19/ in the monitoring report, confirming the accuracy of the updated value for this period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,IMP,charcoal}$ $W_{p,y,IMP,charcoal}$
Value	-125.00 grams /liter (capped value) -125.00 grams /liter (capped value)
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and HSE(2019)_MonitoringSurvey_V6Final, Table 54 /19/
Means of verification	PD has applied a value of 125 g/l for this monitoring period, selecting "Option 2" from the Rule Update - Application of TPDDTEC Methodology to Safe Water Supply Projects (30/06/2022) /42/ to determine $W_{b,y,IMP,charcoal}$ and $W_{p,y,IMP,charcoal}$ through field testing. The Baseline Water Boiling Test (BWBT) was conducted to measure fuel consumption per liter of purified water, yielding a calculated value of 179.8g/l from HSE(2019) MonitoringSurvey_V6Final, Table 54 /19/. However, as BWBT values are not updated during this monitoring period and the Rule Update /42/ imposes a cap of 125 g/l, PD has properly applied this capped value in the monitoring report, confirming its accuracy for this period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,LPG(small)}$ $W_{p,y,LPG(small)}$
Value	-30.00 grams /liter -30.00 grams /liter
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and HSE(2019)_MonitoringSurvey_V6Final, Table 54 /19/
Means of verification	PD has applied a value of 30 g/l for this monitoring period, selecting "Option 2" from the Rule Update - Application of TPDDTEC Methodology to Safe Water Supply Projects (30/06/2022) /42/ to determine $W_{b,y,LPG(small)}$ and $W_{p,y,LPG(small)}$ through field testing.

	The Baseline Water Boiling Test determined fuel consumption per liter of purified water, with the HSE(2019) MonitoringSurvey_V6Final (Table 54 /19/) yielding 31.2g/l. However, per requirement to maintain existing BWBT values during this monitoring period and the Rule Update (30/06/2022) /42/s 30g/l cap, PD properly applied this regulatory maximum in the monitoring report, confirming the value's appropriateness for this period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,LPG(large)}$ $W_{p,y,LPG(large)}$
Value	-15.11 grams /liter -15.11 grams /liter
Source	HSE_CP2-MP1_ER calculation sheet /20/
Means of verification	PD has implemented a value of 15.11 grams/liter for this monitoring period, derived through theoretical calculation since safety considerations preclude BWBT protocol measurement. The calculation follows: LPG quantity (tonnes/liter) = $SEC/[NCV_LPG \times Conversion\ factor\ (TJ\ to\ kJ)]$, where SEC (714.96 kJ/L) is determined per CDM methodology AMS-III.AV Version 5 $[4.186\ kJ/L^{\circ}C \times (100^{\circ}C - 20^{\circ}C) + 0.01 \times 2260\ kJ/L]/0.5$. This yields $714.96\ kJ/L \div (0.047\ TJ/tonne \times 10^9) = 0.00001511\ tonnes/liter$ (15.11 g/l) - notably more conservative than the field-tested 31.2 g/l value. The verification confirms both the calculation's accuracy and the parameter's conservative nature, warranting acceptance.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,WEIGHTED,wood}$
Value	0.000211 t
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and Baseline Survey /13/
Means of verification	PD has applied a value of 0.000211 tonnes for this monitoring period, calculated using the weighted average formula: $W_{b,y,WEIGHTED,wood} = (W_{wood_traditional} \times \%_{traditional_stove_usage}) + (W_{wood_improved} \times \%_{improved_stove_usage})$, where W_{wood} values are sourced from relevant tables and stove usage percentages are derived from the baseline survey /13/. This computation method ensures accurate representation of baseline wood consumption across different stove types.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	% of Traditional Stove Users with wood in the baseline
Value	56.93%
Source	Baseline Survey /13/

Means of verification	The percentage of traditional stove users utilizing wood in the baseline scenario is sourced from the validated 2017 baseline survey /13/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	% of Improved Stove Users with wood in the baseline
Value	11.26%
Source	Baseline Survey /13/
Means of verification	The percentage of improved stove users utilizing wood in the baseline scenario is sourced from the validated 2017 baseline survey /13/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,WEIGHTED,charcoal}$
Value	0.000008 t
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/ and Baseline Survey /13/
Means of verification	PD has applied a value of 0.000008 tonnes for this monitoring period, calculated using the weighted average formula: $W_{Charcoal}$ required to boil 1 litre of water with traditional.stove * %stove usage in baseline scenario + $W_{Charcoal}$ required to boil 1 litre of water with improved.stove * %stove usage in baseline scenario = $W_{b,y,WEIGHTED,charcoal}$, where $W_{charcoal}$ values are sourced from relevant tables and stove usage percentages are derived from the baseline survey /13/. This computation method ensures accurate representation of baseline charcoal consumption across different stove types.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	% of Traditional Stove Users with charcoal in the baseline
Value	5.19%
Source	Baseline Survey /13/
Means of verification	The percentage of traditional stove users utilizing charcoal in the baseline scenario is sourced from the validated 2017 baseline survey /13/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	% of Improved Stove Users with charcoal in the baseline
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Value	0.87%
Source	Baseline Survey /13/
Means of verification	The percentage of improved stove users utilizing charcoal in the baseline scenario is sourced from the validated 2017 baseline survey /13/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	$W_{b,y,WEIGHTED,LPG}$
Value	0.0000043 t
Source	Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 30/06/2022 /42/, Baseline Water Boiling Test in HSE(2019)MonitoringSurvey_V6Final /19/, and Baseline Survey /13/
Means of verification	PD has applied a value of 0.0000043 tonnes for this monitoring period, calculated using the weighted formula: $W_{LPG \text{ required to boil 1 litre of water with Small LPG stove}} * \% \text{ of small LPG stove usage in project scenario} + W_{LPG \text{ required to boil 1 litre of water with Large LPG stove}} * \% \text{ of Large LPG stove usage in project scenario} = W_{b,y,LPG}$ where: $W_{b,y,LPG(small)}$ and $W_{b,y,LPG(Large)}$ are derived from HSE(2019)_MonitoringSurvey_V6Final /19/ and comply with the Rule Update (30/06/2022) /42/ - Stove distribution percentages (%small/%large) are sourced from Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final /19/ - The baseline LPG stove adoption rate is taken from the validated 2017 baseline survey /13/. This methodology ensures a conservative and technically sound calculation aligned with monitoring requirements.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	% of LPG stove in the baseline scenario
Value	19.91%
Source	Baseline Survey /13/
Means of verification	The percentage of LPG stove users utilizing LPG in the baseline scenario is sourced from the validated 2017 baseline survey /13/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	% of small LPG stove usage in baseline scenario
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Value	44%
Source	Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final /19/
Means of verification	The percentage of small LPG stove usage in the baseline scenario is sourced from the validated Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final /19/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	<i>% of large LPG stove usage in baseline scenario</i>
Value	56%
Source	Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final /19/
Means of verification	The percentage of large LPG stove usage in the baseline scenario is sourced from the validated Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final /19/, with its accuracy confirmed during the project's validation process. This established parameter serves as a reliable input for the current monitoring calculations.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data/parameter	Growth stock in forest in Cambodia
Value	162.15 t/ha
Source	Global Forest Resources Assessment 2015 /51/ and IPCC 2006 /66/
Means of verification	The calculation of 162.15 t/ha is derived by multiplying Cambodia's forest growing stock (94 m ³ /ha, sourced from Table 13 of the Global Forest Resources Assessment 2015 /51/) by the wood density conversion factor (1.725 t/m ³ , per Chapter 3 of the IPCC 2006 LUCF Good Practice Guidance /66/). This computation methodology has been verified as both technically sound and properly referenced, confirming the value's accuracy and appropriateness for application. The verification team therefore accepts the PD's calculated figure as valid for this monitoring period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently and correctly listed.

Data and parameters monitored

Relevant SDG Indicator/Safeguarding Principle	SDG 1.1.1 SDG 13.3.1
Data/parameter	$T_{p,y}$
Unit	CWPs
Description	Total distributed water purifier (CWP) units
Value applied for this monitoring period	31,945 units (number of units sold during CP2-MP7) 586,531 units (cumulative units sold up to 30/11/2024) 156,304 units (cumulatively credited units over CP2-MP7)
Source of data	Sales databases /17/
Measuring /Reading /Recording frequency	Monthly
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured monthly. The verification team reviewed the Sales databases /17/, confirmed that the monitoring was conducted monthly and continuously as required by the monitoring plan /1/. Data generation and recording: The parameter $T_{p,y}$ is calculated using data extracted from the sales database /17/. The total distributed water purifier (CWP) units were determined by compiling and analyzing records from these sales database /17/. The PD has implemented a systematic mechanism to routinely capture sales data for distributed CWPs. Inputs to the sales databases are sourced from three distinct sales channels, and data from these channels is periodically compiled and documented in the sales databases /17/. Through a review of the sales databases /17/. CCC verified that the recorded sales figures are traceable and internally consistent. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: - Sales databases /17/ - Sales invoice of CWP /18/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: The sales invoices for CWP /18/ were utilized for cross-verification. A review of these invoices confirmed that all mandatory data fields - including sale date, geographic sales area, model/type of the project technology sold, mode of use, quantity of units sold, and customer details (name, address, and telephone number) are fully

	documented in the invoices for direct sales, retail sales and NGO sales. Additionally, by cross-referencing records in the sales database /17/ with a sampled subset of CWP sales invoices /18/, CCCI verified consistency in the reported number of sold CWPs across all sales transactions. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled Sales invoice to check sales information in database, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG6.1.1 SDG13.3.1
Data/parameter	$U_{p,y}$
Unit	%
Description	Weighted average usage rate
Value applied for this monitoring period	80.76
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the Usage survey (US) in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Usage Survey (US) was conducted to determine the value of $U_{p,y}$, which is derived from the usage survey results documented in the Monitoring survey report /8/. This value represents the weighted average usage rate for each age group of CWPs during the current monitoring period. In accordance with the PDD and methodology requirement /41/, the PD selected a sample size of 186 for the US. This aligns with the PDD's stipulation of a minimum total sample size of 100 for Usage Surveys, including at least 30 samples per credited age group of

project technologies. To ensure representative coverage of users across different technology ages, end-users were selected using stratified sampling techniques.

For this monitoring period, the verification team reviewed the sampling plan /1/ and Monitoring survey report /8/, confirming compliance with methodological requirements. Specifically, the total sample size of 186 (distributed across 5 age groups, each exceeding 30 samples) adheres to the mandate of “a minimum total sample size of 100, with at least 30 samples per credited age group.”

The sampling method has been assessed in section 3.8 of this report.

The Usage Survey was administered using questionnaires /9/ designed to comprehensively address all topics specified in updated Gold Standard “Guidelines for carrying out usage surveys for projects implementing household water filtration technologies – 05/02/2014” /48/. The related data was collected by using a computer-assisted personal interview (CAPI) developed by the World Bank recorded and analyzed in a statistic software “SPSS”.

The derived value integrates data from US which was executed by third-party survey agency (ACS consulting company), capturing inputs from 186 end users within the project area. Results consolidated and summarized in the Monitoring survey report /8/.

The PD calculated the final usage rate based on the combined outcomes of these surveys, as documented in the Monitoring survey report /8/.

CCCI verified compliance of the sampling methodology with both the methodology requirement /41/ and the PDD. By reviewing all sampling records and cross-checking the MR, CCCI confirmed that the survey results are methodologically sound for determining monitored parameters during this period. The reported value in the MR is accurate and validated.

The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents:

- Monitoring survey report /8/
- Original project survey questionnaires /9/

QA/QC procedures applied:

QA/QC procedure was verified via interviews with key personnels and review of following documents:

The value is derived from measurements and calculations based on the US. To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 186 end users within the project area.

The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/.

	As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG3.9.1 SDG6.1.1 SDG13.3.1
Data/parameter	WQ_{Passed,y}
Unit	%
Description	Water quality passing rate of water quality standard (WHO standard) per year
Value applied for this monitoring period	93.33%
Source of data	Water quality test report/27/
Measuring /Reading /Recording frequency	Annually In line with the Rule update- Application of TPDDTEC methodology to safe water supply projects released on 30/06/2022 /42/
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be Annually sampling. The verification team reviewed the Water quality test report/27/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: PD has established a water quality testing sample size of 45 units in 2024, in accordance with the requirements specified in Rule update- Application of TPDDTEC methodology to safe water supply projects released on 30/06/2022 /42/. The selection of these samples was performed through a randomized sampling process and sending these samples to the third-party laboratory. The WQ_{Passed,y} values were laboratory-tested by Institut Pasteur du Cambodge /63/ during the monitoring period/27/. PD developed a dedicated Water Quality Test Protocol /26/ outlining standardized procedures for sampling methodology, sample collection/storage protocols, test analysis, and reporting. Verification confirmed full compliance between the Water Quality Test Report/27/ and the Rule Update (30/06/2022) /42/, demonstrating proper adherence to monitoring requirements.

	Test results were benchmarked against WHO standards /52/, with 93.33% of samples (42 out of 45) meeting prescribed quality thresholds. The sample size of 45 exceeds the minimum 30-sample requirement per Rule Update (30/06/2022) /42/ and satisfies the 90/10 confidence rule (90% confidence level, $\pm 10\%$ margin of error) as defined in Protocol/25/. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Water quality test report/27/ • Water Quality Test Protocol /26/ • Certificate of Laboratory /63/ QA/QC procedure applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: • 42 out of 45 water samples met WHO standard (due to there is no national standard for water quality from household water treatment technology in Cambodia) /52/ (per lab reports/27/) • The testing laboratory is a qualified third-party has high Quality Management System and commit to accreditation ISO/IEC 17025:2017 /63/, complying with PDD /1/ and methodology /41/ specifications • Reported water quality values derived from Water quality test report/27/ for this monitoring period are validated as correct through cross-checking with laboratory records/27/ • Project water quality testing is performed solely in laboratory environments (per above evaluation), with no field testing conducted or required. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	N/A
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG3.9.1 SDG6.1.1 SDG13.3.1
Data/parameter	Hygiene Campaigns
Unit	Number of people
Description	Number of people attends the meeting in which Hygiene issue were explained
Value applied for this monitoring period	104,774

Source of data	Hygiene Campaign Presentation Table /36/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team checked the “Hygiene Campaign Presentation Table /36/ and the last verification report /5/, confirmed that the monitoring frequency were annually as required by the monitoring plan /1/. Data generation and recording: The reported value of 104,774 hygiene campaign participants is sourced from the Hygiene Campaign Presentation Table /36/, with verification confirming its accuracy. Cross-referencing with the Monitoring Survey Report /8/ validated that the hygiene survey was conducted alongside project and usage surveys, demonstrating full alignment with monitoring protocols. Survey results confirmed 100% respondent awareness of the importance of handwashing before eating/drinking, with findings verified as statistically reliable and credible for this monitoring period. The verification team concludes that the hygiene campaign metrics and survey outcomes are accurate, conservatively reported, and compliant with monitoring requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Hygiene Campaign Presentation Table /36/ • Monitoring Survey Report /8/ QA/QC procedures applied: QA/QC procedures was verified via interviews with key personnels and review of following documents: Monitoring data indicates an anticipated upward trend in households achieving hygiene requirements, attributable to the ongoing hygiene education initiatives. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG3.9.1 SDG6.1.1 SDG13.3.1
Data/parameter	<i>N_{P,y}</i>

Unit	Person.days
Description	Number of person.days consuming water supplied by project scenario p through year y.
Value applied for this monitoring period	1,597.95
Source of data	Water Consumption Field Test (WCFT) result in the Monitoring Survey Report /8/
Measuring /Reading /Recording frequency	Before first verification of each crediting period and every two years for the sequential monitoring period
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured every two years. The verification team reviewed the WCFT in Monitoring survey report /8/ and the previous verification reports /5/, confirmed that the monitoring was conducted every two years as required by the monitoring plan /1/. Data generation and recording: The calculation of 1,597.95 person-days per unit is derived from: 365 days × 1 unit/household × 4.77 persons/household/day, where the 4.77-person average is determined through a WCFT verified in Report /8/. The WCFT, conducted with end-users representative of the project's target population, measures clean water consumption and boiling practices, aligning with PDD Sampling plan /1/ and Methodology /41/ requirements. A sample size of 123 was used for the WCFT, falling within TPDDTEC 3.0's recommended range (101–137 samples) and complying with the 90/10 confidence rule (≤10% margin of error at 90% confidence) per Sample Calculation in the sampling frame /23/. Detailed sampling methodology is assessed in Sections 3.8. The 4.77-user/CWP value, sourced from Monitoring Survey Report /8/, has been verified as methodologically robust, statistically representative, and compliant with project monitoring standards. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Sampling frame /23/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: The value is derived from measurements and calculations based on the WCFT. To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 123 end users within the project area.

