

Sustainability Verification Report

For

Gold Standard Verification of PoA

“International Programme for Safe Water Access and
Efficient Cookstoves” GS ID 7591

by

CO2balance UK Ltd.

GivePower Kenya Solar Water Farms

Gold Standard Ref No:

GS7591 (PoA), GS10987 (VPA)

Monitoring Period:

01/09/2020 to 31/12/2021

Report No: CCIPL1058/GS/VER/GPKS/20211126

Revision number: 05

Report Date: 02/08/2022

Carbon Check (India) Private Ltd.

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Pradesh

I. PROJECT DATA

Project title:	PoA: International Programme for Safe Water Access and Efficient Cookstoves VPA: GivePower Kenya Solar Water Farms		
Registration No. / Date:	GS7591 (PoA) GS10987 (VPA)	Scale:	Small
Monitoring period:	01/09/2020 to 31/12/2021, Both days inclusive	Monitoring Period Number:	1
Methodology:	TPDDTEC version 3.1	Sectoral Scope/Technical Area:	03/3.1
Publication of MR:	Initial version: Version 1, dated 07/01/2022		
Final Monitoring Report:	Monitoring report (version 8, 29/07/2022).		
Average emission reductions:	Estimated: 79,890 tCO ₂ e	Verified:	15,535 tCO ₂ e
GHG reducing measure/technology:	GHG reduction due to provision of safe water using photovoltaic cells to power desalination technology to households in coastal Kenya. By providing safe water, the project will ensure that households consume less firewood and charcoal during the process of water purification and as a result there shall be a reduction of carbon dioxide emissions from the combustion process.		

Party	Project participants	Party considered a project participant	Contract party
Kenya (Host)	CO2balance UK Ltd (private entity)	No	<input checked="" type="checkbox"/>
Kenya (Host)	GivePower Foundation (private entity)	No	<input type="checkbox"/>

II. VERIFICATION TEAM

Verification Team				Role									
Full name	Affiliation	Appointed for Sectoral Scopes (Technical Areas)	Team leader	Acting/trainee Team Leader	Local Expert	Team Member (Auditor)	Technical Expert	Acting/Trainee Tech. Expert	Trainee Auditor	Technical Reviewer	Expert to TR	Trainee TR	Trainee Assessor
Anubhav Dimri	Carbon Check	1.1, 1.2, 3.1, 8.1, 13.1	X				X						
Job Muriuki	Carbon Check	--			X								
Indumathi C	Carbon Check	1.1, 1.2, 3.1, 13.1, 13.2								X			


III. VERIFICATION REPORT

Verification Phases and Status:

Desk Review Follow up interviews, Remote Audit Assessment

Resolution of outstanding issues Corrective Actions / Clarifications Requested

Full Approval and Submission for Issuance Rejected.

Final Approval Date	Approval	Distribution
<input checked="" type="checkbox"/>	By: Amit Anand 	<input checked="" type="checkbox"/> No distribution without permission from the Client or responsible organizational unit <input type="checkbox"/> Limited Distribution <input type="checkbox"/> Unrestricted distribution
Date: 2022/08/02		

Abbreviations

BAU	Business As Usual
CA	Corrective Action / Clarification Action
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DOE	Designated Operational Entities
DVR	Draft Validation Report
EB	CDM Executive Board
ETN	Electricity Transaction Note
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GS	Gold Standard
GHG	Greenhouse gas(es)
GWh	Giga Watt Hour
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MWh	Mega Watt Hour
MRR	Monthly Reading Records
OSV	On Site Visit
QC/QA	Quality control/Quality assurance
RMP	Revised Monitoring Plan
SDG	Sustainable Development Goals
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Verification Opinion — summary

Carbon Check (India) Private Ltd. has performed the 1st periodic verification of the GS-VPA “GivePower Kenya Solar Water Farms”, GS reference number GS10987 registered under PoA “International Programme for Safe Water Access and Efficient Cookstoves” GS reference number GS7591, registration date 09/08/2021.

The monitoring period under assessment is from 01/09/2020 to 31/12/2021 (inclusive of both days). The verification team assigned by the DOE concludes that the GS PoA as described in the GS4GG PoA-DD (version 7, dated 09/06/2021) /B04/, GS VPA-DD (version 9, dated 15/09/2021) /B04, and monitoring report (version 08, 29/07/2022) /01/, meets all relevant requirements of the Gold Standard for Global Goals. The verification has been conducted in-line with the requirements of CDM VVS for PoAs (version 03.0) /B01/ and GS4GG principles & requirements version 1.2, GS4GG safeguarding principles & requirements version 1.2, GS4GG programme of activity requirements version 1.2, GS4GG community services activity requirements version 1.2 /B03/ and other relevant requirements as applicable.

Verification methodology and process

The Verification team confirms the contractual relationship signed on 07/12/2021 between the DOE, Carbon Check (India) Private Ltd. and the CME, CO2balance UK Ltd /11/. The team assigned to the verification meets the Carbon Check (India) Private Ltd. internal procedures including the UNFCCC and GS4GG requirements /B03/ for the team composition and competence. CCIPL has conducted a thorough contract review as per UNFCCC, GS4GG and Carbon Check procedures and requirements.

The verification has been performed as per the requirements described in the Gold Standard for the Global Goals Principles & Requirements (version 1.2) and CDM VVS for PoA (version 03.0) /B01/ and constitutes the review and completion of the following steps:

- Reviewing the registered/ revised approved PoA-DD /B04/ (version 7, dated 09/06/2021), including the monitoring plan and the corresponding validation report, including the SDG parameters;
- Desk review of the MR /01/, previous verification reports (if any), deviation request and requests for the revision of monitoring plan (if any) and other relevant documents including documents related to the project activities in emission reductions.
- Review of the applied monitoring methodology TPDDTEC version 3.1/B02/
- Review of any CMP and EB decisions, clarifications and guidance from the Gold Standard for Global Goals;
- Remote interview (03/02/2022 to 04/02/2022)
- Issuance of Draft Verification Report (08/02/2022)
- Resolution of CARs and CLs raised during verification.
- Confirmation that any FARs raised during validation or previous verification have been addressed by the Project Participant.
- Issuance of Final Verification Report.

In Carbon Check’s opinion the project activity has been implemented in accordance with the monitoring methodology /B02/, monitoring plan /B04/ as contained in the registered PoA-DD and VPA-DDs /B04/. Based on document review and remote interviews, the verification team confirms that the project has resulted in 15,535 tCO₂e of net emission reductions during the reported monitoring period. The GHG parameters and non-GHG parameters were correctly calculated/monitored on the basis of the applied approved monitoring methodology /B02/ and as per the registered/ revised approved PoA-DD and the VPA-DD/B04/.

Carbon Check as the DOE is therefore pleased to issue a positive verification opinion expressed in the attached Certification statement and certify the net emission reductions—of 15,535 tonnes of CO₂ equivalent from the PoA “International Programme for Safe Water Access and Efficient Cookstoves” during the above stated monitoring period.

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1. INTRODUCTION

CO2balance UK Ltd has appointed Carbon Check (India) Private Ltd. to perform an independent verification of the GS PoA “International Programme for Safe Water Access and Efficient Cookstoves” and GS VPA “GivePower Kenya Solar Water Farms” in Kenya (hereafter referred to as “project activity”). This report summarises the findings of the verification of the project, performed on the basis of GS4GG principles & requirements version 1.2, GS4GG safeguarding principles & requirements version 1.2, GS4GG programme of activity requirements version 1.2, GS4GG community services activity requirements version 1.2 /B03/ and paragraph 62 of the CDM M & P, as well as criteria given to provide for consistent project operations, monitoring and reporting and the subsequent decisions by the CDM Executive Board and Gold Standard Secretariat. Verification is required for all registered GS PoA/VPA/B04/ intending to confirm their achieved emission reductions and proceed with request for issuance of GS-VERs. This report contains the findings and resolutions from the verification and a certification statement for the verified emission reductions.

1.1 Objective

Verification is the periodic independent review and *ex post* determination of both quantitative and qualitative information by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered GS PoA/VPA /B04/ during a defined monitoring period.

Certification is the written assurance by a DOE that, during a specific period in time, a project activity achieved the emission reductions as verified. Hence, this will be issued only after the successful closure of CARs and CLs.