	The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	$Q_{p,y}$
Unit	Litres/person/day
Description	Quantity of purified water consumed in the project scenario p per person per day
Value applied for this monitoring period	1.69
Source of data	Water Consumption Field Test (WCFT) result in the Monitoring Survey Report /8/
Measuring /Reading /Recording frequency	Before first verification of each crediting period and every two years for the sequential monitoring period
Monitoring equipment with calibration information	Analog scale The calibration protocol requires verification before each new WCFT cycle, with scales calibrated to $\pm 2g$ accuracy using certified standard weights. In compliance with the PDD's monitoring plan /1/, PD implemented the "ACS_HSE-Calibration&Inventory_2024_EN" procedure for equipment management. Verification of document /40/ confirmed all testing equipment was properly calibrated and remained within validity periods during actual field use, demonstrating full adherence to the prescribed quality control measures for water consumption measurements. The calibration records /40/ show proper maintenance of measurement accuracy throughout the monitoring period.
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured every two years. The verification team reviewed the WCFT in Monitoring survey report /8/ and the previous verification reports /5/, confirmed that the monitoring was conducted every two years as required by the monitoring plan /1/. Data generation and recording: The parameter $Q_{p,y}$ (1.69 liters/person/day) was calculated from the WCFT result as documented in the Monitoring Survey Report /8/. The WCFT measured actual clean water consumption from project-distributed CWP's among representative end-users, ensuring alignment with PDD Sampling plan /1/ and Methodology /41/ requirements.

	Verification confirmed that the sample size of 123 meets TPDDTEC 3.0's range (101–137) and satisfies the 90/10 confidence rule ($\leq 10\%$ margin of error at 90% confidence) Sample Calculation in the sampling frame /23/. Detailed sampling methodology is assessed in Sections 3.8. 1.69 L/person/day is derived from empirical field data in Report /8/, verified as statistically robust and methodologically sound. The value reflects real usage patterns and adheres to monitoring protocol /21/. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • WCFT Protocol /21/ • Original project survey questionnaires /9/ • ACS_HSE-Calibration&Inventory_2024_EN /40/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: The value is derived from measurements and calculations based on the WCFT. To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured the results by weight the water consumption per day during the tests were collected over a four-day period from 123 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	$Q_{p,rawboil,y}$
Unit	Litres/person/day
Description	The raw or unsafe water that is still boiled after installation of the CWP
Value applied for this monitoring period	0.31
Source of data	Water Consumption Field Test (WCFT) result in the Monitoring Survey Report /8/

Measuring /Reading /Recording frequency	Before first verification of each crediting period and every two years for the sequential monitoring period
Monitoring equipment with calibration information	Analog scale The calibration protocol requires verification before each new WCFT cycle, with scales calibrated to $\pm 2g$ accuracy using certified standard weights. In compliance with the PDD's monitoring plan /1/, PD implemented the "ACS_HSE-Calibration&Inventory_2024_EN" procedure for equipment management. Verification of document /40/ confirmed all testing equipment was properly calibrated and remained within validity periods during actual field use, demonstrating full adherence to the prescribed quality control measures for water consumption measurements. The calibration records /40/ show proper maintenance of measurement accuracy throughout the monitoring period.
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured every two years. The verification team reviewed the WCFT in Monitoring survey report /8/ and the previous verification reports /5/, confirmed that the monitoring was conducted every two years as required by the monitoring plan /1/. Data generation and recording: The parameter $Q_{P,rawboil,y}$ (0.31 liters/person/day) was calculated from the WCFT result as documented in the Monitoring Survey Report /8/. The WCFT measured raw or unsafe water that is still boiled from project-distributed CWPs among representative end-users, ensuring alignment with PDD Sampling plan /1/ and Methodology /41/ requirements. Verification confirmed that the sample size of 123 meets TPDDTEC 3.0's range (101–137) and satisfies the 90/10 confidence rule ($\leq 10\%$ margin of error at 90% confidence) Sample Calculation in the sampling frame /23/. Detailed sampling methodology is assessed in Sections 3.8. 0.31 L/person/day is derived from empirical field data in Report /8/, verified as statistically robust and methodologically sound. The value reflects real usage patterns and adheres to monitoring protocol /21/. Furthermore, due to the margin of error (30.85% is greater than 10% (90/10 rule), the upper limit value (0.31 liter) is used instead of mean value (0.24 liter) for conservativeness as stated in TPDDTEC V3.0, footnote 21. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • WCFT Protocol /21/ • Original project survey questionnaires /9/ • ACS_HSE-Calibration&Inventory_2024_EN /40/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents:

	The value is derived from measurements and calculations based on the WCFT. To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured the results by weight the volume of raw water boiled per person per day during the tests were collected over a four-day period from 123 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	CAR 03
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	$Q_{p, cleanboil, y}$
Unit	Litres/person/day
Description	The clean or unsafe water that is still boiled after installation of the CWP
Value applied for this monitoring period	0.02
Source of data	Water Consumption Field Test (WCFT) result in the Monitoring Survey Report /8/
Measuring /Reading /Recording frequency	Before first verification of each crediting period and every two years for the sequential monitoring period
Monitoring equipment with calibration information	Analog scale The calibration protocol requires verification before each new WCFT cycle, with scales calibrated to $\pm 2g$ accuracy using certified standard weights. In compliance with the PDD's monitoring plan /1/, PD implemented the "ACS_HSE-Calibration&Inventory_2024_EN" procedure for equipment management. Verification of document /40/ confirmed all testing equipment was properly calibrated and remained within validity periods during actual field use, demonstrating full adherence to the prescribed quality control measures for water consumption measurements. The calibration records /40/ show proper maintenance of measurement accuracy throughout the monitoring period.
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured every two years. The verification team reviewed the WCFT in Monitoring survey report /8/ and the previous verification reports /5/, confirmed that the monitoring was conducted every two years as required by the monitoring plan /1/.

	Data generation and recording: The parameter $Q_{P, \text{cleanboil}, y}$ (0.02 liters/person/day) was calculated from the WCFT result as documented in the Monitoring Survey Report /8/. The WCFT measured clean or unsafe water that is still boiled from project-distributed CWPs among representative end-users, ensuring alignment with PDD Sampling plan /1/ and Methodology /41/ requirements. Verification confirmed that the sample size of 123 meets TPDDTEC 3.0's range (101–137) and satisfies the 90/10 confidence rule ($\leq 10\%$ margin of error at 90% confidence) Sample Calculation in the sampling frame /23/. Detailed sampling methodology is assessed in Sections 3.8. 0.31 L/person/day is derived from empirical field data in Report /8/, verified as statistically robust and methodologically sound. The value reflects real usage patterns and adheres to monitoring protocol /21/. Furthermore, due to the margin of error (97.31% is greater than 10% (90/10 rule), the upper limit value (0.02 liter) is used instead of mean value (0.01 liter) for conservativeness as stated in TPDDTEC V3.0, footnote 21. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • WCFT Protocol /21/ • Original project survey questionnaires /9/ • ACS_HSE-Calibration&Inventory_2024_EN /40/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: The value is derived from measurements and calculations based on the WCFT. To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured the results by weight the volume of filtered water boiled per person per day during the tests were collected over a four-day period from 123 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	CAR 03
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG5.4.1
Data/parameter	<i>Women%_HH</i>
Unit	Percentage
Description	Average percentage of women and girls per household who use CWP
Value applied for this monitoring period	55.91
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The average percentage of women and girls per household who use CWP were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 55.91% of women and girls per household used CWPs during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 55.91% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation, validating the PD's assertion of contributing to SDG5. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project

	survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG5.4.1
Data/parameter	Women%
Unit	Percentage
Description	Average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWP's
Value applied for this monitoring period	77.16
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWP's were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 81.65% women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWP's during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 81.65% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived

	parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation, validating the PD's assertion of contributing to SDG5. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG3.9.1
Data/parameter	<i>N_{Less smoke,y}</i>
Unit	%
Description	% of households notice that their kitchen is less smoke
Value applied for this monitoring period	56.52
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/.

	Data generation and recording: The number of households notice that their kitchen is less smoke were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 56.52% of households notice that their kitchen is less smoke during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 56.52% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation, validating the PD's assertion of contributing to SDG3. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	% of Traditional Stove Users with wood in the project scenario
Unit	%

Description	Percentage of Traditional Stove Users with wood in the project scenario
Value applied for this monitoring period	44.10
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of Traditional Stove Users with wood in the project scenario were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 44.10% of households were traditional stove users with wood in the project scenario during this monitoring period, with results confirmed as reasonable and credible. To maintain a conservative approach, the percentage of traditional stove users with wood in the project scenario (44.10%) combines 3-stone stove users (8.8%), concrete stove users (0%), and traditional stove users (35.30%), as verified in the monitoring data. This aggregated value ensures simplified yet robust emission calculations while fully accounting for all relevant wood-burning stoves in the project area. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 44.10% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents:

	To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	% of Improved Stove Users with wood in the project scenario
Unit	%
Description	Percentage of Improved Stove Users with wood in the project scenario
Value applied for this monitoring period	11.80
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of Improved Stove Users with wood in the project scenario were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 11.80% of households were improved stove users with wood in the project scenario during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 11.80% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey

	methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	% of Traditional Stove Users with charcoal in the project scenario
Unit	%
Description	Percentage of Traditional Stove Users with charcoal in the project scenario
Value applied for this monitoring period	11.80
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that

	the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of Traditional Stove Users with charcoal in the project scenario were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 11.80% of households were traditional stove users with charcoal in the project scenario during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 11.80% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1

Data/parameter	% of Improved Stove Users with charcoal in the project scenario
Unit	%
Description	Percentage of Improved Stove Users with charcoal in the project scenario
Value applied for this monitoring period	2.90
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of Improved Stove Users with charcoal in the project scenario were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 2.90% of households were improved stove users with charcoal in the project scenario during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 2.90% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area.

	The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	% of LPG stove usage in the project scenario
Unit	%
Description	Percentage of LPG stove usage in the project scenario
Value applied for this monitoring period	8.80
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of of LPG stove usage in the project scenario were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 8.80% of households use LPG stove in the project scenario during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 8.80% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation.

	The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	% of Small LPG stove usage in the project scenario
Unit	%
Description	Percentage of small LPG stove usage in the project scenario
Value applied for this monitoring period	66.67
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of of small LPG stove usage in the project scenario were derived from monitoring data in the Monitoring survey report /8/.

	The monitoring survey report /8/ and filled questionnaires /9/ verified that 66.67% of households use small LPG stove in the project scenario during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 66.67% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1 SDG13.3.1 SDG15.1.1
Data/parameter	% of Large LPG stove usage in the project scenario
Unit	%
Description	Percentage of large LPG stove usage in the project scenario
Value applied for this monitoring period	33.33
Source of data	Monitoring survey report /8/
Measuring /Reading /Recording frequency	Annually

Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: The Percentage of of large LPG stove usage in the project scenario were derived from monitoring data in the Monitoring survey report /8/. The monitoring survey report /8/ and filled questionnaires /9/ verified that 33.33% of households use large LPG stove in the project scenario during this monitoring period, with results confirmed as reasonable and credible. CCCI's verification confirmed the sampling method's compliance with methodology requirement /41/ and PDD specifications, and all sampling records validated the representativeness of survey results. The 33.33% adoption rate was verified as accurate and properly applied in the MR, with CCCI confirming the survey methodology, data collection, and derived parameters fully met all technical and procedural standards for monitoring purposes. The PD has ensured effective monitoring and measurement of SDG indicators. The collected survey data underwent rigorous analysis and correct computation. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ • Original project survey questionnaires /9/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the Monitoring survey report /8/ were cross-verified against the original project survey questionnaires /9/, which captured input from 158 end users within the project area. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/.

	✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG13.3.1
Data/parameter	$LE_{p,y}$
Unit	tCO ₂ e per unit per year
Description	Leakage emissions for project scenario p during year y
Value applied for this monitoring period	0
Source of data	Calculated
Measuring /Reading /Recording frequency	Every two years
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured every two years. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted at least every two years as required by the monitoring plan /1/. Data generation and recording: The leakage emissions value of 0 tCO₂e per water filter annually was calculated using the approved methodology from the 2nd Crediting Period PDD, with key inputs derived from diesel, gasoline and LPG consumption used to power generators for electricity and for pot firing in factory operations. Verification of "HSE_CP2_MP7_Diesel&LPG_Purchase" /28/ confirmed the purchase of 16,000 liters of Diesel, zero liter of gasoline and 5.62 ton of LPG during the monitoring period, which was transparently applied in the calculation. Diesel and gasoline usage for factory power generation was verified as negligible (16,000 liters diesel which is calculated as 43.08 tCO₂ emission, 0 liters gasoline which is equal to 0 emission), and LPG usage for pot firing in factory operations was verified as also negligible (5.62t LPG which is calculated as 16.82 tCO₂ emission), all the fossil fuel's emission contributing 0.17% ((43.08 tCO₂ + 0.00 tCO₂ + 16.82 tCO₂= 59.90 tCO₂) / 35,018 tCO₂e) to total emissions and thus properly excluded from leakage calculations, as substantiated by purchase records and detailed in the monitoring report. The calculation methodology and input values were verified as correct and conservatively applied. The verification confirms that the PD has properly implemented leakage monitoring through project surveys as required by the PDD, with survey results from Monitoring survey report /8/ showing 42.56% of respondents previously boiled water, 12.04% used sedimentation, and 15.74% employed other filtration methods - demonstrating the project's zero-emission solution did not displace more efficient water treatment technologies. Based on this

	evidence, the PD's conclusion that no lower-emitting devices were replaced and consequently no leakage assessment is required for this aspect has been verified as correct and in full compliance with methodology requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • HSE_CP2_MP7_Diesel&LPG_Purchase /28/ • Diesel purchase invoices /29/ • LPG purchase invoices /30/ • Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the results documented in the HSE_CP2_MP7_Diesel&LPG_Purchase /28/ were cross-verified against the Diesel purchase invoices /29/ and LPG purchase invoices /30/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	CAR 04
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1
Data/parameter	Net benefit (a) of SDG1
Unit	tonne
Description	Total amount of biomass fuel saves
Value applied for this monitoring period	0
Source of data	49,843
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that

	the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the total biomass fuel savings were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG1 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1
Data/parameter	Net benefit (a) of SDG1
Unit	tonne
Description	Total amount of LPG saves
Value applied for this monitoring period	946
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually

Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the total LPG savings were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG1 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1
Data/parameter	Net benefit (a) of SDG1
Unit	%

Description	Percentage of household noted on money save after using the project technology
Value applied for this monitoring period	89.09
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the Percentage of household noted on money save after using the project technology were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG1 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/.

	✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG1.1.1
Data/parameter	Net benefit (a) of SDG1
Unit	%
Description	Percentage of household noted on time save after using the project technology
Value applied for this monitoring period	85.32
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the Percentage of household noted on time save after using the project technology were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The formular is %HH saved time from boiling water (86.96%) +%HH saved time from avoiding collecting or purchasing fuel (83.63%)/2 The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG1 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/.

	The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG3.9.1
Data/parameter	Net benefit of SDG3
Unit	People
Description	Number of people using CWP and note that their kitchen is less smoke
Value applied for this monitoring period	317,810
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the number of people using CWP and note that their kitchen is less smoke were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The formular is <i>number of people</i> = $T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * N_{Less_smoke,y}$ The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG3 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements.

	The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG5.4.1
Data/parameter	Net benefit of SDG5
Unit	People
Description	The number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel.
Value applied for this monitoring period	179,579
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The formular is <i>number of</i>

	$people = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * (1-C_j) * Women\%_{HH} * Women\%_{cooking}$ The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG5 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG6.1.1
Data/parameter	Net benefit of SDG6
Unit	People
Description	Number of people with access to safe drinking water
Value applied for this monitoring period	562,297
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that

	the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the number of people with access to safe drinking water were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The formular is $number\ of\ people = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y}$ The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG6 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG7.1.2
Data/parameter	Net benefit of SDG7
Unit	TJ
Description	Amount of energy saved from avoiding boiling water
Value applied for this monitoring period	792
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually

Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the PS in Monitoring survey report /8/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the amount of energy saved from avoiding boiling water were accurately derived from the Monitoring Survey Report /8/, with values properly calculated in the ER sheet and MR sections E.1-E.3 using the survey data. The formular is amount of energy saved = (Amount of biomass use in baseline scenario – Amount of biomass use in project scenario) * $NCV_{b,wood}$ +(amount of LPG use in baseline -LPG use in project) * $NCV_{b,LPG}$ The PD has implemented robust monitoring systems for SDG indicators, and the verification team validated that all survey data was correctly analyzed and calculated to support the reported conclusions. The PD's claim regarding SDG7 contribution has been thoroughly reviewed and confirmed as accurate and substantiated by the documented evidence. All calculations and methodologies align with the project's monitoring plan and reporting requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/. As part of the verification process, CCCI independently sampled and checked PD's original sample data, with full assessment described in Section 3.8.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG8.5.1

Data/parameter	Net benefit of SDG8
Unit	staff
Description	Number of new job created by the project with safe and healthy work environment
Value applied for this monitoring period	114
Source of data	HSE_CP2-MP7_Em&Inc2024 /35/
Measuring /Reading /Recording frequency	At least every two years
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured at least every two years. The verification team reviewed the HSE_CP2-MP7_Em&Inc2024 /35/ and the last verification report /5/, confirmed that the monitoring was conducted at least every two years as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the reported number of new jobs created (114 positions) with safe and healthy working conditions was accurately derived from HSE_CP2-MP7_Em&Inc2024 /35/ and validated through HR confirmation. Staff interviews further substantiate that Hydrologic maintains compliant workplace environments. In addition, CCCI confirmed that average monthly income of hydrologic staff as documented in HSE_CP2-MP7_Em&Inc2024 /35/ is greater or equal to the Cambodian minimum wage of 204 USD as detail in the document of “Determination of Minimum Wage for Workers/Employees” /39/. The PD's SDG monitoring systems were verified as robust, with all employment data properly analyzed to support the SDG8 contribution claim, which has been confirmed as correct and fully substantiated by documented evidence and verification procedures. All reporting aligns with project monitoring requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • HSE_CP2-MP7_Em&Inc2024 /35/ • Determination of Minimum Wage for Workers/Employees /39/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the staff number from HSE_CP2-MP7_Em&Inc2024 /35/ was cross-verified against the HR confirmation and staff site interviews. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/.
Findings	No findings raised in this section.

Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG13.3.1
Data/parameter	Net benefit of SDG13
Unit	tCO ₂ e
Description	Amount of ER
Value applied for this monitoring period	35,018
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the ER sheet /2/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification confirms the emission reduction (ER) amount was accurately calculated using monitored data from this monitoring period, with the ER sheet values successfully reproduced and validated against the Monitoring Survey Report /8/. The PD has implemented appropriate SDG indicator monitoring systems, and our audit verified that all survey data was properly analyzed and calculated to support the reported conclusions. The PD's claimed SDG13 (Climate Action) contribution has been thoroughly examined and confirmed as correct, with all calculations and methodologies fully compliant with project monitoring requirements and substantiated by documented evidence. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents: To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/.
Findings	No findings raised in this section.

Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.
Relevant SDG Indicator/Safeguarding Principle	SDG15.1.1
Data/parameter	Net benefit of SDG15
Unit	Hectare
Description	Area of forest save
Value applied for this monitoring period	307
Source of data	Calculated
Measuring /Reading /Recording frequency	Annually
Monitoring equipment with calibration information	N/A
Means of verification	Data monitoring: The monitoring plan /1/ requires this parameter to be measured annually. The verification team reviewed the ER sheet /2/ and the last verification report /5/, confirmed that the monitoring was conducted annually as required by the monitoring plan /1/. Data generation and recording: Verification of CCCI confirms that the reported area of forest saved was properly derived from the Monitoring Survey Report /8/ using the established calculation formula: (Baseline biomass consumption - Project scenario biomass consumption) × $f_{NRB,y}$ / Forest growth stock. The calculation methodology, as presented in the ER sheet and MR sections E.1-E.3, has been thoroughly reviewed and verified against the survey data. The PD's SDG monitoring systems were found to be robust, with all collected data correctly analyzed to support the SDG15 (Life on Land) contribution claim. Our audit confirms the calculations are accurate, methodology is properly applied, and the PD's claim regarding SDG15 contribution is correct and substantiated by documented evidence in full compliance with monitoring requirements. The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring survey report /8/ QA/QC procedures applied: QA/QC procedure was verified via interviews with key personnels and review of following documents:

	To ensure accuracy, the calculated data was cross-verified against the raw data from Monitoring survey report /8/. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan /1/.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

3.7. Comparison of monitored parameters with last monitoring period

Means of verification	This is the 7 th monitoring period of CP2. PP has provided the values from 6 th monitoring period of CP2 and values from 7 th monitoring period of CP2 for each monitoring parameters for comparison as below table.			
	Data/Parameter	Unit	Value obtained in this monitoring period	Value obtained last monitoring period
	T _{p,y}	CWP	31,945.00	26,252.00
	U _{p,y}	%	80.76%	81.65%
	WQ _{Passed,y}	%	93.33%	93.33%
	Hygiene Campaigns	People	104,774.00	74,079.00
	N _{p,y}	Persons.days	1,597.95	1,507.45
	Q _{p,y}	l/person/day	1.69	1.74
	Q _{p,rawboil,y}	l/person/day	0.31	0.60
	Q _{p,leanboil,y}	l/person/day	0.02	0.04
	Women%_HH	%	55.91%	52.78%
	Women%	%	77.16%	73.16%
	N _{Less_smoke,y}	%	56.52%	100.00%
	Percentage of Traditional Stove Users with wood in the project scenario	%	44.10%	61.10%
	Percentage of Improved Stove Users with wood in the project scenario	%	11.80%	2.80%
	Percentage of Traditional Stove Users with charcoal in the project scenario	%	11.80%	5.60%
	Percentage of Improved Stove Users with charcoal in the project scenario	%	2.90%	0.00%

	Percentage of LPG stove usage in the project scenario	%	8.80%	11.10%
	Percentage of small LPG stove usage in the project scenario	%	66.67%	25.00%
	Percentage of large LPG stove usage in the project scenario	%	33.33%	75.00%
	LE _{p,y}	tCO ₂ per unit per year	-	-
	Total amount of biomass fuel saves	t	49,843.00	57,363.00
	Total amount of LPG saves	t	946.00	1,128.00
	Percentage of household noted on money save after using the project technology	%	89.09%	62.70%
	Percentage of household noted on time save after using the project technology	%	85.32%	95.69%
	Number of people using CWP and note that their kitchen is less smoke	People	317,810.14	387,831.44
	The number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel	People	179,578.80	173,735.15
	Number of people with access to safe drinking water	People	562,296.78	510,976.87
	Amount of energy saved from avoiding boiling water	TJ	792.00	914.00
	Number of new job created by the project with safe and healthy work environment	Staff	114.00	100.00
	Amount of ER	tCO ₂ e	35,018.00	101,103.00
	Area of forest save	ha	307.00	329.00
The verification team has reviewed and confirmed the accuracy of all monitoring parameters for this monitoring period by cross-checking with the 6th verification report of CP2 /5/. While most parameters remained consistent or similar with previous periods, the following big changes were identified and verified:				

	(i) The increased total distributed number ($T_{p,y}$) reflects a better sale from HSE which is confirmed through PD interviews and sales database /17/; (ii) Hygiene meeting attendance (Hygiene Campaigns) increased due to the $T_{p,y}$ improved which is deemed as reasonable; (iii) % of households notice that their kitchen is less smoke ($N_{Less_smoke,y}$) decreased due to the monitoring survey for this MP showed that 44% of surveyed users reported not noticing smoke conditions in their kitchens while continuing to cook with fuelwood. This finding was cross-verified against user responses in the Monitoring Survey Report /8/ and on-site kitchen observations during field visits. (iv) For above parameters Percentage of Traditional Stove Users with wood in the project scenario, Percentage of Improved Stove Users with wood in the project scenario, Percentage of Traditional Stove Users with charcoal in the project scenario, Percentage of Improved Stove Users with charcoal in the project scenario, Percentage of LPG stove usage in the project scenario, Percentage of small LPG stove usage in the project scenario, Percentage of large LPG stove usage in the project scenario, the shifts in stove usage percentages reflect actual market changes in rural areas of Cambodia. This finding was cross-verified against user responses in the Monitoring Survey Report /8/ and on-site kitchen observations during field visits. (v) Decreased fuel savings (Total amount of biomass fuel saves, Total amount of LPG saves, Amount of energy saved from avoiding boiling water), ER amount and Area of forest save result from number of month for this MP is only 11 months compared to the previous one 12 months. All variations have been thoroughly documented with supporting evidence and expert validation, confirming their reasonableness. The verification team concludes that all parameter changes are properly justified and the reported values for this monitoring period are accurate and reliable.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The equipment for monitoring has an appropriate accuracy and has been controlled and operated in accordance with the monitoring plan of the registered PDD /1/. ✓ The calibration has been conducted at the frequency as specified by the methodology and the monitoring plan of the registered PDD /1/.

3.8. Compliance of the sampling implementation with the registered sampling plan

Means of verification	The sampling implementation has been carried out in accordance with the sampling plan contained in the PDD /1/. Sampling Design/Size/Target Population: <table border="1"> <thead> <tr> <th>Parameter</th><th>Sampling method used for this MP</th></tr> </thead> <tbody> <tr> <td> $W_{b,y,LPG(large)}$, $W_{p,y,LPG(large)}$ and $W_{b,y,WEIGHTED,LPG}$ </td><td> The three specified parameters require assessment through Baseline Water Boiling Tests (BWBT). The verification team reviewed the Project Monitoring Survey Report /8/ and confirmed that no changes in water boiling technologies from baseline conditions established in PDD due to the traditional/improved cookstoves with wood/charcoal and LPG stoves (both small and large variants) are continuously being used </td></tr> </tbody> </table>	Parameter	Sampling method used for this MP	$W_{b,y,LPG(large)}$, $W_{p,y,LPG(large)}$ and $W_{b,y,WEIGHTED,LPG}$	The three specified parameters require assessment through Baseline Water Boiling Tests (BWBT). The verification team reviewed the Project Monitoring Survey Report /8/ and confirmed that no changes in water boiling technologies from baseline conditions established in PDD due to the traditional/improved cookstoves with wood/charcoal and LPG stoves (both small and large variants) are continuously being used
Parameter	Sampling method used for this MP				
$W_{b,y,LPG(large)}$, $W_{p,y,LPG(large)}$ and $W_{b,y,WEIGHTED,LPG}$	The three specified parameters require assessment through Baseline Water Boiling Tests (BWBT). The verification team reviewed the Project Monitoring Survey Report /8/ and confirmed that no changes in water boiling technologies from baseline conditions established in PDD due to the traditional/improved cookstoves with wood/charcoal and LPG stoves (both small and large variants) are continuously being used				

		in households. Per applied methodology and registered PDD requirements "If the monitoring surveys reveal that the same water boiling technologies are prevalent in the baseline and project scenarios, $W_{b,y}$ and $W_{p,y}$ are equal. The BWBT should be updated if monitoring surveys show that water boiling technologies change over time". Thus, No BWBT update necessary for this monitoring period. So upon no change of BWBT, the monitored parameters including $W_{b,y,TRAD,wood}$, $W_{p,y,TRAD,wood}$, $W_{b,y,TRAD,charcoal}$, $W_{p,y,TRAD,charcoal}$, $W_{b,y,IMP,Wood}$, $W_{p,y,IMP,Wood}$, $W_{b,y,IMP,charcoal}$, $W_{p,y,IMP,charcoal}$, $W_{b,y,LPG(small)}$, $W_{p,y,LPG(small)}$, $W_{b,y,LPG(large)}$, $W_{p,y,LPG(large)}$, $W_{b,y,WEIGHTED,wood}$, $W_{b,y,WEIGHTED,charcoal}$ and $W_{b,y,WEIGHTED,LPG}$ are same to the values provided in last monitoring period and therefore no need to be re-assessed in this MP.
	$Q_{P,y}$, $Q_{P,rawboil,y}$, $Q_{P,cleannoil,y}$ and $N_{P,y}$	The four specified parameters require assessment through Water Consumption Field Test (WCFT). The verification team reviewed the Project Monitoring Survey Report /8/ and confirmed that the WCFT measured consumption volumes of project-supplied clean water (both direct use and boiling purposes) which was conducted with representative end-users from the target population currently utilizing CWP, this way is confirmed in line with the requirement in the PDD sampling plan /1/ and methodology requirement /41/. PD established a sample size of 123 households for WCFT which in compliance with TPDDTEC 3.0 recommended range (101-137 samples). Through checking the Project Monitoring Survey Report /8/, CCCI confirmed that the following parameters demonstrated margin of error at 90% level of confidence is lower than 10% a. mean value of number of person consuming water in the household per day: 4.77 persons (mean) b. $Q_{p,y}$: 1.69 liters (mean) Conclusion: Both mean values were incorporated directly into ER calculations While for the following parameters demonstrated margin of error at 90% level of confidence is higher than 10% a. $Q_{p,rawboil,y}$: Applied upper limit value of 0.31L b. $Q_{p,cleannoil,y}$: Applied upper limit value of 0.02L Both upper limit values are used in the ER calculation instead of the mean value for conservativeness based on TPDDTEC 3.0 to mitigate measurement uncertainty.
	$WQ_{Passed,y}$	Water Quality Testing Verification ($WQ_{Passed,y}$) The verification team confirmed, by reviewing the updated "Application of TPDDTEC Methodology to