The objective of this verification was to verify and certify emission reductions reported for the GS-VPA “GivePower Kenya Solar Water Farms” under the GS-PoA “International Programme for Safe Water Access and Efficient Cookstoves” in country “Kenya” for the monitoring period 01/09/2020 to 31/12/2021 (both days inclusive).

The purpose of the verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in anthropogenic emissions by sources, is sufficient, definitive and presented in a concise and transparent manner. Other non-GHG parameters shall also be assessed as per the requirement of GS. Verification of emission reductions for Gold Standard crediting is only for eligible gases.

In particular the monitoring plan, monitoring report and the project’s compliance with relevant GS4GG/UNFCCC and host Party criteria are verified in order to confirm that the project has been implemented in accordance with the previously registered project design and conservative assumptions, as documented. And also, to confirm that monitoring plan is in compliance with the registered/ revised approved PoA-DD and VPA-DD/B04/ and approved monitoring methodology.

1.2 Scope

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered/ revised approved PoA-DD and VPA-DD/B04/
- To verify the implemented monitoring plan with the registered/ revised approved PoA-DD and VPA-DD and applied baseline and monitoring methodology/B02/.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data/02/ and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data and other non-GHG parameters as per the requirement of GS is sufficiently supported by evidence.

Carbon Check scope of verification as a third-party verifier is to verify project emission reductions and sustainable development impacts against the requirements set out by the Gold Standard. The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

The verification comprises a review of the Monitoring report over the monitoring period (01/09/2020 to 31/12/2021) (both days inclusive) and based on the registered PoA-DD and VPA-DD/B04/ in part of the monitoring parameters and monitoring plan, emission reduction calculation spread sheet, monitoring methodology and all related evidence provided by project participant.

Remote interview and stakeholders' interviews are also performed as part of the verification process.

1.3 Project Activity Description

Review of the monitoring report /01/ reveals that the objective of the VPA is to support the provision of safe water using photovoltaic cells to power desalination technology to thousands of households in coastal Kenya. By providing safe water, the project will ensure that households consume less firewood and charcoal during the process of water purification and as a result there shall be a reduction of carbon dioxide emissions from the combustion process.

The VPA of the PoA involves installation of a number of solar desalination plants. GivePower Foundation installs the solar desalination plants and deliver the maintenance programme for all the desalination plants included in the project activity to ensure that the quality of the water delivered by the plants is fit for human consumption for the entire length of the project, which will be a minimum of 5 years.

There are two different models of solar desalination plant that have been in use during the monitoring period: the MAXI and Mobi+. The detailed plant details for each type are provided below:

Plant ID	Technology/ Model	Community Served	Inclusion/ Commissioning	Current Status
MAXI 1	MAXI	Likoni	31/08/2020	Operational
MAXI 2	MAXI	Bamburi	28/06/2021	Operational
MOBI+ 1	MOBI+	Makindu	20/07/2021	Not operational since 19/10/2021

The technical specifications of the models of solar desalination plant are provided below:

Model	MAXI	Mobi+
Treatment Capacity (litres per day)	75,000	15,000
Water storage capacity (litres)	60,000 (potable) 20,000 (raw)	10,000
Operational Power requirements (kW of solar energy)	50	7.7
Energy storage capacity (kWh)	135	27
Targeted water consumption (litres per person per day)	10-15	10-15
Maximum targeted population to serve	20,000	4,250
Expected Lifespan	20 Years	20 Years

The specification of the solar desalination plant provided in the MR/01/ were cross-checked with the specifications sheets/03/ provided to the verification team.

CO2balance UK Ltd is the coordinating/ managing entity (CME) for the programme. VPA titled GivePower Kenya Solar Water Farms has been included in the program /B04/ and the solar desalination plants installed in the programme are containerized solar-powered desalination units providing safe water supply. There are two different models of solar desalination plant currently intended for use within the project: the MAXI and Mobi+. A total of 03 solar desalination plants have been installed in the VPA/05/. The commissioning certificates and EIA licenses have been checked by the verification team to confirm the start of operation of the desalination plants. Only 02 solar desalination plants are operational and one solar desalination plant is not operational anymore. The decommissioning certificate for Makindu site has been provided to the verification team/16/.

The PoA aims to support sustainable development in the host country, Kenya. The communities involved in the project are expected to be low to middle income in areas with salty groundwater across coastal Kenya. The project aims to impact upon sustainable development within the communities it touches, including contributing to the sustainable development goals.

The verification team confirm that the project is in line with the plans contained in the registered/ revised approved GS PoA-DD and VPA-DD/B04/.

2. METHODOLOGY

The verification consists of the following four phases:

1. Completeness check of the Emission Reductions/02/, GS4GG Monitoring report/01/ and Gold Standard Sustainability Monitoring Report, and Project Administration System;
2. Review of project documentation (monitoring plan, monitoring report, monitoring methodology, PoA/VPA design document, applicable tools in particular attention to the frequency of measurements, QA/QC procedures and other relevant documents and regulations);
3. Remote interview (including follow-up interviews with project stakeholders, when deemed necessary) includes the following:
 - An assessment of implementation and operation of project activity with respect to registered PoA-DD and VPA-DD/B04/ or approved revised PoA-DD and VPA-DD/B04/;
 - Review of information flows for generating, aggregating and reporting the monitoring parameters;
 - Interview with relevant personnel to determine whether the operations and data collection procedures are implemented and in accordance with monitoring plan of the PoA-DD and VPA-DD/B04/;
 - Cross check of information and data provided in the monitoring report with original monitoring survey questionnaires and WBT test observation record sheets. Also, checking the consistency of the information reported as per the survey forms with actual physical conditions in sampled households;
 - Check of monitoring equipment, calibration frequency and monitoring practice in-line with methodology and PoA-DD/B04/;
 - Review of assumptions made in calculating the emission reductions;
 - Implementation of QA/QC procedure in-line with the PoA-DD/B04/ and methodology requirement/B02/.
4. Resolution of outstanding issues and the issuance of the final Verification report and Certification statement.

The following sections outline each step in more detail.

Duration of Verification:

- Signing of Letter of Engagement: 07/12/2021
- Remote interview: 03/02/2022-04/02/2022
- Reporting/Calculations/Quality and Control checks: 10/05/2022

2.1 Desk review

The following table outlines the documentation reviewed during the verification:

No.	Title
/01/	1. Monitoring Report, version 1, dated 07/01/2022 2. Monitoring Report, version 8, dated 29/07/2022
/02/	1. Emission Reduction spreadsheet corresponding to 01-1 2. Emission Reduction spreadsheet corresponding to 01-2
/03/	Technical specification of the installed Solar Desalination Plant Technology
/04/	Sales data for the water provided to the end users
/05/	Installation records/ Commissioning certificates/ EIA License to operate for Makindu site, Bamburi site and Likone site
/06/	Quality of Treated Water records – Laboratory Tests for: Makindu site – dated 06/01/2021 Bamburi site - dated 23/06/2021 (correction on 25/06/2021); dated 07/07/2021 (Internal Test) dated 21/10/2021 (correction on 19/11/2021) Likoni site – dated 09/06/2020; dated 10/07/2020; 03/11/2020; dated 23/06/2021; dated 30/07/2021 (Internal test); dated 19/10/2021 (correction on 01/11/2021)
/07/	Credentials of the water quality laboratory – ISO/IEC 17025:2017 certification as a testing laboratory for Polucon Services Kenya Limited Valid Till September 20, 2022 (Accredited for Test methods ISO6222, ISO4832, ISO7899-2, ISO16266 for water quality)
/08/	Training records
/09/	Proof of start date for the VPA
/10/	Carbon Transfer Forms (CTFs)
/11/	Contractual relationship signed between the DOE, Carbon Check (India) Private Ltd. and the Project Participant, CO2balance UK Ltd - 07/12/2021
/12/	Desalination plant water production records
/13/	Grievance register
/14/	Water supplier records
/15/	Evidence of end users acknowledging transfer of carbon rights
/16/	Decommissioning certificate/ evidence of decommissioning of the Makindu Site
/17/	Daily onsite checklist for standard practice
/18/	Desalination plant maintenance records
/19/	Email request from PP requesting remote audit to be conducted due to the deviation request dated January 13, 2022 and April 06, 2022
/20/	Deviation request dated December 14, 2021 and September 10, 2021.
/21/	Production data and Sales data comparison

During the desk review, Carbon Check applied the standard auditing techniques to assess the quality of information provided.

2.2 Background documents:

Ref no.	Reference Document
/B01/	<ol style="list-style-type: none"> 1. CDM VVS for PoA (version 03.0) 2. CDM PS for PoA (version 03.0) 3. CDM PCP for PoA (version 03.0)
/B02/	GS Methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1
/B03/	<ol style="list-style-type: none"> 1. GS4GG Principles & Requirements (version 1.2) 2. GS4GG Safeguarding principles & requirements, version 1.2 3. GS4GG Programme of activity requirements, version 1.2 4. GS4GG Community services activity requirements, version 1.2
/B04/	<ol style="list-style-type: none"> 1. Registered/ Revised approved PoA DD (Version 7, dated 09/06/2021) and corresponding validation Report 2. Registered VPA DD and corresponding validation report - GivePower Kenya Solar Water Farms, Version 9, dated 15/09/2021
/B05/	Template Guide for filling out the Gold standard for the global goals - Monitoring report (version 1.1)
/B06/	<ol style="list-style-type: none"> 1. Standard for sampling and surveys for CDM PAs and PoAs, version 09 2. Guidelines for sampling and surveys for CDM project activities and programme of activities (version 04.0)” 3. Rule Update: Requirements and Guidelines for carrying out usage surveys for projects implementing improved cooking devices (29/08/2017) 4. Rule Update: COVID 19: INTERIM MEASURES, dated 21/12/2021, Version 5 5. Rule Update: Applicability of Minimum Site Visit Requirements by VVB dated 16/08/2021
/B07/	Site Visit and Remote Audit Requirements and Procedures, version 1.0, dated 17/11/2021
/B08/	Weblinks: <ol style="list-style-type: none"> 1. http://cdm.unfccc.int/ 2. https://www.goldstandard.org

2.3 Remote and follow-up interviews with project stakeholders

A.1. On-site inspection

No on-site inspection has been conducted for the verification of the PoA.

Justification for not conducting on-site inspection:

Carbon Check has not conducted an on-site inspection, which is in conformity with COVID-19 Interim Measures, version 05/B05-4/ based on the request received from the project participant/19/. PP has provided a justification that due to the deviation request, the usage survey has not been carried out during the monitoring period and a deviation request has been applied by the PP (approved on 14/12/2021) to use default values for the monitoring parameters. As the monitoring parameters did not require interviews with the end users and physical features of the VPA were accessed through remote video calls, the verification was conducted remotely. In accordance with the §4.1.1 (b) and §4.3.1 of the rule update, the on-site inspection is for a period of less than two years/B05-4/. In accordance with the §1.2.2 of the Site Visit and Remote Audit Requirements and Procedures, the requirements are not applicable to the PoAs. This also complies with the §2.2.4 of the Rule Update: Applicability of Minimum Site Visit Requirements by VVB/B05-5/ as two years have not lapsed since the starting of the crediting period.

The on-site inspection cannot be postponed due to timeline agreed between the Project Participant and the DOE. Furthermore, VVB carried out the risk assessment in accordance with the Annex 1 of the Site Visit and Remote Audit Requirements and Procedures, version 1.0/B07/:

S. No.	Risk Identified	Justification
For all certification stages:		
1.	Risk of non-conformity with core GS4GG principles including but not limited to safeguarding principles, stakeholder inclusivity, SDG Impacts.	The PoA involves installation of containerized solar-powered desalination units. PP has applied temporary deviations to use default values for the monitoring parameters due to the COVID situation. Thus, no parameters have been determined based on monitoring surveys. The risk of non-conformity with core GS4GG principles is low.
2.	Risk of non-conformity with potential reversal of GHG benefits and other SDG Impacts.	The PoA involves installation of containerized solar-powered desalination units. PP has applied temporary deviations to use default values for the monitoring parameters due to the COVID situation. Thus, no parameters have been determined based on monitoring surveys. The risk of non-conformity with potential reversal of GHG benefits and other SDG Impacts is low.
3.	Risk of non-conformity with key methodological requirements (applicability conditions, project boundary, identification of baseline scenario, algorithms and/or formulae used to determine emission reductions, monitoring methodology).	The PoA involves installation of containerized solar-powered desalination units. PP has applied temporary deviations to use default values for the monitoring parameters due to the COVID situation. Thus, no parameters have been determined based on monitoring surveys. The risk of non-conformity with key methodological requirements is low.
4.	Risk of any negative feedback/observations received from GS stakeholders, e.g., TAC,	The PoA involves installation of containerized solar-powered desalination units. PP has applied temporary deviations to use default values for the monitoring parameters due to the COVID situation.

	end-users, NGO supporters etc, not being addressed sufficiently by the project.	Thus, no parameters have been determined based on monitoring surveys. Furthermore, PP has been recording any grievances provided by the local stakeholders. The risk of any negative feedback/observations received from GS stakeholders not being addressed sufficiently by the project is low.
5.	Risk of key stakeholders and/or end users of project technology not willing/able to be interviewed through telephone/videocalls.	The PoA involves installation of containerized solar-powered desalination units. PP has applied temporary deviations to use default values for the monitoring parameters due to the COVID situation. Thus, no parameters have been determined based on monitoring surveys. The key stakeholders of the project technology were interviewed through telephone/ videocalls.
For Verifications		
6.	Any outstanding FAR(s)/pending issue(s) since the previous physical site visit.	The FARs raised during the validation shall be checked at the time of the next periodic verification.
7.	Any design change(s)/temporary deviation(s) since the previous physical site visit.	PP has applied temporary deviation to the first monitoring period of the VPA and no parameters have been determined based on monitoring surveys.
8.	Any gaps in monitoring data, if any, that cannot be justified as per applicable requirements.	There are no gaps in monitoring data that are identified during the verification. Thus, no risk is anticipated.

In accordance with the Annex 2 of the Site Visit and Remote Audit Requirements and Procedures, version 1.0/B07/, VVB used Video calls on Google Meet and Skype as a means to interview stakeholders and households.

Regarding GS4GG requirements and in the view of current situations where travel restrictions have been put in place for domestic as well as international travel around the world due to COVID-19 pandemic, the VVB has decided to conduct the verification remotely (without physical on-site inspection) for the project in accordance with the provisions of paragraph 4.1.1. (b) of Rule Update: COVID 19: Interim Measures, which states:

“If site visit cannot be postponed due to significant impact of delaying the site visit on VVB and/or project developer due to timeline/commitment as per validation/verification or GS-VERs delivery agreement, VVB may replace mandatory on-site visits with remote audits. The audit may include but not limited to validation, verification, the inclusion of VPAs, design change review etc.”

Remote interview was performed by the verification team of Carbon Check from (03/02/2022 to 04/02/2022) and the following activities were performed:

- i. An assessment of the implementation and operation of the registered GS PoA as per the registered PoA-DD /B04/ and the respective VPA-DD /B04/;
- ii. A review of information flows for generating, aggregating and reporting the monitoring parameters;
- iii. Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PoA-DD/B04/ and the VPA-DD/B04/;

- iv. A cross check between information provided in the monitoring report /01/ and data from other sources such as installation records /05/, water quality records /06/ or similar data sources;
- v. A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PoA-DD /B04/ and the selected methodology /B02/ and corresponding tool(s), where applicable;
- vi. A review of calculations and assumptions made in determining the GHG data and emission reductions/02/
- vii. An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.
Verification of the monitoring of sustainable development indicators

The project representatives and stakeholders interviewed: 03/02/2022 to 04/02/2022.