		Safe Water Supply Projects" (30/06/2022) /42/, that Section 2.2.2 allows projects applying Annex 3 of TPDDTEC to adopt the "Water quality testing" requirements under parameter SDWS 18 from the "Methodology for Emission Reductions from Safe Drinking Water Supply v1.0," which mandates annual testing. PD has opted for this annual water quality testing approach and thus complies with all associated requirements and limitations for SDWS 18 as per the referenced methodology /43/. For this monitoring period, PD conducted water quality testing annually between 13/02/2024 and 27/02/2024, adhering to the prescribed monitoring frequency. A sample size of 45 (exceeding the minimum requirement of 30 per methodology /43/)/27/ was collected, satisfying the 90/10 rule defined in the water quality test protocol /26/, ensuring results with at least 90% confidence and a $\pm 10\%$ margin of error. Review of the sampling method in the water quality test protocol /26/ confirmed alignment with both the TPDDTEC application guidelines /42/ and SDWS 18 requirements in the safe water supply methodology /43/. During this monitoring period, the selection of these 45 water samples was performed through a randomized sampling process and sending these samples to the third-party laboratory. The $WQ_{\text{Passed},y}$ values were laboratory-tested by Institut Pasteur du Cambodge /63/ during the monitoring period/27/. PD developed a dedicated Water Quality Test Protocol /26/ outlining standardized procedures for sampling methodology, sample collection/storage protocols, test analysis, and reporting. Verification confirmed full compliance between the Water Quality Test Report/27/ and the Rule Update (30/06/2022) /42/, demonstrating proper adherence to monitoring requirements. Test results were benchmarked against WHO standards, with 93.33% of samples (42 out of 45) meeting prescribed quality thresholds. The sample size of 45 exceeds the minimum 30-sample requirement per Rule Update (30/06/2022) /42/ and satisfies the 90/10 confidence rule (90% confidence level, $\pm 10\%$ margin of error) as defined in Protocol/25/. Conclusion: Water quality testing in this monitoring period complies with the applied methodology /41/ and the referenced methodology /43/.
	$U_{p,y}$	The Usage Survey (US) was implemented to establish $U_{p,y}$ values, which is derived from the usage survey results documented in the Monitoring survey report /8/. This value represents the weighted average usage

	rate for each age group of CWP's during the current monitoring period. In accordance with the PDD and methodology requirement /41/, the PD selected a sample size of 186 for the US. This aligns with the PDD's stipulation of a minimum total sample size of 100 for Usage Surveys, including at least 30 samples per credited age group of project technologies. To ensure representative coverage of users across different technology ages, end-users were selected using stratified sampling techniques. For this monitoring period, the verification team reviewed the sampling plan /1/ and Monitoring survey report /8/, confirming compliance with methodological requirements. Specifically, the total sample size of 186 (distributed across 5 age groups, each exceeding 30 samples) adheres to the mandate of "a minimum total sample size of 100, with at least 30 samples per credited age group." The Usage Survey was administered using questionnaires /9/ designed to comprehensively address all topics specified in updated Gold Standard "Guidelines for carrying out usage surveys for projects implementing household water filtration technologies – 05/02/2014" /48/. The related data was collected by using a computer-assisted personal interview (CAPI) developed by the World Bank recorded and analyzed in a statistic software "SPSS". The derived value integrates data from US which was executed by third-party survey agency (ACS consulting company), capturing inputs from 186 end users within the project area. Results consolidated and summarized in the Monitoring survey report /8/. The PD calculated the final usage rate based on the combined outcomes of these surveys, as documented in the Monitoring survey report /8/. CCCI verified compliance of the sampling methodology with both the methodology requirement /41/ and the PDD. By reviewing all sampling records and cross-checking the MR, CCCI confirmed that the survey results are methodologically sound for determining monitored parameters during this period. The reported value in the MR is accurate and validated. VVB sampling method The verification team from CCCI conducted the verification of sampling results in accordance with: • <i>"Sampling and Surveys for CDM Project Activities and Programme of Activities"</i> (Version 09.0 /50/) • <i>"Guideline of Sampling and Surveys for CDM Project Activities and Programmes of Activities"</i> (Version 04.0 /49/)
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1. Verification of Parameter $T_{p,y}$

To ensure the accuracy of monitored data, the verification team applied a sampling approach as per the guideline (Version 04.0 /49/). Given the homogeneity of the sales record and invoices, this method was deemed appropriate.

Sample Size Calculation (Simple Random Sampling):

As per Section 2.1.1 (Paragraph 12) of the guideline /49/, the formula used was:

$$n \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$$

Where:

- n = Sample size
- N = Total sales receipts (31,945, as per sales database /17/)
- P = Expected proportion (90%, reflecting the confidence level)
- 1.645 = 90% confidence level
- 0.1 = 10% relative precision

Calculation:

$$n = 1.645^2 \times 31,945 \times 0.9 \times (1 - 0.9) / \{(31,945 - 1) \times 0.1^2 \times 0.9^2 + 1.645^2 \times 0.9 \times (1 - 0.9)\} = 31$$

Verification Process:

- The team randomly selected 50 sales invoices reference number /18/ from the sales database /17/.
- These sales invoices /18/ were cross-checked against the database /17/, confirming consistency.
- **Conclusion:** The reported $T_{p,y}$ value of 31,945 is correct and credible.

2. Verification of Parameter $WQ_{Passed,y}$

To verify water quality $WQ_{Passed,y}$ data:

- The team reviewed all 45 samples of test (exceeding the minimum 30 required by methodology /41/).
- All test results/27/ matched the MR data.
- The calculated values of 93.33% for test was confirmed as accurate.
- The sampling survey adhered to the 90/10 precision rule, ensuring reliability.
- **Conclusion:** Monitoring was conducted per methodology requirements.

3. Verification of WCFT, Project & Usage Surveys

PD Sampling followed methodology requirements:

- Minimum 100 samples for project/usage surveys.
- Minimum 30 samples per age group (no precision requirement).
- And for WCFT, sampling rules at least 101 samples.

Parameters Verified: $Q_{P,y}$, $Q_{P,rawboil,y}$, $Q_{P,leanboil,y}$, $N_{p,y}$, $U_{p,y}$

VVB Sampling Approach (Simple Random Sampling):

As per "Sampling and Surveys for CDM Project Activities and Programme of Activities" (Version 09.0 /50/), the steps were:

	(a) Random Sample Selection: Related parameter determination: • Acceptable Quality Level (AQL): 1% (acceptable discrepancies). • Unacceptable Quality Level (UQL): 15%. • Producer's Risk (false rejection): 5%. • Consumer's Risk (false acceptance): 20% (justified, as the project meets two conditions: annual GHG reductions <100,000 tCO₂e and location in a least-developed country). Sample size determination: • From Table 1 of the standard /50/ and based on the above parameter values' choice, the required sample size was 19, with an acceptance number of 1. • For conservatism, 27 households were randomly selected using an Excel random function. (b) Data Consistency Check: • Site visits and interviews confirmed that the 27 selected samples matched the PD's sample records /8/. • No discrepancies were found. (c) Acceptance Decision: • Since zero discrepancies were detected (below the acceptance threshold of 1), the sample records /8/ were deemed compliant. Final Conclusion All verified parameters were found to be accurate, consistent, and methodologically compliant. The sampling approaches applied were appropriate, ensuring the reliability of the reported data.
Findings	No findings raised in this section.
Conclusion	The verification team has found out that the sampling process applied is found to be in line with the sampling plan mentioned in the PDD /1/ and sampling and survey standard /50/ and guideline /49/.

3.9. Assessment of data and calculation of SDG outcomes

Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of verification	The verification team has verified the baseline value of each SDG outcome by: SDG 1 Baseline Impact: CCCI's verification of the MR and field interviews with end-users confirmed the project's CWPs deliver measurable benefits including: (1) reduced time for fuel collection/water boiling, (2) decreased fuel expenditures, and (3) lower medical costs through prevented waterborne diseases. In alignment with UN SDG indicator 1.1.1 "Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)", the project quantifies SDG1 contributions through four metrics: the amount fuel (including biomass(a) and JPG(b)) saves; (c) the percentage of household noted on money save after using the project technology and (d) the percentage of time save after using the project technology.
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Baseline analysis verified through PDD review and user interviews established zero baseline impact (no pre-existing savings) for all metrics. Using the MR's prescribed formular (Section E.6.2) and verified monitoring data, the verification team validated the following impact calculations:

Baseline outcome (a) of SDG1

The amount of Biomass use = $T_{p,y} * U_{p,y} * WQ_{Passed,y} * B_{use,Biomass,b,y}$

Baseline outcome (b) of SDG1

The amount of LPG use = $T_{p,y} * U_{p,y} * WQ_{Passed,y} * B_{use,LPG,b,y}$

Baseline outcome (c) of SDG1 = % of household noted on money save in the baseline scenario

Baseline outcome (d) of SDG1 = % of household noted on time save in the baseline scenario

All computations were confirmed to adhere to SDG reporting protocols, with data collection methods cross-checked against survey records and interview transcripts for accuracy. The baseline zero-value assumption was substantiated by historical data showing no comparable water treatment technologies were deployed pre-project.

Indicator	Unit	Baseline situation
SDG1 (a) Biomass use	tonne	61,862
SDG1 (b) LPG use	tonne	1,039
SDG1 (c) % of HH noted on money save	%	0
SDG1 (d) of % of HH noted on time save	%	0

SDG 3 Baseline Impact:

CCCI's verification confirms the project effectively reduces smoke and dust exposure from water boiling activities, as evidenced by: (1) direct user testimonies collected during field interviews, and (2) comparative air quality observations documented in the MR.

In alignment with SDG indicator 3.9.1, "Mortality rate attributed to household and ambient air pollution", the indicators of SDG3 are defined as the number of people who notice less smoke in kitchen after having water filter.

Baseline conditions established through PDD review and user interviews with historical condition confirmed zero air quality improvements prior to project implementation.

Therefore, Baseline Impact benefit is zero.

SDG 5 Baseline Impact:

CCCI's verification activities, including MR review and on-site interviews with female end-users, confirmed the project's effectiveness in alleviating domestic burdens for women and girls traditionally responsible for water boiling and fuel procurement.

In alignment with SDG indicator 5.4.1, "Proportion of time spent on unpaid domestic and care work, by sex, age and location", the indicators of SDG5 are

defined as the number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel.

Baseline conditions established through PDD review and user interviews with historical condition confirmed zero distribution of project technology with zero benefiting to women and girls prior to project implementation.

Therefore, Baseline Impact benefit is zero.

SDG 6 Baseline Impact:

CCCI's verification activities, including MR review and on-site interviews with end-users, confirmed the project provides a clean water supply to the users.

In alignment with SDG indicator 6.1.1, "Proportion of population using safely managed drinking water services", the indicators of SDG6 are defined as the number of people served with satisfactory level of safe/potable water.

Baseline conditions established through PDD review and user interviews with historical condition confirmed zero distribution of project technology prior to project implementation.

Therefore, Baseline Impact benefit is zero.

SDG 7 Baseline Impact:

CCCI's verification activities, including MR review and on-site interviews with end-users, confirmed the project promotes access to affordable and clean energy services.

In alignment with SDG indicator 7.1.2, "Proportion of population with primary reliance on clean fuels and technology", the indicators of SDG7 are defined as the amount of energy save from avoiding boiling water for drinking.

Baseline conditions established through PDD review and user interviews with historical condition confirmed zero distribution of project technology prior to project implementation.

Therefore, Baseline Impact benefit is zero.

SDG 8 Baseline Impact:

CCCI's verification activities, including MR review and on-site interviews with end-users, confirmed the project creates jobs with safe and healthy work environment.

In alignment with SDG indicator 8.5.1, "Average hourly earnings of female and male employees, by occupation, age and persons with disabilities", the indicators of SDG8 are defined as the number of new job created by the project with safe and healthy work environment.

Baseline conditions established through PDD review and user interviews with historical condition confirmed zero distribution of project technology prior to project implementation.

Therefore, Baseline Impact benefit is zero.

SDG 13 Baseline Impact:

Via checking the MR /2/ and through checking the emission reduction calculation sheet /3/, the verification team confirmed that baseline emissions as calculated below,

Baseline Emissions $BE_{b,y}$ Calculation Assessment:

$$BE_{b,y} = B_{b,wood,y} * ((f_{NRB,b,y} * EF_{b,wood,CO2}) + EF_{b,wood,nonCO2}) * NCV_{b,wood} + B_{b,charcoal,y} * \text{Wood to charcoal factor} * ((f_{NRB,b,y} * EF_{b,wood,CO2}) + EF_{b,wood,nonCO2}) * NCV_{b,wood} + B_{b,LPG,y} * ((f_{ff,b,y} * EF_{b,LPG,CO2}) + EF_{b,LPG,nonCO2}) * NCV_{b,LPG}$$

Where:

Parameters	Description
$BE_{b,y}$	Emissions for baseline scenario b during the year y in tCO ₂ e
$B_{b,wood,y}$	Quantity of fuel (wood) consumed in baseline scenario b during year y, in t
$B_{b,charcoal,y}$	Quantity of fuel (charcoal) consumed in baseline scenario b during year y, in t
$B_{b,y,LPG}$	Quantity of fuel (LPG) consumed in baseline scenario b during year y, in t
$f_{NRB,y}$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
$f_{ff,b,y}$	Fraction of non-renewable fuel for fossil fuels (LPG)
$NCV_{b,wood}$	Net calorific value of wood that is substituted or reduced
$NCV_{b,LPG}$	Net calorific value of LPG that is substituted or reduced
Wood to charcoal conversion factor	Wood to charcoal conversion factor
$EF_{b,wood,CO2}$	CO ₂ emissions factor of the fuel (wood) that it substituted or reduced
$EF_{b,LPG,CO2}$	CO ₂ emissions factor of the fuel (LPG) that it substituted or reduced
$EF_{b,wood,nonCO2}$	Non-CO ₂ emissions factor of the fuel (wood) that is substituted or reduced
$EF_{b,LPG,nonCO2}$	Non-CO ₂ emissions factor of the fuel (LPG) that is substituted or reduced

- Calculate $EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2}$

$$EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2} = [\text{Wood Emission CH}_4 \text{ Conversion Factor} * \text{Direct Global Warming Potential Equivalency (CH}_4 \text{ to CO}_2\text{)}] + [\text{Wood Emission N}_2\text{O Conversion Factor} * \text{Direct Global Warming Potential Equivalency (N}_2\text{O to CO}_2\text{)}]$$

Where:

Parameters	Description
$EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2}$	Non-CO ₂ emissions factor of wood that is substituted or reduced
Wood Emission CH ₄ Conversion Factor	N/A

	Direct Global Warming Potential Equivalency (CH ₄ to CO ₂)]	N/A
	Wood Emission N ₂ O Conversion Factor	N/A
	Direct Global Warming Potential Equivalency (N ₂ O to CO ₂)]	N/A
- Calculate B_{b,y,wood}		
$B_{b,y,wood} = (1-X_{boil}) * (1 - C_j) * N_{p,y} * (W_{b,y, WEIGHTED,wood}) * (Q_{p,y} + Q_{p,rawboil,y})$		
Where:		
Parameters	Description	
B _{b,y,wood}	Quantity of wood consumed in baseline scenario p during the year y (t)	
X _{boil}	Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of project activities.	
N _{p,y}	Number of person.days consuming water supplied by project scenario p through year y	
C _j	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it	
W _{b,y,WEIGHTED,wood}	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test	
Q _{p,y}	Quantity of purified water consumed in the project scenario p per person per day	
Q _{p,rawboil,y}	Quantity of raw or unsafe water boiled in the baseline scenario b per person per day	
- Calculate W_{b,y,WEIGHTED,wood}		
$W_{b,y,WEIGHTED,wood} = (W_{b,y,TRAD,wood} * \% \text{ of Traditional Stove Users with wood in the baseline}) + (W_{b,y,IMP,wood} * \% \text{ of Improved Stove Users with wood in the baseline})$		
Where:		
Parameters	Description	
W _{b,y,WEIGHTED,wood}	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test	
W _{b,y,TRAD,wood}	Quantity of wood in kg required to treat 1 litre of water using Traditional cookstove in baseline scenario b during project year y	
W _{b,y,IMP,wood}	Quantity of wood in kg required to treat 1 litre of water using Improve cookstove in baseline scenario b during project year y	

- % of Traditional Stove Users with wood in the baseline
- % of Improved Stove Users with wood in the baseline

- **Calculate $B_{b,y,charcoal}$**

$$B_{b,y,charcoal} = (1 - X_{boil}) * (1 - C_j) * N_{p,y} * (W_{b,y,WEIGHTED,charcoal}) * (Q_{p,y} + Q_{p,rawboil,y})$$

Where:

Parameters	Description
$B_{b,y,charcoal}$	Quantity of charcoal consumed in baseline scenario p during the year y (t)
X_{boil}	Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of project activities.
$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y
C_j	Portion (%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
$W_{b,y,WEIGHTED,charcoal}$	Average Weighted of charcoal quantity in kg required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test
$Q_{p,y}$	Quantity of purified water consumed in the project scenario p per person per day
$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the baseline scenario b per person per day

- **Calculate $W_{b,y,WEIGHTED,charcoal}$**

$$W_{b,y,WEIGHTED,charcoal} = (W_{b,y,TRAD,charcoal} * \% \text{ of Traditional Stove Users with charcoal in the baseline}) + (W_{b,y,IMP,charcoal} * \% \text{ of Improved Stove Users with charcoal in the baseline})$$

Where:

Parameters	Description
$W_{b,y,WEIGHTED,charcoal}$	Weighted Average of charcoal quantity in kg required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test
$W_{b,y,TRAD,charcoal}$	Quantity of charcoal in kg required to treat 1 litre of water using Traditional cookstove in baseline scenario b during project year y
$W_{b,y,IMP,charcoal}$	Quantity of charcoal in kg required to treat 1 litre of water using Improve cookstove in baseline scenario b during project year y
-	% of Traditional Stove Users with charcoal in the baseline
-	% of Improved Stove Users with charcoal in the baseline

- **Calculate $B_{b,y,LPG}$**

$$B_{b,y,LPG} = (1 - X_{boil}) * (1 - C_j) * N_{p,y} * (W_{b,y,WEIGHTED,LPG}) * (Q_{p,y} + Q_{p,rawboil,y})$$

Where:

Parameters	Description
$B_{b,y,LPG}$	Quantity of LPG consumed in baseline scenario p during the year y (t)
X_{boil}	Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of project activities.
$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y
C_j	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
$W_{b,y,WEIGHTED,LPG}$	Average Weighted of LPG quantity in t required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test
$Q_{p,y}$	Quantity of purified water consumed in the project scenario p per person per day
$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the baseline scenario b per person per day

- **Calculate $W_{b,y,WEIGHTED,LPG}$**

$$W_{b,y,WEIGHTED,LPG} = (W_{b,y,LPG(small)} * \% \text{ of Small LPG stove usage in baseline scenario}) + (W_{b,y,LPG(large)} * \% \text{ of Large LPG stove usage in baseline scenario})$$

Where:

Parameters	Description
$W_{b,y,WEIGHTED,LPG}$	Weighted Average of LPG quantity in t required to treat 1 litre of water using technologies representative of baseline scenario b during project year y
$W_{b,y,LPG(small)}$	Quantity of LPG in t required to treat 1 litre of water using LPG small stove in baseline scenario
$W_{b,y,LPG(large)}$	Quantity of LPG in t required to treat 1 litre of water using LPG large stove in baseline scenario
-	% of Small LPG stove usage in baseline scenario
-	% of Large LPG stove usage in baseline scenario
-	% of LPG stove usage in the baseline scenario

The values of all the listed parameters for both ex ante and monitored ones are assessed in above section 3.6. And the calculation process as elaborated in the ER sheet /3/ has been checked by verification team and re-produced as correct.

Hence based on the assessed values, SDG 13 Baseline Impact (Baseline emission calculation) during this monitoring period are confirmed by the verification team to be **$BE_{b,y} = 43,059 \text{ tCO}_2\text{e}$**

	SDG 15 Baseline Impact: CCCI's verification activities, including MR review and on-site interviews with end-users, confirmed the project reduces amount of fuel collected or purchased especially biomass save which contribute to the area of forest save. In alignment with SDG indicator 15.1.1, "Forest area as a proportion of total land area", the indicators of SDG15 are defined as the area of forest save. Baseline conditions established through PDD review and user interviews with historical condition confirmed zero distribution of project technology with no area of forest saved prior to project implementation. Therefore, Baseline Impact benefit is zero.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the baseline calculation value of each SDG impact provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of baseline impact of each SDG impact have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in SDG impact calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.

Calculation of project value or estimation of baseline situation of each SDG Impact

Means of verification

The verification team has verified the project value of each SDG outcome by:

SDG 1 Project Impact:

CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG1 factors: project helps users to save time spending on fuel collection/ purchase and boiling water, and save money on fuel purchase and expenditure on medicine by reducing the rate of having waterborne disease.

Analysis of Monitoring Survey Data /8/ demonstrated percentage of households reported fuel savings and financial savings, and percentage acknowledged time savings post-implementation.

Using the verified calculation formula in MR Section E.6.2 and checking the ER calculation sheet /2/, the team validated the following SDG1 impacts:

Indicator	Unit	Project Estimation
SDG1 (a) Biomass use	t	12,019
SDG1 (b) LPG use	t	93
SDG1 (c) % of HH noted on money save	%	89.09
SDG1 (d) of % of HH noted on time save	%	85.32

SDG 3 Project Impact:

CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG3 factors: project helps users to reducing smoke and dust coming from boiling water with solid biomass.

Analysis of Monitoring Survey Data /8/ demonstrated people using CWP noted that their kitchen is less smoke.

Using the verified calculation formula in MR Section E.6.2, the team validated the SDG3 impacts is calculated as below:

$$\text{SDG3 contribution (number of people)} = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * N_{Less_smoke,y}$$

Where:

Parameters	Description
Project impact of SDG3	Number of people using CWP and note that their kitchen is less smoke
$T_{p,y}$	Cumulative number of sold project technologies (CWP)
$N_{p,y}$	The average population serviced by water purification system
$U_{p,y}$	Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate
$WQ_{Passed,y}$	Water Quality passing rate of water quality standard (WHO standard)
$N_{Less_smoke,y}$	% of households notice that their kitchen is less smoke

ER calculation sheet /2/ is verified and confirmed that the Project impacts of SDG3 for this MP is 317,810 people.

SDG 5 Project Impact:

CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG5 factors: project helps users to reducing the work load on women and girls who are responsible for boiling water and collecting/purchasing cooking fuel,

Analysis of Monitoring Survey Data /8/ demonstrated women and girls benefiting from using CWPs.

Using the verified calculation formula in MR Section E.6.2, the team validated the SDG5 impacts is calculated as below:

$$\text{SDG5 contribution (number of people)} = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * (1-C_j) * Women\%_{HH} * Women\%_{cooking}$$

Where:

Parameters	Description
Project impact of SDG5	Number of women and girls benefiting from stop/reducing boiling water and collecting/purchasing cooking fuel
$T_{p,y}$	Cumulative number of sold project technologies (CWP)
$N_{p,y}$	The average population serviced by water purification system

	$U_{p,y}$ Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate $WQ_{Passed,y}$ Water Quality passing rate of water quality standard (WHO standard) C_j Portion (%) of users of the project technology j who in the baseline were already consuming safe water without boiling it $Women\%_{HH}$ Average percentage of women and girls per household $Women\%_{cooking}$ Average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWP. ER calculation sheet /2/ is verified and confirmed that the Project impacts of SDG5 for this MP is 179,579 people. SDG 6 Project Impact: CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG6 factors: project provides a clean water supply to the users, Analysis of Monitoring Survey Data /8/ demonstrated people access to safe drinking water from using CWPs. Using the verified calculation formula in MR Section E.6.2, the team validated the SDG6 impacts is calculated as below: Project impact of SDG6 = $T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y}$ Where: <table> <tr> <th>Parameters</th><th>Description</th></tr> <tr> <td>Project impact of SDG6</td><td>Number of people with access to safe drinking water</td></tr> <tr> <td>$T_{p,y}$</td><td>Cumulative number of sold project technologies (CWP)</td></tr> <tr> <td>$N_{p,y}$</td><td>The average population serviced by water purification system</td></tr> <tr> <td>$U_{p,y}$</td><td>Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate</td></tr> <tr> <td>$WQ_{Passed,y}$</td><td>Water Quality passing rate of water quality standard (WHO standard)</td></tr> </table> ER calculation sheet /2/ is verified and confirmed that the Project impacts of SDG6 for this MP is 562,297 people. SDG 7 Project Impact: CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG7 factors: project promotes access to affordable and clean energy services,	Parameters	Description	Project impact of SDG6	Number of people with access to safe drinking water	$T_{p,y}$	Cumulative number of sold project technologies (CWP)	$N_{p,y}$	The average population serviced by water purification system	$U_{p,y}$	Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate	$WQ_{Passed,y}$	Water Quality passing rate of water quality standard (WHO standard)
Parameters	Description												
Project impact of SDG6	Number of people with access to safe drinking water												
$T_{p,y}$	Cumulative number of sold project technologies (CWP)												
$N_{p,y}$	The average population serviced by water purification system												
$U_{p,y}$	Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate												
$WQ_{Passed,y}$	Water Quality passing rate of water quality standard (WHO standard)												

Analysis of Monitoring Survey Data /8/ demonstrated the amount of energy saves from avoiding boiling water by using CWP.

Using the verified calculation formula in MR Section E.6.2, the team validated the SDG7 impacts is calculated as below:

SDG7 contribution = (Amount of biomass use in baseline scenario – Amount of biomass use in project scenario) * NCV_{b,wood} + (amount of LPG use in baseline -LPG use in project) * NCV_{b,LPG}

Where:

Parameters	Description
Amount of biomass use in baseline scenario	Amount of biomass use in baseline (t)
Amount of biomass use in project scenario	Amount of biomass use in project (tonne)
NCV _{b,wood}	Net calorific value of wood that is substituted or reduced
Amount of LPG use in Baseline	Amount of LPG use in baseline (t)
Amount of LPG use in project	Amount of LPG use in project (t)
NCV _{b,LPG}	Net calorific value of LPG that is substituted or reduced

ER calculation sheet /2/ is verified and confirmed that the Project impacts of SDG7 for this MP is 792 TJ.

SDG 8 Project Impact:

CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG8 factors: project created jobs with safe and healthy work environment,

Verification of CCCI confirms that the reported number of new jobs created (114 positions) with safe and healthy working conditions was accurately derived from HSE_CP2-MP7_Em&Inc2024 /35/ and validated through HR confirmation. Staff interviews further substantiate that Hydrologic maintains compliant workplace environments.

In addition, CCCI confirmed that average monthly income of hydrologic staff as documented in HSE_CP2-MP7_Em&Inc2024 /35/ is greater or equal to the Cambodian minimum wage of 204 USD as detail in the document of "Determination of Minimum Wage for Workers/Employees" /39/.

HSE_CP2-MP7_Em&Inc2024 /35/ is verified and confirmed that the Project impacts of SDG8 for this MP is 114 people with safe and healthy work environment and 100% of them were paid with salaries at par with wage laws.