Sl. No.	Name	Organization	Topic	Means of Interview
1.	Thomas Devesa	CO2balance UK Ltd	Project implementation, Monitoring Report, discussed contents of the MR, GHG and non-GHG parameters, topics like project implementation /operation, compliance of monitoring plan with monitoring methodology, registered PoA-DD, ER calculation, QA/QC of monitoring data, internal audit of monitoring data etc.	Google Meet Video Call
2.	Ruthie Ndungu	GivePower Foundation	Project implementation, Discussion on water desalination solutions, Basic information on end users for Likone plant, Input source of water for the desalination plant, Personnel at the desalination plant (including roles and responsibilities), Water quality testing systems, Sales recording procedure, Production recording procedure, Training process, Operations and Maintenance Team, Seasonal/ Weekly variation in the daily water demand, End User record keeping procedure, Carbon Transfer Forms, Maintenance Records, QA/QC of monitoring data, internal audit of monitoring data.	Google Meet Video Call
3.	Glory	GivePower Foundation	Project implementation, Discussion on water desalination solutions, Basic information on end users for Bamburi plant, Input source of water for the desalination plant, Personnel at the desalination plant (including roles and responsibilities), Water quality	Google Meet Video Call

			testing systems, water quality test discussion and their procedure, Sales recording procedure, Production recording procedure, Training process, Operations and Maintenance Team, Seasonal/ Weekly variation in the daily water demand, End User record keeping procedure, Carbon Transfer Forms, Maintenance Records, QA/QC of monitoring data, internal audit of monitoring data.	
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Through the above-mentioned activities, the verification team confirmed the following Gold Standard project aspects in relation to the project activity:

- The implementation and operation of the project activity is as described in the monitoring plan in the registered PoA-DD /B04/.
- The operational and data collection procedures are implemented as per the monitoring plan in the PoA-DD /VPA-DD /B04/.
- The information flow for generating, grouping and reporting of the monitored parameters.
- Procedures to avoid double counting are in place.

A.2. Sampling approach

No sampling has been applied by the PP/CME or the DOE for the verification of the monitoring parameters as the usage survey has not been conducted and instead the parameters have been monitored based on the default values accepted in the deviation requests dated 10/09/2021 and 14/12/2021/20/.

The total population of the solar water desalination systems under the VPA is 3 units which as per their date of installation, only two systems are operational at the end of the monitoring period:

Plant ID	Technology/ Model	Community Served	Inclusion/ Commissioning	Current Status
MAXI 1	MAXI	Likoni	31/08/2020	Operational
MAXI 2	MAXI	Bamburi	28/06/2021	Operational
MOBI+ 1	MOBI+	Makindu	20/07/2021	Not operational since 19/10/2021

The monitoring parameters to be monitored through the sampling plan as per revised and approved PoA-DD/VPA-DD /B04/ are:

1. Parameter $T_{p,y}$

Project time spent collecting water per household per day

The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. Accordingly, no SDG 5 claims are being made in the reported monitoring period.

2. Parameter " $Q_{p, \text{cleanboil}, y}$ "

Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology

The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. In accordance with the deviation request dated 14/12/2021, the value for the parameter is taken as 0.

3. Parameter “ $Q_{p,rawboil,y}$ ”

The raw unsafe water that is still boiled after installation of the water treatment technology
The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. CAR01 was raised in this regard. PP has justified the conservativeness of the value applied in the response to CAR01.

4. Parameter “ $LE_{p,y}$ ”

Leakage in project scenario p during year y

The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. A conservative value of 5 % has been applied for the parameter in accordance with the deviation request/20/ dated 14/12/2021.

5. Parameter “ $U_{p,y}$ ”

Usage rate in project scenario p through year y

The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. A conservative value of 90 % has been applied for the parameter in accordance with the deviation request/20/ dated 14/12/2021.

Sustainability Monitoring Plan (links the parameter already monitored to the closest, most relevant SDG Target as per GS4GG requirements)

Verification team has cross checked the record keeping procedure, sales records, production records, water quality records during remote interviews with the PP. Based on the records and information collected on each parameter by DOE during the remote interviews, it is concluded whether the values determined and stated in the monitoring report for following parameters are appropriate and correct.

1. Relevant SDG: Good Health and Well-being

Parameter “ P_y ”

Description: Number of persons having access to safe water from the project activity

The outcome for SDG 3 is quantified as the additional number of persons consuming safe water in the project activity compared to the baseline scenario (P_{safe}). The equations for the parameter are provided in the MR/01/. This parameter was verified by checking water point sales database/04/. The values in the sales database were compared against the total production records/12/. PP has used the more conservative of the values determined from the sales database and the production records to account for the difference in the values. Thus, the total emission reductions are claimed on the total amount of water produced. This is acceptable to the verification team and is a valid means of cross-checking the values.

2. Relevant SDG: Gender Equality

Parameter “ $T_{p,y}$ ”

Description: Project time spent collecting water per household per day

The decrease per household in time spent gathering firewood will be taken as a proxy contribution towards the SDG target. In accordance with the deviation request dated 14/12/2021, the PP is not claiming SDG5. Thus, the parameter was not verified.

3. Relevant SDG: Clean Water and Sanitation

Parameter “ $Q_{p,cleanboil,y}$ ”

Description: Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology.

The outcome for SDG 6 is quantified as the additional number of persons having access to safe water in the project activity compared to the baseline scenario (P_{access}). A value of 0 is claimed for the parameter based on the deviation request dated 14/12/2021.

4. Relevant SDG: Clean Water and Sanitation

Parameter “ $Q_{p,rawboil,y}$ ”

Description: The raw unsafe water that is still boiled after installation of the water treatment technology

The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. CAR01 was raised in this regard. PP has justified the conservativeness of the value applied in the response to CAR01.

5. Relevant SDG: Clean Water and Sanitation

Parameter “Quality of Treated Water”

Description: Performance of the treatment technology

The parameter was verified by the review of water quality test records provided for each solar desalination site/06/. For Bamburi site, the water pH quality was not passed on 23/06/2021 and 21/10/2021 and thus a test was done again. The revised tests showed the pH quality in the desired range as per the Kenyan Standards. PP has not claimed any emission reductions during the period from the test fail to the pass again. For Likoni site, the water pH quality was not passed on 19/10/2021 and thus a test was done again. The revised test showed the pH quality in the desired range as per the Kenyan Standards. PP has not claimed any emission reductions during the period from the test fail to the pass again.

Furthermore, PP has not conducted water quality testing during the quarter 1 of 2021 for the Likoni site (MAXI 1). Thus, PP has applied conservative measure to apply the average failure rate for the project activity during the quarter 1 of 2021 for the Likoni site (MAXI 1). This is in accordance with the §1.1.2 of the Annex A of the GS4GG Principles and Requirements, version 1.2/B03-1/ and the §1(c) of the Appendix 2 of the Project Standard for the PoAs, version 3.0/B01-2/.

6. Relevant SDG: Hygiene Campaigns

Parameter “Hygiene Campaigns”

Description: Hygiene campaigns carried out among project technology users

PP has not conducted hygiene campaigns during the monitoring period. In accordance with the deviation request, hygiene campaigns shall be conducted as soon as the country situation allows. FAR01 has been raised in this regard and the compliance shall be checked at the time of the next periodic verification.

Standard auditing techniques were applied by CCIPL to assess and verify the quality of information provided during the course of verification. No sampling was required to verify the reported values as PP/CME has not conducted any monitoring survey.

Based on the review of the monitoring report and remote interview, verification team confirms that following GS recommendations during the deviation requests of 10/09/2021 and 14/12/2021 and were adhered by the CME.

The conservative cap on usage rate of 90% shall be applied.

The usage rate can be above 90% only under following conditions:

- the monitoring can be done retrospectively; and
- the correctness of the retrospectively monitoring is confirmed by the VVB in the verification report.

The PD shall document the deviation request, its implications, and decision in the appropriate section of the GS Monitoring Report (for the relevant MP).

- The conservative approach used for $LE_{p,y}$ (5%) and $U_{p,y}$ (90%) are accepted.
- The assumption that $Q_{p,cleanboil,y}$ value will be zero is accepted based on the logic given in the deviation.
- The fact that $T_{p,y}$ will not be measure and as a consequence SDG 5 will not be claim can be accepted.
- The PD shall assure that the Hygiene campaigns are performed as soon as the country situation allows.

2.4 Resolution of outstanding issues

The objective of this phase of the verification is to resolve any outstanding issues (issues that require further elaboration, research or expansion) which have to be clarified/corrective action

done prior to final GS VVB's conclusions on the project implementation, monitoring practices and achieved emission reductions. In order to ensure transparency a verification protocol is completed for the project activity. The protocol shows in transparent manner criteria (requirements), means of verification and resulting statements on verification actual project activity against identified criteria.

The verification protocol serves the following purposes:

- It organises in a table form, details and clarifies the requirements, a GS project is expected to meet GS4GG requirements;
- It ensures a transparent verification process where the GS VVB will document how a particular requirement has been verified and the result of the verification.
- It ensures that the issues are accurately identified, formulated, discussed and concluded in the validation report.
- It ensures the determination of achieving credible emission reductions from the project activity.