SDG 13 Project Impact:

Project Emission PE_{b,y} Calculation Assessment:

The formula used for the determination of project emissions which is consistent with the approved 2nd Crediting Period PDD and the applied methodology:

$$PE_{b,y} = B_{p,y,wood} * ((f_{NRB,p,y} * EF_{p,wood,CO2}) + EF_{p,wood,nonCO2}) * NCV_{p,wood} + B_{p,y,charcoal} * \text{Wood to charcoal factor} ((f_{NRB,p,y} * EF_{p,wood,CO2}) + EF_{p,wood,nonCO2}) * NCV_{p,wood} + B_{p,y,LPG} * ((f_{ff,p,y} * EF_{p,LPG,CO2}) + EF_{p,LPG,nonCO2}) * NCV_{p,LPG}$$

Where:

Parameters	Description
$PE_{p,y}$	Emissions for project scenario p during the year y in tCO ₂ e
$B_{p,y,wood}$	Quantity of fuel (wood) consumed in project scenario p during year y, in t
$B_{p,y,charcoal}$	Quantity of fuel (charcoal) consumed in project scenario p during year y, in t
$B_{p,y,LPG}$	Quantity of fuel (LPG) consumed in project scenario p during year y, in t
Wood to charcoal conversion factor	Wood to charcoal conversion factor
$f_{NRB,y}$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
$EF_{p,wood,CO2}$	CO ₂ emissions factor of the project fuel (wood) This is equal to the baseline fuel EF in projects which use the same fuel,
$EF_{p,charcoal,CO2}$	CO ₂ emissions factor of the project fuel (charcoal) This is equal to the baseline fuel EF in projects which use the same fuel,
$EF_{p,LPG,CO2}$	CO ₂ emissions factor of the project fuel (LPG) This is equal to the baseline fuel EF in projects which use the same fuel,
$EF_{p,wood,nonCO2}$	Non-CO ₂ emissions factor of the project fuel (wood) This is equal to the baseline wood EF in projects which use the same fuel.
$EF_{p,LPG,nonCO2}$	Non-CO ₂ emissions factor of the project fuel (LPG) This is equal to the baseline wood EF in projects which use the same fuel.
$NCV_{p,wood}$	Net calorific value of the project wood
$NCV_{p,LPG}$	Net calorific value of the project LPG

- Calculate $B_{p,y,wood}$

$$B_{p,y,wood} = (1 - C_j) * N_{p,y} * (W_{p,y,WEIGHTED,wood}) * (Q_{p,rawboil,y} + Q_{p,rawboil,y})$$

Where:

Parameters	Description
$B_{p,y,wood}$	Quantity of fuel consumed in project scenario p during the year y (t)
$N_{p,y}$	Portion (%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
C_j	Weighted Average of wood quantity in kg required to

	treat 1 litre of water using technologies representative of project scenario p during project year y Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of project scenario p during project year y Quantity of raw or unsafe water boiled in the project scenario p per person per day Quantity of safe water boiled in the project scenario p per person per day
$W_{p,y,WEIGHTED,wood}$	
$Q_{p,rawboil,y}$	
$Q_{p,cleanboil,y}$	
- Calculate $W_{p,y,WEIGHTED,wood}$ $W_{p,y,WEIGHTED,wood} = (W_{p,y,TRAD,wood} * \% \text{ of Traditional Stove Users with wood in the project}) + (W_{p,y,IMP,wood} * \% \text{ of Improved Stove Users with wood in the project})$ Where:	
Parameters	Description
$W_{p,y,WEIGHTED,wood}$	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of project scenario p during project year y, as per Baseline Water Boiling Test
$W_{p,y,TRAD,wood}$	Quantity of wood in kg required to treat 1 litre of water using Traditional cookstove in project scenario p during project year y
$W_{p,y,IMP,wood}$	Quantity of wood in kg required to treat 1 litre of water using Improve cookstove in project scenario p during project year y
	% of Traditional Stove Users with wood in the project scenario
	% of Improved Stove Users with wood in the project scenario
- Calculate $B_{p,y,charcoal}$ $B_{p,y,charcoal} = (1 - C_j) * N_{p,y} * (W_{p,y,WEIGHTED,charcoal}) * (Q_{p,rawboil,y} + Q_{p,cleanboil,y})$ Where:	
Parameters	Description
$B_{p,y,charcoal}$	Quantity of charcoal consumed in project scenario p during the year y (t)
$N_{p,y}$	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
C_j	Number of person.days consuming water supplied by project scenario p through year y
$W_{p,y,WEIGHTED,charcoal}$	Average weighted quantity of charcoal in kg required to treat 1 litre of water using technologies representative of project scenario p during project year y,
$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the project scenario p per person per day
$Q_{p,cleanboil,y}$	Quantity of safe water boiled in the project scenario p

	per person per day																										
	- Calculate $W_{p,y,WEIGHTED,charcoal}$ $W_{p,y,WEIGHTED,charcoal} = (W_{b,y,TRAD,charcoal} * \% \text{ of Traditional Stove Users with charcoal in the project}) + (W_{b,y,IMP,charcoal} * \% \text{ of Improved Stove Users with charcoal in the project})$ Where: <table> <tr> <th>Parameters</th><th>Description</th></tr> <tr> <td>$W_{b,y,WEIGHTED,charcoal}$</td><td>Weighted Average of charcoal quantity in kg required to treat 1 litre of water using technologies representative of project scenario b during project year y, as per Baseline Water Boiling Test</td></tr> <tr> <td>$W_{b,y,TRAD,charcoal}$</td><td>Quantity of charcoal in kg required to treat 1 litre of water using Traditional cookstove in project scenario p during project year y</td></tr> <tr> <td>$W_{b,y,IMP,charcoal}$</td><td>Quantity of charcoal in kg required to treat 1 litre of water using Improve cookstove in project scenario p during project year y</td></tr> <tr> <td>% of Traditional Stove Users with charcoal in the project</td><td>% of Traditional Stove Users with charcoal in the project</td></tr> <tr> <td>% of Improved Stove Users with charcoal in the project</td><td>% of Improved Stove Users with charcoal in the project)</td></tr> </table> - Calculate $B_{p,y,LPG}$ $B_{p,y,LPG} = ((1 - C_j) * N_{p,y} * (W_{p,y,WEIGHTED,LPG} * (Q_{p,y} + Q_{p,rawboil,y})$ Where: <table> <tr> <th>Parameters</th><th>Description</th></tr> <tr> <td>$B_{p,y,LPG}$</td><td>Quantity of LPG consumed in project scenario b during the year y (t)</td></tr> <tr> <td>C_j</td><td>Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it</td></tr> <tr> <td>$N_{p,y}$</td><td>Number of person.days consuming water supplied by baseline scenario b through year y</td></tr> <tr> <td>$W_{p,y,WEIGHTED,LPG}$</td><td>Average weighted quantity of LPG in t required to treat 1 litre of water using technologies representative of project scenario b during project year y,</td></tr> <tr> <td>$Q_{p,y}$</td><td>Quantity of clean water boiled in the project scenario p per person per day</td></tr> <tr> <td>$Q_{p,rawboil,y}$</td><td>Quantity of raw or unsafe water boiled in the project scenario p per person per day</td></tr> </table> - Calculate $W_{p,y,WEIGHTED,LPG}$ $W_{p,y,WEIGHTED,LPG} = (W_{b,y,LPG(small)} * \% \text{ of Small LPG stove usage in baseline scenario}) + (W_{b,y,LPG(large)} * \% \text{ of Large LPG stove usage in baseline scenario})$	Parameters	Description	$W_{b,y,WEIGHTED,charcoal}$	Weighted Average of charcoal quantity in kg required to treat 1 litre of water using technologies representative of project scenario b during project year y, as per Baseline Water Boiling Test	$W_{b,y,TRAD,charcoal}$	Quantity of charcoal in kg required to treat 1 litre of water using Traditional cookstove in project scenario p during project year y	$W_{b,y,IMP,charcoal}$	Quantity of charcoal in kg required to treat 1 litre of water using Improve cookstove in project scenario p during project year y	% of Traditional Stove Users with charcoal in the project	% of Traditional Stove Users with charcoal in the project	% of Improved Stove Users with charcoal in the project	% of Improved Stove Users with charcoal in the project)	Parameters	Description	$B_{p,y,LPG}$	Quantity of LPG consumed in project scenario b during the year y (t)	C_j	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it	$N_{p,y}$	Number of person.days consuming water supplied by baseline scenario b through year y	$W_{p,y,WEIGHTED,LPG}$	Average weighted quantity of LPG in t required to treat 1 litre of water using technologies representative of project scenario b during project year y,	$Q_{p,y}$	Quantity of clean water boiled in the project scenario p per person per day	$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the project scenario p per person per day
Parameters	Description																										
$W_{b,y,WEIGHTED,charcoal}$	Weighted Average of charcoal quantity in kg required to treat 1 litre of water using technologies representative of project scenario b during project year y, as per Baseline Water Boiling Test																										
$W_{b,y,TRAD,charcoal}$	Quantity of charcoal in kg required to treat 1 litre of water using Traditional cookstove in project scenario p during project year y																										
$W_{b,y,IMP,charcoal}$	Quantity of charcoal in kg required to treat 1 litre of water using Improve cookstove in project scenario p during project year y																										
% of Traditional Stove Users with charcoal in the project	% of Traditional Stove Users with charcoal in the project																										
% of Improved Stove Users with charcoal in the project	% of Improved Stove Users with charcoal in the project)																										
Parameters	Description																										
$B_{p,y,LPG}$	Quantity of LPG consumed in project scenario b during the year y (t)																										
C_j	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it																										
$N_{p,y}$	Number of person.days consuming water supplied by baseline scenario b through year y																										
$W_{p,y,WEIGHTED,LPG}$	Average weighted quantity of LPG in t required to treat 1 litre of water using technologies representative of project scenario b during project year y,																										
$Q_{p,y}$	Quantity of clean water boiled in the project scenario p per person per day																										
$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the project scenario p per person per day																										

	Where:	
	Parameters	Description
	$W_{p,y,WEIGHTED,LPG}$	Weighted Average of LPG quantity in t required to treat 1 litre of water using technologies representative of project scenario p during project year y
	$W_{p,y,LPG(small)}$	Quantity of LPG in kg required to treat 1 litre of water using small LPG cookstove in project scenario b during project year y
	$W_{p,y,LPG(large)}$	Quantity of LPG in kg required to treat 1 litre of water using Large LPG cookstove in project scenario b during project year y
	-	% of Small LPG stove usage in project scenario
	-	% of Large LPG stove usage in project scenario
	-	% of LPG stove usage in the project scenario
	The values of all the listed parameters for both ex ante and monitored ones are assessed in above section 3.6. And the calculation process as elaborated in the ER sheet /3/ has been checked by verification team and re-produced as correct.	
	Hence based on the assessed values, SDG 13 Project Impact (Project emission calculation) during this monitoring period are confirmed by the verification team to be PE_{b,y}= 8,041 tCO₂e	
	SDG 15 Project Impact:	
	CCCI's verification of the MR and field interviews with end-users confirmed the project delivers quantifiable benefits across SDG15 factors: project reduced amount of fuel collected or purchased especially biomass save which contribute to the area of forest save,	
	Analysis of Monitoring Survey Data /8/ demonstrated people access to safe drinking water from using CWP's.	
	Using the verified calculation formula in MR Section E.6.2, the team validated the SDG15 impacts is calculated as below:	
	Project impact of SDG15 = (Amount of biomass use in baseline scenario – Amount of biomass use in project scenario) * f_{NRBy} /Growth stock in forest	
	Where:	
	Parameters	Description
	Amount of biomass use in baseline scenario	Amount of biomass use in baseline per year [t]
	Amount of biomass use in project scenario	Amount of biomass use in project per year [t]
	f_{NRBy}	Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable
	Growth stock in forest	Growth stock in forest in Cambodia
	ER calculation sheet /2/ is verified and confirmed that the Project impacts of SDG15 for this MP is 307 hectares.	
Findings	No findings raised in this section.	

Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the project calculation value of each SDG impact provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of project impact of each SDG impact have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in SDG impact calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.
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Calculation of leakage

Means of verification	The leakage emissions value of 0 tCO₂e per water filter annually was calculated using the approved methodology from the 2nd Crediting Period PDD, with key inputs derived from diesel, gasoline and LPG consumption used to power generators for electricity and for pot firing in factory operations. Verification of " HSE_CP2_MP7_Diesel&LPG_Purchase " /28/ confirmed the purchase of 16,000 liters of Diesel, zero liter of gasoline and 5.62 ton of LPG during the monitoring period, which was transparently applied in the calculation. Diesel and gasoline usage for factory power generation was verified as negligible (16,000 liters diesel which is calculated as 43.08 tCO₂ emission, 0 liters gasoline which is equal to 0 emission), and LPG usage for pot firing in factory operations was verified as also negligible (5.62t LPG which is calculated as 16.82 tCO₂ emission), all the fossil fuel's emission contributing 0.068% ((43.08 tCO₂ + 0.00 tCO₂ + 16.82 tCO₂= 59.90 tCO₂) / 35,018 tCO₂e) to total emissions and thus properly excluded from leakage calculations, as substantiated by purchase records and detailed in the monitoring report. The calculation methodology and input values were verified as correct and conservatively applied. The verification confirms that the PD has properly implemented leakage monitoring through project surveys as required by the PDD, with survey results from Monitoring survey report /8/ showing 42.56% of respondents previously boiled water, 12.04% used sedimentation, and 15.74% employed other filtration methods - demonstrating the project's zero-emission solution did not displace more efficient water treatment technologies. Based on this evidence, the PD's conclusion that no lower-emitting devices were replaced and consequently no leakage assessment is required for this aspect has been verified as correct and in full compliance with methodology requirements.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the leakage calculation value provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of leakage have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in leakage calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.

Calculation of net benefits or direct calculation for each SDG Impact

Means of verification	The verification team has reviewed the calculation of net impact of each SDG in the MR /2/ and emission reduction calculation spreadsheet /3/.				
	Net impact of SDG 1 has been summarized in below table				
	Indicator	Unit	Baseline impact	Project impact	Net benefits
	SDG1 (a) Biomass use	t	61,862	12,019	49,843
	SDG1 (b) LPG use	t	1,039	93	946
	SDG1 (c) % of HH noted on money save	%	0	89.09	89.09
	SDG1 (d) of % of HH noted on time save	%	0	85.32	85.32
	Net impact of SDG 3 has been summarized in below table				
	Indicator	Unit	Baseline impact	Project impact	Net benefits
	Number of people who notice less smoke in kitchen after having water filter	people	0	317,810	317,810
	Net impact of SDG 5 has been summarized in below table				
	Indicator	Unit	Baseline impact	Project impact	Net benefits
	Number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel	people	0	179,579	179,579
	Net impact of SDG 6 has been summarized in below table				
	Indicator	Unit	Baseline impact	Project impact	Net benefits
	Number of people with access to safe drinking water	people	0	562,297	562,297
	Net impact of SDG 7 has been summarized in below table				
	Indicator	Unit	Baseline impact	Project impact	Net benefits
	Amount of energy saves from avoiding boiling water in the project activity	TJ	0	792	792
	Net impact of SDG 8 has been summarized in below table				

	Indicator		Unit	Baseline impact	Project impact	Net benefits
	Number of new jobs created by the project with safe and healthy work environment		people	0	114	114
	Net impact of SDG 13 has been summarized in below table					
	Indicator	Unit	Baseline impact (Baseline Emission)	Project impact (Project Emission)	Leakage	Net benefit
	Total emission reduction	tCO ₂ e	43,059	8,041	0	35,018
	Net impact of SDG 15 has been summarized in below table					
	Indicator		Unit	Baseline impact	Project impact	Net benefits
	The areas of forest save		Hectare	0	307	307
Findings	No findings raised in this section					
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the net benefits for each SDG Impact provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of net benefits for each SDG Impact have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in net benefits for each SDG Impact; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.					