The verification protocol consists of two tables. Table 1 reflects the verification requirements and reference to the materials used to verify the project activity against those requirements, as well as means of verification, reference to Table 2 (i.e. tables of findings) and preliminary and final opinion of the GS VVB on every particular requirement listed in table 1.

Verification Protocol Table 1: Requirement checklist				
Checklist question	Verification Team Comment/MoV	Reference	Findings comments references, data source / Draft Conclusion	Final Conclusion
<i>The checklist items in Table 1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the Verification team and how the assessment was carried out. The reporting requirements of the VVS and Project Standard shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR is raised (see below). The assessment refers to the draft verification stage.</i>	<i>In case a corrective action or a clarification request the final assessment at the final verification stage is given.</i>

The findings of verification process are summarized in the tables below.

CAR/ CL/ FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of CAR/ CL/ FAR				
CME response				Date: DD/MM/YYYY
Documentation provided by the CME				
GS VVB assessment				Date: DD/MM/YYYY

Corrective action requests (CARs) are raised, in case:

- (a) Non-conformities with the monitoring plan or methodology 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/previous verification(s) that are not been resolved by the project participant(s) to be verified during current verification.

Requests for clarification (CLs) are raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

A forward action request (FAR) is raised during verification to highlight issues related to project implementation/monitoring that require review during the subsequent verification of the project activity. FARs shall not relate to the CDM requirements for issuance.

2.5 Internal quality control

The final verification report has passed a technical review before being submitted to the project participant(s) and GS4GG Certification Team / Board. The technical review was performed by a technical reviewer qualified in accordance with CCIPL’s qualification scheme for GS4GG validation and verification.

2.6 Verification Team

Carbon Check has appointed a competent team as per the Accreditation Standard and Carbon Check internal procedures, the team is outlined below:

Verification Team		Type of Involvement							
Full name	Appointed for Sectoral Scopes (Technical Areas)	Supervising the work	Desk review	Remote Audit Interview	Report and protocol Writing	Technical Expert Input	Reporting Support	Technical Reviewer	Trainee Assessor
Anubhav Dimri	1.1, 1.2, 3.1, 8.1, 13.1	X	X	X	X	X	X		
Job Muriuki	--			X					
Indumathi C	1.1, 1.2, 3.1, 13.1, 13.2							X	

Anubhav Dimri: is an appointed Team Leader. He holds a Post Graduate Diploma in Industrial Safety and Environmental Management. He is a trained GHG Lead Auditor. He is participated and passed 5 days ISO 50001 Lead Auditor (UNIDO sponsored) training course. He has experience in the field of Carbon Offsets both in the regulatory and voluntary front, including project validation. He has participated in GS, VCS and CDM validations and validations. He has been involved in verification/validation of GS projects with reference numbers: GS 411, GS 916, GS 1231, GS 1029, GS 1030, GS 1031, GS 1385, GS 2094, GS 1162, GS 1352, GS 1353, GS 2437, GS 2718, GS 2722. He has also been involved in more than 100 CDM projects/programme of activities submitted to UNFCCC for Request for Registration/Inclusion/Request for Issuance. He has also worked on a number of VCS projects. He has also attended several Gold Standard VVB webinar trainings and GS4GG trainings. He has also undergone training for ISO 9001, GHG verifier training, and technical area 1.2 training.

He is qualified as technical expert for TA 1.1, 1.2, 3.1 and 13.1 under CDM SS/TA categorization.

Job Muriuki: Job is a host country local expert for Kenya. He is conversant with the local language in Kenya, Kiswahili.

3. VERIFICATION FINDINGS

The findings of the verification are described in the following sections. The verification criteria (requirements), the means of verification and the results of verification are documented in detail below.

3.1 Project implementation

The VPA “GivePower Kenya Solar Water Farms” (GS10987) is included in the PoA “GS7591 International Programme for Safe Water Access and Efficient Cookstoves”. Only one VPA included in the PoA is being verified by the VVB in the reported monitoring period, 01/09/2020 to 31/12/2021. The implementation details of the VPA verified by the VVB are provided below:

Project Participants:	CO2balance UK Ltd
Title of PoA:	International Programme for Safe Water Access and Efficient Cookstoves
GS registration No:	- PoA – GS7591 - VPA – GS10987
Applied Baseline and monitoring methodology:	TPDDTEC, version 03.1 /B02/
Project Scale:	Small scale
Location of the project activity:	Kenya
VPA’s crediting period:	01/09/2020 – 31/08/2025
Reported monitoring Period verified in this verification:	01/09/2020 to 31/12/2021, Both days inclusive

As part of the remote audit interviews, the verification team was able to confirm that the project implementation is in accordance with the project description contained in the registered PoA-DD and VPA-DDs/B04/

Project physical features (technology, project equipment, monitoring and metering equipment)	Review of monitoring report reveals that the objective of the VPA is to support the provision of safe water using photovoltaic cells to power desalination technology to thousands of households in coastal Kenya. The VPA aims to reach peri-urban to rural communities on the coast of Kenya.	
	There are two different models of solar desalination plant currently intended for use within the project: the MAXI and Mobi+/03/. The containerized solar-powered desalination units provide sustainable and scalable safe water supply. The safe water provided by the project technologies will remove the need to treat unsafe water by boiling. The energy requirements in the baseline scenario are reduced by the project as households no longer have to boil unsafe water as a treatment method.	
Any Project Design Change been sought and approved by EB for the project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No change sought

Project activity is implemented in line with the registered GS PoA-DD/VPA-DD. Verification team reviewed the ER spread sheet /02/ and found that a total 21,013 end users have been

provided access to safe water from the project activity. A total of 3 solar desalination plants were installed under the VPA covered in the monitoring report. The detailed plant details for each type are provided below:

Plant ID	Technology/ Model	Community Served	Inclusion/ Commissioning	Current Status
MAXI 1	MAXI	Likoni	31/08/2020	Operational
MAXI 2	MAXI	Bamburi	28/06/2021	Operational
MOBI+ 1	MOBI+	Makindu	20/07/2021	Not operational since 19/10/2021

Under the concerned VPAs, the solar desalination plants have been installed within the geographical boundary of Kenya.

During remote interview, verification team checked the design and technology of the solar desalination plants, which are in line with the description provided in registered PoA-DD/VPA-DDs /B04/ and technical specifications /03/ provided by the CME. There were no changes observed from the registered monitoring plan of the registered PoA-DD and VPA-DDs/B04/. Two deviation requests/20/ were applied for the VPA and were approved by Gold Standard. Monitoring procedure of GHG data is found sufficient and in accordance with the procedures stipulated under the registered monitoring plan.

The project activity was implemented and installation of solar desalination plants done as described in the registered PoA-DD and VPA-DD. The starting date i.e., the start of installation is provided above.

On the basis of remote interview and the reviewed project documentation along with documentary evidences, it can be confirmed that the project implementation is in accordance with registered PoA DD, VPA DDs and GS4GG Transition Annex AA. The project has been implemented and operated as described in the registered PoA-DD and corresponding VPA-DD/B04/. The GHG related parameters and sustainable development indicators are also monitored as per the registered PoA-DD/VPA-DDs/ GS4GG Transition Annex AA /B04/.

Verification team has also assessed the monitoring and impact on the sustainable development indicators by the project implementation and found them to be appropriate as per the approved VPA-DD /B04/.

Carbon Check's verification team considers the project description of the project contained in the registered SSC PoA-DD and VPA-DD /B04/ to be complete and accurate. The SSC PoA DD and VPA-DD /B04/ complies with the relevant methodology /B02/, tools, forms and guidance at the time of submission for registration.

3.2 The actual operation of the Gold Standard programme of activity

The starting date of the VPA is 31/08/2020, that is the date of installation of the first solar desalination plant, MAXI 1. The start date of the crediting period is 01/09/2020, which is after the start date of the VPA. The total number of solar desalination plants installed during the reported monitoring period has been verified from the monitoring report.

Operation of the community based safe water solutions was confirmed during the remote interview by the verification team as follows via verifying:

- Actual implementation of the solar desalination plants
- Interviews with the PP representatives
- Process of data collection during sales of water.
- Process of data collection during production of safe water.
- Carbon Transfer Forms signed for the solar desalination plants.