Comparison of actual SDG Impacts with estimates in approved PDD

Means of verification	The comparison of actual GHG emission reductions with estimates in registered PDD /1/ has been checked and re-calculated by the verification team as listed in below table,		
	SDG indicator	Values in PDD	Actual Values achieved in MP
	SDG 1 (a) - Amount of biomass save	52,206 tonnes	49,843 tonnes
	SDG 1 (b) - Amount of LPG save	754 tonnes	946 tonnes
	SDG 1 (c) - Percentage of household noted on money save after using the project technology	88.20%	89.09%
	SDG 1 (d) - Percentage of household noted on time save after using the project technology	89.60%	85.32%

	SDG 3 - Number of people who notice less smoke in kitchen after having water filter	661,992 People	317,810 people
	SDG 5 - Number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel	310,339 women and girls	179,579 women and girls
	SDG 6 - Number of people with access to safe drinking water	724,280 People	562,297 people
	SDG7 - Amount of energy saves from avoiding boiling water in the project activity	818 TJ	792 TJ
	SDG 8 - The number of new job created by the project with safe and healthy work environment	105 People	114 People
	SDG 13 - Total emission reduction (GS VERs)	74,609 tCO ₂ e	35,018 tCO ₂ e
	SDG15 - The areas of forest save (ha)	321 Hectare	307 Hectare
Findings	No findings raised in this section.		
Conclusion	The MR includes a summary table of comparison of actual values of the monitoring period with the estimations in the approved PDD for each SDG impact.		

Remarks on difference from estimated value in registered PDD

Means of verification	Upon reviewing the comparison between the actual values from this monitoring period and the estimates in the approved second crediting period PDD, CCCI verified that the achieved values for SDG1(a,d), SDG3, SDG5, SDG6, SDG7 and SDG15 were lower than the PDD projections. In contrast, SDG1(b,c), SDG8 and SDG13 exceeded the estimated values. The verification team examined all ex-ante determined and ex-post monitored parameters in the MR against the PDD and confirmed that the key parameters influencing the SDG impact outcomes were accurately and plausibly justified as follows:			
	Parameters	Estimated	Actual in this MP	Assessment
	B _{b,y,wood}	0.668 tonnes/year	0.471 tonnes/year	These three parameters are lower than the PDD estimate which is verified due to the change of N _{p,y} . See below assessment to this parameter.
	B _{b,y,charcoal}	0.033 tonnes/year	0.017 tonnes/year	
	B _{b,y,LPG}	0.013 tonnes/year	0.010 tonnes/year	
	N _{p,y}	1,875.735 person.days	1,597.950 person.days	The number of persons per household was verified to be lower than the value used in the PDD /1/.

				The actual figure was obtained from the WCFT survey conducted in December 2024, making it reasonable for the value to be lower than the PDD estimate.
	$Q_{p,rawboil,y}$	1.554 Litres/ person/day	0.310 Litres/ person/day	The $Q_{p,rawboil,y}$ was verified to be lower than the value used in the PDD /1/. The actual figure was obtained from the WCFT survey conducted in December 2024, making it reasonable for the value to be lower than the PDD estimate.
	$B_{p,y,wood}$	0.357 tonnes/year	0.068 tonnes/year	The $B_{p,y,wood}$ was verified to be lower than the value used in the PDD /1/. The actual figure was lower due to the change in volume of water consumed per HH which is verified by checking the monitoring survey report /8/.
	$B_{p,y,charcoal}$	0.018 tonnes/year	0.007 tonnes/year	The $B_{p,y,charcoal}$ was verified to be lower than the value used in the PDD /1/. The actual figure was lower the change in $W_{b,y}$ for charcoal from 138.9324 grams/liter in PDD to 125 grams/liter (Capped value from GS Rule Update) in this MP.
	$B_{p,y,LPG}$	0.007	0.001	The $B_{p,y,LPG}$ was verified to be lower than the value used in the PDD /1/. The actual figure was lower due to the change in volume of water consumed per day which is verified by checking the monitoring survey report /8/.
	$BE_{b,y,wood}$	0.951	0.304	The $BE_{b,y,wood}$ was verified to be lower than the value used in the PDD /1/. The actual figure was lower due to the much lower f_{NRB} value has been used for this MP.

	$PE_{p,y,wood}$	0.508	0.044	The $PE_{p,y,wood}$ was verified to be lower than the value used in the PDD /1/. The actual figure was lower due to the change in amount of water consumption per day per person which is verified by checking the monitoring survey report /8/ and much lower f_{NRB} value has been used for this MP.
	$BE_{b,y,charcoal}$	0.286	0.065	The $B_{b,y,charcoal}$ was verified to be lower than the value used in the PDD /1/. The actual figure was lower the change in $W_{b,y}$ for charcoal from 138.9324 grams/liter in PDD to 125 grams/liter (Capped value from GS Rule Update) in this MP and much lower f_{NRB} value has been used for this MP.
	f_{NRB}	77.00%	30%	The ex-ante f_{NRB} value applied in the PDD was 77%, sourced as a default value from UNFCCC. However, verification on the UNFCCC website confirmed that this default value was only valid until February 2019. For this monitoring period, PD applied an f_{NRB} value of 30%, derived from default value of CDM tool 33 version 2.0 /47/. Verification confirmed that TPDDTEC V3.0 permits f_{NRB} to be fixed during baseline studies for a given crediting period, with updates allowed when necessary. Starting with CP2-MP4, PD reassessed available data for an f_{NRB} update in accordance with methodology requirements. The validated value of 95.01% which was cross-referenced with GS case 751 /64/ confirmed GS's

				approval of this updated Cambodian f_{NRB} value. However, via checking the performance review by GS for the CP2-MP6 verification /65/, CCCI confirmed that PD has updated the f_{NRB} calculation using the latest data from source of "Biomass Non-Renewability Assessment Cambodia" while the value is calculated as 92.97%. While for this MP, as confirmed by PD, they voluntarily reduced the f_{NRB} value from 92.97% to 30% which is a default value of CDM Tool 33 version 2.0 /47/ which is much lower and more conservative than that of 95.01% or 92.97% used in previous MPs. This prudent adjustment acts as an interim measure before implementing the revised f_{NRB} value in the subsequent monitoring period (CP3-MP1), following the updated f_{NRB} Application for GS4GG Certification /44/ which is effective on 24/04/2025. The f_{NRB} Application for GS4GG Certification /44/ has been checked and the default value from CDM Tool 33 version 2.0 is verified as applicable and conservative for this monitoring period.
	% of passing Water Quality test	80.00%	93.33%	The water quality test passing rate exceeded the PDD projections. To promote hygiene awareness, the PD integrated a general hygiene campaign into sales meetings and conducted additional hygiene surveys alongside project and usage assessments. Based on the

				Hygiene Campaign Presentation Table /36/, CCCI confirmed 104,774 participants during this monitoring period. This initiative likely contributed to improved hygiene awareness and enhanced operation and maintenance knowledge among CWP users.
	Units sold	49,214	31,945	The actual number of CWPs sold during this monitoring period was lower than the PDD estimate. Interviews with sales staff and the PD revealed that the PDD projection was based on historical sales data (since 2013) and market trends which was forecasted in 2017. However, sales declined sharply in 2018 due to staff restructuring at Hydrologic and reduced promotional activities during Cambodia's general election. According to the sales database (SDB), CWP sales from January to November 2024 slightly exceeded those of the same period in 2023.
Findings	No findings raised in this section.			
Conclusion	The achieved values for SDG1(a,d), SDG3, SDG5, SDG6, SDG7 and SDG15 were lower than the PDD projections. In contrast, SDG1(b,c), SDG8 and SDG13 exceeded the estimated values, which is assessed as appropriate and accepted.			

3.10. Assessment of safeguarding reporting

CCCI reviewed Section D.1 and Appendix 1 of the PDD and confirmed that no safeguarding principles require monitoring for this project.

During onsite inspection of CWP production, the verification team observed the application of silver colloid in the manufacturing process. In accordance with the validation report and PDD, the Ministry of Industry and Handicraft has assessed Hydrologic's environmental impacts and determined that no chemical emissions occur; therefore, no additional monitoring is necessary.

Furthermore, the team verified the Certificate for factory operation /10/, which confirms that the facility complies with:

- The Law on the Management of Handicraft Factories

- The Law on Rules
- The Law on the Management of Factories and Handicrafts
- All applicable national regulations and environmental requirements

Based on this comprehensive review, the verification team concludes that no negative impacts on safeguarding principles occurred during this monitoring period.

3.11. Assessment of stakeholder inputs and legal disputes

Through user interviews and site visits, CCCI confirmed the operational status of the Grievance Mechanism/Continuous Inputs system. The verification team found that:

- Two hotline numbers are prominently displayed on warranty certificates, CWP stickers, and informational leaflets
- Sampled end-users confirmed their ability to report issues or provide feedback via these hotlines

Review of project documentation (HSE_CP2-MP7_Hotline Tracking Record /34/ and Replacement Report /31/) revealed:

- All the received hotline calls have been followed up and closed.
- The number of replacement parts exceeded reported hotline cases
- This discrepancy confirms the PD's proactive approach in addressing user concerns beyond formal complaints

Additional verification confirmed:

1. No user complaints were received during the monitoring period
2. Published contact information for PD and GS remains available on Hydrologic's website as part of the grievance mechanism
3. Physical inspection of the grievance book during a conference call with PP showed no recorded grievances

All agreed monitoring measures listed in the GS passport /7/ were assessed as below and confirmed as properly implemented during this period.

Sustainability Matrix No.1 indicator - To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is no carbon finance.

The PD monitors the break-even pricing of CWPs to ensure end users receive subsidized products, as documented in Break-Even Price /32/. This verification involved cross-checking with:

- Direct sale pricing (HSE_MP7-CP2-DS-Price /33/)
- Monitoring survey report /8/

Break-Even Price /32/ analysis reveals:

1. the average price for Original Tunsai (\$14.25) is much lower than the break-even price +10% profit margin (\$39.20).
2. the average price for Super Tunsai (\$39.34) is lower than the break-even price +10% profit margin (\$43.84),
3. the average price for Super Tunsai Plus (\$42.83) is lower than the break-even price +10% profit margin (\$45.03),
4. the average price for Tunsai Thom (41.14\$) is lower than the break-even price +10% profit margin (\$42.37)
5. the average price for Tunsai Thom Autofill (58.80\$) is a little bit higher than the break-even price +10% profit margin (\$55.72)

However, the weighted average price across all filters (36.82\$) remained below the target break-even price +10% (43.54\$). Monitoring Survey Report /8/ confirms these pricing levels comply with project requirements, demonstrating successful delivery of affordable filters to end users.

The verification team confirms the successful closure of this indicator of the FAR during the current MP.

Sustainability Matrix No.2 indicator - To address the concern of the place where the clay is taken, Hydrologic will buy the clay only from the licensed brick manufacturing factory that authorized by the Ministry of Industry and Handicraft.

During factory staff interviews, the verification team confirmed that the PD did not purchase additional clay during this monitoring period. This decision was made due to sufficient existing inventory from their 2018 purchase from a neighboring licensed brick factory. The Hydrologic factory is situated within a brick manufacturing zone, ensuring ready access to clay sources.

The factory's clay stock and procurement practices were physically verified during the VVB's site visit. The PD's clay supply chain remains stable and compliant with project requirements, with no need for additional purchases during this monitoring period.

The verification team confirms the successful closure of this indicator of the FAR during the current MP.

Sustainability Matrix No.3 indicator - To address the concern of corruption, the field Surveys will monitor and ask how much are people paying for the water filters and assess that the prices are not unreasonable. If the prices are unreasonable, PD shall investigate the reason and take appropriate action. PD believes that this risk is low because there are so many sales people that competition will keep the price low.

The monitoring survey report /8/ verifies that the mean purchase price for CWP (43.32\$) aligns with the current pricing (45\$) documented in "HSE_MP7-CP2-DS-Price" /33/. The verified pricing structure is determined to be reasonable and compliant with project standards.



CHINA CERTIFICATION CENTER, INC.

4. VERIFICATION STATEMENT

China Certification Center, Inc. (CCCI) has performed the 7th periodic verification of Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia, GS4GG Reference Number 1020, covering the monitoring period 01/01/2024 to 30/11/2024, and applying methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.0-July 2015. The verification was performed on the basis of Gold Standard for the Global Goals (GS4GG) criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

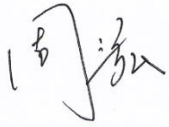
The verification consisted of the following three phases: i) desk review of the project design, monitoring report and additional background documents; ii) on-site interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

CCCI has verified the project Monitoring Report Version 2.0 dated 16/06/2025 for the monitoring period as indicated above. CCCI confirms that the Project is implemented as described in the registered Project Design Document. Installed equipment being essential for generating emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating SDG impacts as a GS4GG project.

CCCI can confirm that the SDG impact are calculated without material misstatements. Our opinion relates to the Projects' SDG impact reported and related to the validated and registered project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that SDG impacts are appropriately calculated, CCCI confirms the following statement:

SDG	Total in 7 th MP
	01/01/2024 to 30/11/2024
SDG 1 - No Poverty	(a) 49,843 tonne of biomass save/year
	(b) 946 tonne of LPG save/year
	(c) 89.09% of household noted on money save
	(d) 85.32% of household noted on time save
SDG 3 - Good Health and Well-Being	317,810 people noted less smoke in kitchen
SDG 5 - Gender Equality	179,579 women and girls benefit from stop boiling water
SDG 6 - Clean Water and Sanitation	562,297 people access to safe drinking water
SDG 7 - Affordable and Clean Energy	792 TJ of energy save/year
SDG 8 - Decent Work and Economic Growth	114 staff employed/year
SDG 13 - Climate Action	GHG emission reductions - 35,018 tCO ₂ e/year
SDG 15 - Life on Land	307 hectare of forest save/year

SDG	Product Vintage year	Total in 7 th MP
	01/01/2024 to 30/11/2024	01/01/2024 to 30/11/2024
SDG13 - GHG Emission reductions	35,018 tCO ₂ e GS VER	35,018 tCO ₂ e GS VER

Work carried out by:	Team Leader: Ms. Hong Dandan Team member: Ms. Li Ying
Technical Review by:	Mr. Stefan Liang
Name, position and signature of the approver of the verification report	Mr. Zhou Hong, Director of GHG Department 

5. COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Hong Dandan	Team Leader	Ms. Hong Dandan has 9 years work experience in CDM projects since 2009. She received comprehensive training of CDM and has participated in more than 45 CDM projects including wind power, hydro power, CMM, waste heat recovery and CDQ. Her background includes both project validation and verification. Before joining CCCI, Hong Dandan worked with the CDM development company EEA and WWF. Ms. Hong Dandan has completed the CCCI Validation & Verification training course, and has completed internal auditor training in ISO 9001 and ISO14001, and lead auditor training in CDM and ISO 14064. Ms. Hong Dandan has covered sectoral scopes of 1, 8. Ms. Hong Dandan has abundant GHG project auditing experience in China and other regions of Asia.
Li Ying	Team member	Ms. Li Ying is an environmental engineer with extensive practical experience in the carbon market. She has worked in carbon markets since 2006 and gained extensive experience in the development and implementation of CDM projects, working in the area of project-based mechanisms. Her background includes both project validation and verification, in different sectoral scopes, including renewable energy, waste heat and gas recovery from iron and steel plants or cement plants, landfill gas combustion and utilization projects, coal mine methane, natural gas. She has developed and managed the validation/verification of number of CDM project activities, including experiences in CDM Project Design Document (PDD) development, the monitoring system building, data QA/QC, emission reduction calculation review and documentation review, where she has obtained a good understanding of technical aspects in these sectoral scopes as well as their specific CDM aspects.
Stefan Liang	Technical Reviewer	Mr. Stefan Liang is a lead Auditor based in Beijing. Mr Liang holds a BEn in Environmental Engineering and an MSc in Environmental Science & Engineering. He has 11 years' experience in carbon project development and certification, including 10 years' experience in GHG projects' validation and verification. He has participated in CDM validation and verification for about 100 projects, which include sectors in wind power, hydropower, biomass, waste heat recovery, waste disposal and coal mine methane. Mr. Liang is qualified as expert for sectoral scope 1. Energy &13. Waste handling and treatment. Mr. Liang has completed the CCCI Validation & Verification training course, and has completed internal auditor training in ISO 9001 and ISO14001, and lead auditor training in CDM and ISO 14064. Mr. Liang has passed the GS DOE webinar on 8 Dec 2016 and 27 Mar 2017, and conducted verification for several GS VER projects (GS 612, GS472, GS1001, GS1350, GS401).

6. DOCUMENTS REVIEWED OR REFERENCED

No	Author	Title	References to the document	Provider
1.	Nexus for Development	Approved 2 nd crediting period GS4GG Project Design document of the project	- Version No. 11.2, dated 05/02/2018	PD
2.	Nexus for Development	7 th periodic Monitoring Report of the project	- Draft Version No. 1.0, dated 25/03/2025 - Final Version No. 2.0, dated 16/06/2025	PD
3.	Nexus for Development	7 th periodic Emission Reduction Calculation spreadsheet of the project	- Draft Version No. 1.0, dated 25/03/2025 - Final Version No. 2.0, dated 16/06/2025	PD
4.	VVB	Approved 2 nd crediting period Validation report of the project	https://registry.goldstandard.org/projects/details/15	N/A
5.	VVBs	Previous Verification reports of the project	https://registry.goldstandard.org/projects/details/15	PD
6.	Nexus for Development	GS4GG transition Annex	GS4GG transition Annex for the project activity	PD
7.	Nexus for Development	Gold Standard Passport	Gold Standard Passport for the project dated 15/01/2018, version 3.0	Gold Standard
8.	Absolute Consulting Services (ACS)	Monitoring Survey Report for this monitoring period	HSE_CP2-MP7_2025_US-PS-WCFT_V3.0	PD
9.	Absolute Consulting Services (ACS)	Original project survey questionnaires	HSE_US_PS_Questionnaire_2024_Final	PD
10.	Government of Kampong Chhnang Province	Certificate for factory operation	Issued on 06/05/2022	PD
11.	PD	Installation summary report	LPG Kiln installation summary report	PD
12.	Hydrologic Enterprise Ltd.&Factory	Business License	Business License of Hydrologic Enterprise Ltd. and its full-fledged factory situated in Trapeang Samrong Village	PD
13.	Angkor Research Consulting	Baseline Report	Baseline report: Angkor Research and Consulting (2017) "Baseline Survey Report on Ceramic Water Purifier by Hydrologic in the Kingdom of Cambodia".	PD
14.	PD	CWP specifications	CWP specifications for 5 models	PD
15.	PD	Warranty cards	Warranty cards of CWP	PD

16.	Angkor Research Consulting	C _j & X _{boil} calculation sheet	HSE_CP2_Cj&Xboil_20171023	PD
17.	PD	Sales database	HSE-CP2MP7 Sales Database_2024	PD
18.	PD and users, retailers and NGOs	Sales invoices of CWP	50 samples - Sales invoices of CWP during this MP	PD
19.	Absolute Consulting Services (ACS)	Monitoring Survey Report (2019)	HSE(2019)_MonitoringSurvey_V6Final, Table 54	PD
20.	Nexus for Development	HSE_CP2-MP1_ER calculation sheet	HSE_CP2-MP1_ER calculation sheet	PD
21.	Absolute Consulting Services (ACS)	WCFT Protocol	WCFT Protocol	PD
22.	Nexus for Development	Monitoring_Flow	HSE_CP2-MP7_Monitoring_Flow	PD
23.	Nexus for Development	Sample_Frame	Sample_Frame_Project_Data 2019-2024(Final)	PD
24.	PD	Project database	CP2-MP7_Project_Data2019-2024(Final)	PD
25.	PD	Serial number database	HSE-CP2-MP7_CWP Serial number 2024	PD
26.	Nexus for Development	Water Quality Test Protocol	HSE_CP2-MP7_WQ_protocol	PD
27.	Institut Pasteur du Cambodge	Water Quality Test Reports	HSE_CP2-MP7_Lab_Testing_Result	PD
28.	PD	Purchase records	HSE_CP2_MP7_Diesel&LPG Purchase	PD
29.	PD	Diesel purchase invoices	Diesel purchase invoices during this MP	PD
30.	PD	LPG purchase invoices	LPG purchase invoices during this MP	PD
31.	PD	Replacement Report	HSE-CP2-MP7-Replacement Report 2024	PD
32.	PD	Break Even Price	HSE-CP2-MP7-Break Even Price Jan-Nov 24	PD
33.	PD	Direct sale price	HSE_MP7-CP2-DS-Price	PD
34.	PD	Hotline Tracking Record	HSE_CP2-MP7_Hotline Tracking Record	PD
35.	PD	Employment_Record&Income Generation	HSE_CP2-MP7_Em&Inc2024	PD
36.	PD	Hygiene Campaign Presentation Table	Hygiene Campaign Presentation Table 8 in 2024	PD
37.	PD and carbon consultant from Nexus	Training records	Database refreshing training to PP's customer service team in Oct. 2024	PD
38.	PD	Declaration of No Double Counting	HSE-Declaration-No-double-Counting	PD
39.	National government	Document of wage in Cambodia	"Determination of Minimum Wage for Workers/Employees"	PD

40.	PD	Calibration&Inventory	ACS_HSE-Calibration&Inventory_2024_EN	PD
41.	GS	Applied GS approved methodology	Approved GS Methodology: "Technologies and Practices to Displace Decentralized Thermal Energy Consumption – version 3.0, July 2015"	GS website
42.	GS	Rule Update - Application of TPDDTEC	Application of TPDDTEC Methodology to Safe Water Supply Projects" (30/06/2022)	GS website
43.	GS	Referenced methodology	Approved GS Methodology: "Methodology for Emission Reductions from Safe Drinking Water Supply (SDWS) – Version 1.0, 03/05/2021"	GS website
44.	Gold Standard	f _{NRB} Application for GS4GG Certification	RU_2025_fNRB-application-for-GS4GG-certification (Version 1.0)	Gold Standard
45.	UNFCCC	AMS-II.G	CDM approved methodology AMS-II.G	UNFCCC
46.	UNFCCC	AMS-III.AV	CDM approved methodology AMS-III.AV, version 5	UNFCCC
47.	UNFCCC	CDM Tool 33	Default values for common parameters (Version 2.0)	UNFCCC Website
48.	Gold Standard	Guidelines for carrying out usage surveys	Gold Standard "Guidelines for carrying out usage surveys for projects implementing household water filtration technologies – 05/02/2014"	Gold Standard
49.	UNFCCC	Guideline of Sampling and surveys	Guideline of Sampling and surveys for CDM project activities and programmes of activities, version 04.0	UNFCCC Website
50.	UNFCCC	Standard of Sampling and surveys	Sampling and Surveys for CDM Project Activities and Programme of Activities version 09.0	UNFCCC Website
51.	Food and Agriculture Organization of the United Nations	Global Forest Resources Assessment 2015	Global Forest Resources Assessment 2015	Public Website
52.	World Health Organization	WHO recommendations	https://www.who.int/water_sanitation_health/diseases/WSH03.02.pdf	Public Website
53.	GS	GS4GG MR template	Gold Standard for the Global Goals Monitoring Report (MR) Template, version 1.1 in October 2020	GS Website
54.	GS	Gold Standard for the Global Goals Principles and Requirements	Version 1.2	GS Website

55.	GS	Gold Standard for the Global Goals Safeguarding Principles & Requirements	Version 1.2	GS Website
56.	GS	Gold Standard for the Global Goals Community Services Activity Requirements	Version 1.2	GS Website
57.	GS	Gold Standard for the Global Goals Stakeholder Consultation and Engagement Requirements	Version 1.2	GS Website
58.	GS	GS4GG GHG Emissions Reduction & Sequestration Product Requirements	Version 2.3	GS Website
59.	GS	GS4GG Validation and Verification Standard	Version 2.0	GS Website
60.	Gold Standard Organization	Gold Standard	http://www.goldstandard.org/	Website
61.	UNFCCC	UNFCCC	http://cdm.unfccc.int	Website
62.	Angkor Research Consulting	Angkor Research public website	http://angkorresearch.com/?page=front&lg=en	Public website
63.	Laboratory	Official website of laboratory	https://www.pasteur-kh.org/about-us/	Website
64.	GS Website	GS case No.751	https://registry.goldstandard.org/projects/details/1176	GS Website
65.	GS Website	Performance review by GS for the CP2-MP6 verification	https://registry.goldstandard.org/projects/details/1176	GS Website
66.	IPCC	IPCC	2006 IPCC Guidelines for National Greenhouse Gas Inventories IPCC (2007) "IPCC Fourth Assessment Report: Climate Change 2007/ Climate Change 2007/Working Group I: The Physical Science Basis 2.10.2 Direct Global Warming Potential" available at [last accessed 15-06-2015] www.ipcc-nggip.iges.or.jp	Public Website
67.	IPCC	IPCC AR5	https://www.ipcc.ch/report/35/wg1/	Public Website

7. CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS AND FORWARD ACTION REQUESTS

No remaining FAR from validation and/or previous verification.

Table 1. CL from this verification

CL ID	1	Section no.	B.1	Date: 28/04/2025
Description of CL				
In section B.1, for the new type Super Tunsai Plus, a clarification of the new type's technical introduction is requested.				
Project participant response				Date: 16/06/2025
PD has added a foot note to clarify the technical specification of between the Super Tunsai and the Super Tunsai Plus as <i>"Super Tunsai" and "Super Tunsai Plus" share the same technical specifications, with the only differences being the receptacle storage size and color. The Super Tunsai features a 14-liter transparent receptacle, while the Super Tunsai Plus comes with an 18-liter blue receptacle as seen in the revised MR.</i>				
Documentation provided by project participant				
/2/-version 02				
VVB Assessment				Date: 19/06/2025
CCCI has checked the clarification, and considers the clarification of the new type's technical introduction is clear. The CL 01 is therefore closed.				

CL ID	2	Section no.	B.1	Date: 28/04/2025
Description of CL				
In table 5 of section B.1, PD listed only 4 types of the CWP, but without original Tunsai, the reason need to be clarified.				
Project participant response				Date: 16/06/2025
PD has added the reason for this as <i>"The original Tunsai is not sold through direct sale channel due to low market demand, which is primarily attributed to its bold design, despite its low price. However, it is distributed through NGO sales, where it may be donated to villagers"</i> in the revised MR.				
Documentation provided by project participant				
/2/-version 02				
VVB Assessment				Date: 19/06/2025
CCCI has checked the clarification, and considers the clarification is clear. The CL 02 is therefore closed.				

Table 2. CAR from this verification

CAR ID	1	Section no.	C	Date: 28/04/2025
Description of CAR				
In section C, the description of monitoring framework is missing which should include the organization structure of the monitoring team and responsibilities of each duty.				
Project participant response				Date: 16/06/2025
PD has added a table summarizing the organization structure of monitoring team and responsibilities of each duty as seen in the revised MR.				
Documentation provided by project participant				

/2/-version 02 /22/ /62/	
VVB assessment	Date: 19/06/2025
CCCI has checked the updated MR and confirmed the revision is reasonable. The MR contains a table illustrating the Organization Structure of the Monitoring Team being implemented by the project owner in order to implement the project activity which is confirmed consistent with the PDD and monitoring flow chart /22/. The Hydrologic team are responsible for the providing project database serve as sample frame for the survey, recording sale data and recording the customer database or project database for this monitoring period. And all the data was reviewed by the Carbon expert (Nexus consultant). Besides, a consultant firm (third party /62/) is responsible for conducting field survey and field test. The organizational structure is considered sufficient to fulfil the monitoring requirements of the methodology and ensure that emission reductions verified for this monitoring period. The CAR 01 is therefore closed.	

CAR ID	2	Section no.	C	Date: 28/04/2025
Description of CAR				
In section C, for the double counting demonstration, 1. If the project is creating any other form of environmental credit beside this GS1020 is not stated, 2. A declaration of no double counting is requested for this MP.				
Project participant response				Date: 16/06/2025
1. PD has updated the MR by including "Furthermore, HSE would like to declare that the project is not creating any other form of environmental credit beside this GS1020 project as stated in the attached declaration" as details in the revised MR. 2. The declaration of no double counting is provided.				
Documentation provided by project participant				
/2/-version 02 /38/				
VVB assessment				Date: 19/06/2025
1. CCCI has checked the updated MR and confirmed the revision is reasonable. 2. Through an examination of the "Declaration of No Double Counting" /38/, the verification team has confirmed that the emission reductions from this project were not double counted during this monitoring period. The CAR 02 is therefore closed.				

CAR ID	3	Section no.	D.2	Date: 28/04/2025
Description of CAR				
In section D.2, for parameters $Q_{p,rawboil,y}$ and $Q_{p,cleanboil,y}$, the description of the device used to weight the "water consumption per day" is not correct, revision is requested.				
Project participant response				Date: 16/06/2025
For $Q_{p,rawboil,y}$, PD has corrected the description as "Analog scale is used to weight the volume of raw water boiled per person per day as seen in the revised MR. For $Q_{p,cleanboil,y}$, PD has also corrected the description as "Analog scale is used to weight the volume of filtered water boiled per person per day as seen in the revised MR.				
Documentation provided by project participant				
/2/-version 02 /3/-version 02				
VVB assessment				Date: 19/06/2025
CCCI has checked the updated MR and confirmed the revision is reasonable. The CAR 03 is therefore closed.				

CAR ID	4	Section no.	D.2	Date: 28/04/2025
Description of CAR				
In section D.2, for parameter $LE_{p,y}$, the numbers of the purchased diesel and LPG are not consistent with the evidence, revision is requested.				
Project participant response				Date: 16/06/2025
PD has corrected the value of purchased diesel and LPG in the revised MR.				
Documentation provided by project participant				
/2/-version 02 /28/				
VVB assessment				Date: 19/06/2025
CCCI has checked the updated MR and confirmed the revision is correct. In compliance with this requirement, the PD has accounted for LPG, diesel consumption. The inputs are derived from purchase records for LPG, diesel, and gasoline /28/, which have been verified as consistent with the evidence. The CAR 04 is therefore closed.				

No FAR from this verification