Carbon Check's verification team confirms that the project activity is implemented within the boundary of the project activity as described in the PoA-DD and VPA-DD /B04/ and the implementation and operation of the project activity has been conducted in accordance with the description contained in the registered PoA-DD and VPA-DD /B04/.

In summary, the operation of the project activity is in accordance with the registered PoA-DD /B04/.

3.3 Compliance of the monitoring plan with the monitoring methodology including applicable tool(s)

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PoA-DD /B04/ and the VPA-DD /B04/.

The monitored parameters, from approved monitoring plan, have not been monitored in this monitoring period. Instead, a deviation request was submitted dated 14/12/2021, decisions of which are found under section B.2.1 of this Monitoring Report/01/.

- $T_{p,y}$
- $Q_{p,cleanboil,y}$
- $Q_{p,rawboil,y}$
- Hygiene campaigns
- $LE_{p,y}$
- $U_{p,y}$

During the course of verification, all relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement method and applied QA/QC procedures.

PP has also proposed a correction to the SDG Impact 3 to 'Number of additional persons consuming safe water in the project activity compared to the baseline scenario'. The change is only with respect to the title of the impact and has been made due to identical Impacts identified in the PDD for SDG3 and SDG6. In accordance with the §1.1.1 and §1.1.2 of the Annex A of the GS Principles and Requirements/B03/, it was identified that the change is not material and does not affect: additionality, scale of the project, validity/applicability of the applied methodology, stakeholder consultation, and sustainable development criteria, monitoring plan change. Thus, in accordance with the §1(a) and footnote 1 of the Appendix 2 of the PS for the PoAs, version 3/B01/, the correction is a typographical error and has been proposed as a change along with the issuance review. The change has been compared with the MR/01/.

The verification team reviewed the monitoring plan in the PoA-DD /B04/ and compared it against the requirements of the applied methodology /B02 and confirms that appropriate provisions are included for the monitoring and reporting procedures, data management, and QA/QC procedures in line with the requirements of CDM VVS for PoA (version 03.0) /B01/ and GS4GG requirements /B03/.

The sampling plan implemented by the PP is in accordance with the applied approved monitoring methodology /B02/ and registered PoA-DD/VPA-DD /B04/.

CC IPL confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions or misstatements.

3.4 Monitored Parameters

EX-Post Parameters:

a. Number of persons having access to safe water from the project activity (P_y):

The parameter has been monitored based on water point project database and the default values as per the registered VPA-DD/B04/. In accordance with the measurement methods and procedures provided for the parameter in the registered VPA-DD/B04/, data on total volumes of water produced and sold during the monitoring period by project technologies is divided by the value for $Q_{p,y}$. The data is cross-checked against the associated data records regarding water production and sale/04//12/.

b. Project time spent collecting water per household per day ($T_{p,y}$):

In accordance with the deviation request/20/ dated 14/12/2021, the parameter is not measured and thus the SDG is not claimed by the PP. This is acceptable to the verification team.

c. Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology ($Q_{p,cleanboil,y}$):

In accordance with the deviation request/20/ dated 14/12/2021, a default value of 0 is used for the parameter. This is acceptable to the verification team.

d. The raw unsafe water that is still boiled after installation of the water treatment technology ($Q_{p,rawboil,y}$)

The parameter is not being monitored in the reported monitoring period in accordance with the deviation requests for the VPA/20/. CAR01 was raised in this regard. PP has justified the conservativeness of the value applied in the response to CAR01. PP has applied the value for the parameter in accordance with the §3.1.4 of the Deviation Approval Procedure, version 1.1 and the methodology default has been used as an alternate default value. Since, PP has not conducted monitoring surveys during the monitoring period, alternative monitoring arrangements other than the methodology default value are not feasible.

e. Performance of the treatment technology (Quality of Treated Water)

The parameter is monitored based on laboratory tests/06/. The water quality is tested in line with national standards in Kenya. The tests have been conducted by a laboratory accredited by a laboratory accredited/07/ to conduct water quality tests as per the Kenya Accreditation Service. The water samples are taken at source by the testing body. The parameter is monitored quarterly and the test reports have been provided to the verification team.

For Bamburi site, the water pH quality was not passed on 23/06/2021 and 21/10/2021 and thus a test was done again. The revised tests showed the pH quality in the desired range as per the Kenyan Standards. PP has not claimed any emission reductions during the period from the test fail to the pass again. For Likoni site, the water pH quality was not passed on 19/10/2021 and thus a test was done again. The revised test showed the pH quality in the desired range as per the Kenyan Standards. PP has not claimed any emission reductions during the period from the test fail to the pass again.

Furthermore, PP has not conducted water quality testing during the quarter 1 of 2021 for the Likoni site (MAXI 1). Thus, PP has applied conservative measure to apply the average failure rate for the project activity during the quarter 1 of 2021 for the Likoni site (MAXI 1). This is in accordance with the §1.1.2 of the Annex A of the GS4GG Principles and Requirements, version 1.2/B03-1/ and the §1(c) of the Appendix 2 of the Project Standard for the PoAs, version 3.0/B01-2/.

f. Hygiene campaigns carried out among project technology users (Hygiene campaigns)

In accordance with the deviation request dated 14/12/2021, hygiene campaigns have not been conducted and Hygiene campaigns shall be performed as soon as the country situation allows. This is acceptable to the verification team.

FAR01 has been raised in this regard and the compliance shall be checked at the time of the next periodic verification.

g. Leakage in project scenario p during year y ($LE_{p,y}$)

In accordance with the deviation request/20/ dated 14/12/2021, a value of 5 % has been used for the parameter in accordance with the approval of the deviation request. This is acceptable to the verification team.

h. Number of persons consuming water supplied by project scenario p through year y ($N_{p,y}$ [Wood])

The parameter is monitored based on the project database and its measurement based on sum of the total number of people using each project technology multiplied by the number of days crediting each project technology earns in this monitoring period.

i. Number of persons consuming water supplied by project scenario p through year y ($N_{p,y}$ [Charcoal])

The parameter is monitored based on the project database and its measurement based on sum of the total number of people using each project technology multiplied by the number of days crediting each project technology earns in this monitoring period.

j. Usage rate in project scenario p through year y ($U_{p,y}$)

In accordance with the deviation request/20/ dated 14/12/2021, a value of 90 % has been used for the parameter in accordance with the approval of the deviation request. This is acceptable to the verification team.

k. Quantity of safe water supplied in the project scenario p during the year y using the zero or low emissions clean water supply technology ($Q_{p,y}$)

The parameter has a default value as per the registered VPA-DD/B04/ of 4. This is acceptable to the verification team.

Ex-Ante Parameters:

Parameter:	$EF_{b,co2}$
Default values used:	112 tCO ₂ /TJ (ex-ante value as per the VPA DD/B04/ and the methodology TPDDTEC, version 3.1/B02/)
Purpose of data	Baseline emissions
Source and Verification of the source	The value of the parameter is based on the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The parameter values are Calculated from IPCC defaults; Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5.

Parameter:	$EF_{b,co2}$ Charcoal
Default values used:	336 tCO ₂ /TJ
Purpose of data	Baseline emissions
Source and Verification of the source	The value of the parameter is based on the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The parameter values are Calculated from IPCC defaults; Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5.

Parameter:	EF _{b,non co2}
Default values used:	9.460 tCO ₂ /TJ (2021 onwards); 8.692 (upto 2020)
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the emission factor and GWP of the gases CH ₄ and N ₂ O. The emissions factor is sourced from IPCC default values and GWP values from the GHG protocol. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	EF _{b,non co2} Charcoal
Default values used:	28.38 tCO ₂ /TJ (2021 onwards); 26.076 (upto 2020)
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the emission factor and GWP of the gases CH ₄ and N ₂ O. The emissions factor is sourced from IPCC default values and GWP values from the GHG protocol. A wood to charcoal ratio of 3 has been applied, in line with the IPCC guidelines. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	NCV _b
Default values used:	0.0156 TJ/ton
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The values are sourced from IPCC. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	NCV _b Charcoal
Default values used:	0.0295 TJ/ton
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The values are sourced from IPCC. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	NCV _p
Default values used:	0.0156 TJ/ton
Purpose of data	Calculation of emission reductions

Source and Verification of the source	The value of the parameter is based on the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The values are sourced from IPCC. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.
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Parameter:	NCV_p Charcoal
Default values used:	0.0295 TJ/ton
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The values are sourced from IPCC. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$f_{NRB,y}$
Default values used:	0.92
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The f_{NRB} value is calculated based on the CDM Tool 30 EB 108 Annex 11 v3.0 in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$W_{b,y}$
Default values used:	0.0004 T/litre
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the default value as per the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$W_{p,y}$
Default values used:	0.0004 T/litre
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the default value as per the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$W_{b,y}$ Charcoal
Default values used:	0.0001 T/litre

Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the default value as per the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$W_{p,y}$ Charcoal
Default values used:	0.0001 T/litre
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the default value as per the methodology TPDDTEC, version 3.1/B02/ and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	C_j
Default values used:	7 %
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the baseline study and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$X_{\text{boil Non-Suppressed Demand}}$
Default values used:	17.4 %
Purpose of data	Calculation of emission reductions
Source and Verification of the source	The value of the parameter is based on the baseline study and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$P_{b, \text{boil}}$
Default values used:	24.6 %
Purpose of data	Determination of number of persons boiling water in the baseline
Source and Verification of the source	The value of the parameter is based on the baseline survey and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

Parameter:	$T_{b, y}$
Default values used:	2.4 hours

Purpose of data	Calculation of SDG 5
Source and Verification of the source	The value of the parameter is based on the baseline survey and has been reported in the VPA-DD/B04/. The value is validated during registration by the validating VVB. The reported value has been cross-checked by the verification team.

3.5 Monitoring responsibility

Verification team assessed the management systems of implemented monitoring plan of the project activity. The management system includes the organizational structure, roles and responsibilities, data collection, transfer and aggregation procedures, training of personnel /08/, data storage and archiving and emergency procedures/17/ for the monitoring system. Based on remote interview with the employees of GivePower Foundation (involved in the project monitoring and data collection, inspection of data storage log book & equipment's and document review). Carbon Check confirms that the responsibilities and authorities for monitoring and reporting are appropriate and effective for the project type and hence in accordance with monitoring plan of the registered PoA-DD and applied monitoring methodology.

3.5.1 Accuracy of equipment

As per the registered monitoring plan as contained in the PoA-DD and VPA-DD, no monitoring equipment for the project requires calibration, hence assessment of accuracy and calibration of the monitoring equipment is not applicable.

3.6 Deviation from and/or Revision of the registered monitoring plan

PP has applied two deviations from the monitoring plan and the deviation requests have been approved by the SustainCERT/20/. This is the first periodic verification of the VPA and after a thorough assessment during documents review, remote interview with the project stakeholders, it can be concluded that there is one deviation and/or revision of the registered monitoring plan in addition to the deviation requests approved by SustainCERT/20/.

PP has proposed a correction to the SDG Impact 3 to 'Number of additional persons consuming safe water in the project activity compared to the baseline scenario'. The change is only with respect to the title of the impact and has been made due to identical Impacts identified in the PDD for SDG3 and SDG6. In accordance with the §1.1.1 and §1.1.2 of the Annex A of the GS Principles and Requirements/B03/, it was identified that the change is not material and does not affect: additionality, scale of the project, validity/applicability of the applied methodology, stakeholder consultation, and sustainable development criteria, monitoring plan change. Thus, in accordance with the §1(a) and footnote 1 of the Appendix 2 of the PS for the PoAs, version 3/B01/, the correction is a typographical error and has been proposed as a change along with the issuance review. The change has been compared with the MR/01/.

3.7 Assessment of data and calculation of greenhouse gas emission reductions

The Project Proponent submitted all the relevant data and parameters required to be monitored to the verification team along with the monitoring report/01/. All the monitoring parameters are as per the registered PoA-DD/VPA-DD/B04/ and have been monitored and reported in the monitoring report/01/. In accordance with the deviation request dated 14/12/2021, the parameters are being monitored based on the default values as per the deviation request or as per the values in the sales database.

CC IPL reviewed the calculation worksheet /02/ for the emission reduction calculation for the monitoring periods 01/09/2020 to 31/12/2021. CC IPL confirms that the formulas, conversions, aggregations and factors are consistent with the monitoring plan in the PoA-DD and VPA-DD /B04/. The reported data was checked as follows:

- Necessary data for all the parameters required to be monitored in the registered PoA-DD and respective VPA-DD /B04/ were reviewed to ensure accuracy.
- The Project Sales Database kept electronically /04/ was reviewed along with an interview with the person responsible for data entry and data review from the GivePower Foundation, to confirm the water sales and purchase recording process during the monitoring period.

3.7.1.1 Baseline emissions

The Project Proponent has submitted the spreadsheet showing the detailed calculation of baseline emissions and corresponding emission reduction for the VPA (GS10987).

The overall GHG reductions achieved by the project activity in year y are calculated as follows:

$$ER_y = ((BE_{b,y} - PE_{p,y}) * U_{p,y} - LE_{p,y}) * (1 - X_{boil})$$

$$BE_{b,y} = B_{b,y} * ((f_{NRBy} * EF_{b,fuel,co2}) + EF_{b,fuel,nonco2}) * NCV_{b,fuel}$$

Where:

$$B_{b,y} = (1 - C_j) * N_{j,y} * W_{b,y} * (Q_{b,y} + Q_{b,rawboil,y})$$

Where:

$N_{j,y}$ Number of person.days consuming water supplied by project scenario p through year y

C_j Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it

$B_{b,y}$ Quantity of fuel consumed in baseline scenario b during the year y in tons

$Q_{b,y}$ Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day

$Q_{b,rawboil,y}$ Quantity of raw water boiled in the project scenario p per person per day

$W_{b,y}$ Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during the project year y, as per Baseline Water Boiling Test

The above equation used for the calculation of emission reduction is in line with methodology /B02/ and registered PoA-DD and VPA-DD /B04/.

Total verified emission reductions during the reported monitoring period (i.e. 01/09/2020 to 31/12/2021, both days inclusive, is 16,535 tCO_{2e} which is based on the solar desalination plants and the total amount of water provided to the users in the monitoring period.

3.7.1.2 Project emissions

The project emissions for the VPA are calculated based on the equations provided below:

$$PE_{p,y} = B_{p,y} * ((f_{NRBy} * EF_{p,fuel,co2}) + EF_{p,fuel,nonco2}) * NCV_{p,fuel}$$

And:

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

3.7.1.3 Leakage emissions

As per the deviation request dated 14/12/2021, a factor of 5% is being applied for leakage as the CME was unable to complete the project survey during the monitoring period.

3.8 Assessment of actual emission reductions with the estimate emission reductions in POA-DD

Estimated emission reduction in the VPA-DD /B04/ and emission reduction reported in the MR /01b/ for the monitoring period was comprehensively assessed by the verification team, through document review /02/, /07/ and remote interviews of the CME/ PP representatives.

Following table provides comparison of estimated/ex-ante value and actual emission reduction value for the reported monitoring periods:

Estimated ER within the Monitoring Period tCO _{2e}	Actual ER within the Monitoring Period tCO _{2e}	Has any increase of ER's occurred?
79,890	15,535	No

In summary, verification team confirms the actual emission reduction is lower than the estimated ERs of the VPA for the reported monitoring period. Based on the above, verification team concludes that, the cause for the decrease of ER's for the current monitoring is appropriately justified by the PP, same has been verified and acceptable to the Verification team. Following is the summary of ER value /02/ calculated:

ER summary for VPA

Parameter	unit	2020	2021
BE _y	tCO _{2e}	3,085	12,450
PE _y	tCO _{2e}	0	0
L _y ¹	tCO _{2e}	0	0
ER _y	tCO _{2e}	3,085	12,450
Total	tCO _{2e}	15,535	

3.9 Compliance with the sustainability monitoring plan

Sustainability monitoring plan as contained in the registered PoA-DD/VPA-DDs /B04/ has been monitored by the PP and the same is provided in the Monitoring report. Sustainability monitoring plan was assessed and verified by the verification team during remote interview and by means of interview with the stakeholders, GivePower Foundation personnel and CO2balance UK Ltd personnel.

All the non-neutral indicators that are monitored by the PP and verified by the verification team. Based on the deviation request dated 14/12/2021, SDG5 will not be claimed.

3.10 Monitoring of Gold Standard Sustainability Indicators

Verification team checked the sustainable development indicator parameters through documents review /03/, /07/ and remote interviews.

¹ A default value of 5 % has been assumed in the calculation for leakage emissions based on deviation request and has been assumed within the equation for baseline emissions.

3.11 Grievance Mechanism and Legal Disputes

During remote interview, the CME has confirmed that no legal disputes are applicable to the VPA. The inputs and comments that have been received via the Continuous Input and Grievance Mechanism together during the monitoring period have been provided in the grievance register/13/. The details of the grievances have also been provided in the section G of the monitoring report/02/. CME has adequately addressed the comments received in the grievance register.

4. VERIFICATION FINDINGS

The findings of the verification are described in the following sections. The verification criteria (requirements), the means of verification and the results of verification are documented in detail in the verification protocol in Appendix A.

4.1 Compliance with the sustainability monitoring plan

The monitoring system complies with the sustainable monitoring plan. All the non-neutral parameters have been discussed in the monitoring report. The “way of monitoring” as stated in the revised and approved PoA-DD / VPA-DD /B04/ has been followed. The monitoring parameters and the data in the SDG matrix have been checked and cross-checked against the supporting documents. All mitigation measures have been put in place to prevent the violation of the “do no harm assessment” or to neutralise an SDG indicator.

4.2 Monitoring of Gold Standard SDG Indicators

Parameters that are monitored in accordance with the monitoring plan for data and parameters monitored and SDG indicators as referred in the GS Transition Annex /25/

SDG Indicator	Chosen SDG Impact in the registered GS VPA-DD and monitoring report	Way of monitoring	Assessment	Verified SDG Impact
SDG 3: Good Health and Wellbeing	Number of additional persons consuming safe water in the project activity compared to the baseline scenario	Water point Project Database; Default Values	<p>The parameter is monitored based on the project database. The values are sourced from the project database.</p> <p>PP has proposed a correction to the SDG Impact 3 to 'Number of additional persons consuming safe water in the project activity compared to the baseline scenario'. The change is only with respect to the title of the impact and has been made due to identical Impacts identified in the PDD for SDG3 and SDG6. In accordance with the §1.1.1 and §1.1.2 of the Annex A of the GS Principles and Requirements/B03/, it was identified that the change is not material and does not affect: additionality, scale of the project, validity/applicability of the applied methodology, stakeholder consultation, and sustainable development criteria, monitoring plan change. Thus, in accordance with the §1(a) and footnote 1 of the Appendix 2 of the PS for the PoAs, version 3/B01/, the correction is a typographical error and has been proposed as a change along with the issuance review. The change has been compared with the MR/01/.</p>	15,047
SDG 5: Gender Equality	Reduction in time spent collecting firewood per day	Project Survey	In accordance with the deviation request dated 14/12/2021, SDG5 claim will not be accepted.	No Data
SDG 6: Clean and Water	Number of additional persons having access to safe water in	Default Values; Database and other	The parameter is monitored based on the project database. The values are sourced from the project	17,961

Sanitation	the project activity compared to the baseline scenario	ex-ante values	database, Portion of users of project safe water supply who were already in baseline using a non-boiling safe water supply and Percentage of persons boiling water in the baseline.	
SDG 13: Climate Action	Emission Reductions	Project Surveys and Database	The total emission reductions have been calculated based on the parameters listed in section 3.4 of the verification report. An assessment has been provided for each parameter separately.	15,535 tCO ₂ e

APPENDIX A: GOLD STANDARD VERIFICATION PROTOCOL

CCIPL's Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
1. Sustainability Monitoring					
1.1 Have all non-neutral indicators been monitored as per the sustainability monitoring plan?	/1/	DR,	Yes, all the non-neutral indicators have been monitored as per the sustainability monitoring plan.	OK	OK
1.2 Have the methods to monitor data changed? And are they suitable to the project scale and type?	/1/	DR	Methods to monitor data have not changed as compared with the monitoring plan in the registered passport and monitoring plan.	OK	OK
1.3 Has the way of monitoring been followed? With the inclusion of dates and parameters?	/1/	DR	The sustainability monitoring plan has been followed as per described in the Passport.	OK	OK
1.4 Have mitigation measures been put in place to prevent the risk of the violation of the safe guarding principle of "Do No Harm" assessment or to neutralise a Sustainable Development Indicator that is being monitored?	/1/	DR	The mitigation measures have been put in place that has been put in records as a proof of the same. Several supporting documents as listed under section 2.1 have been provided. Also, the remote interview of the households and interviews of the trained personals of PP were performed during on remote interview.	OK	OK
1.5 Has all the data in the Sustainability development matrix been verified and cross checked against available sources of project data? Has it been described how sustainable development would be affected if a variance occurred?	/1/	DR and remote interview	Yes, all data in the sustainability development matrix have been verified and cross checked from the supporting documents and during remote audit.	OK	OK
2. Other					

² MoV = Means of Verification, DR = Document Review, I = Interview, www = internet search.

CC IPL's Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
2.1 Are there any issues from the previous validation/verification? (ie FARs, requests / approvals for RMP)	/1/ /B03/	DR	No	OK	OK
2.2 Has the project ever received any requests for reviews or incompletes from the UNFCCC or GS Secretariat?	/1/ /B03/	DR	No there are no request for reviews or incomplete for the project.	OK	OK
2.3 The evaluation of the status of mitigation and compensation measures has been verified.	/1/ /B03/	DR	Yes, the status of mitigation and compensation measures has been verified.	OK	OK

APPENDIX B

CARBON CHECK Certification statement for the Verification Report CC IPL1058/GS/VER/GPKS/20211126

Carbon Check (India) Private Ltd., the VVB, has performed the verification of the VPA “GivePower Kenya Solar Water Farms” registered with the GS –PoA “International Programme for Safe Water Access and Efficient Cookstoves” and GS registry number GS7591.

VPA /B04/ under verification are:

1. GivePower Kenya Solar Water Farms (GS7591)

The project activity is designed to generate emission reductions by providing safe drinking water to the target end users, which reduces wood fuel and charcoal consumption on inefficient three stone fires and inefficient traditional charcoal stoves to purify drinking, cleaning and washing water.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project. It is VVB’s responsibility to express an independent verification statement on the reported GHG emission reductions from the project. The verification is carried out in-line with the VVS and GS4GG requirements.

Verification was performed to identify the compliance of the project activity with implementation and monitoring requirements and to verify the actual amount of achieved net emission reductions, through obtaining evidence and information and by conducting remote interviews that includes:

- i) To confirm whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied and
- ii) To check the evidence supporting the reported data.

The VVB has raised 04 CL and 03 CAR, all the CARs and CLs have been closed. The VVB has also raised four FARs, the FARs shall be checked at the time of the next periodic verification.

The VVB with reasonable assurance confirms that reported net GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology and the monitoring plan (as contained in the registered PoA-DD and eleven VPA-DDs) and are fairly stated.

The VVB, hereby certifies that the project activity, achieved net emission reductions of 15,535 tCO₂ equivalent and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records.

APPENDIX B: Clarification requests, corrective action requests and forward action requests

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

FAR ID	01	Section no.		Date: 15/03/2022
Description of FAR				
<i>The start date of the new measures/technologies corresponding to the Malawi VPA has been considered as 09/06/2020, which shall be checked/validated at the time of Validation of the VPA corresponding to the Malawi.</i>				
Project participant response				Date: 22/03/2022
This FAR is not applicable to the project as it refers to a Malawi VPA, which is outside the scope of the project area for the VPA.				
Documentation provided by the project participant				
GS VVB assessment				Date: 04/04/2022
PP has clarified that the FAR is not applicable to the VPA as the FAR refers to Malawi VPA. The VPA under consideration is located in Kenya. FAR01 is closed.				

FAR ID	02	Section no.		Date: 30/06/2022
Description of FAR				
<i>As per para 2.1.1 of COVID 19: Interim Measures /28/, project developer may postpone physical stakeholder consultation meetings and the Stakeholder Feedback Round (SFR) for Gold Standard project/POA/VPAs until the COVID-19 situation eases. CME/CPA implementer need to carry out the physical stakeholder consultation meeting and SFR at a later stage as soon as the situation allows.</i>				
Project participant response				Date: 30/06/2022
Postponement of the LSC has been added to section B.1.1 – Forward Action Requests in the MR. The LSC was conducted on 22nd March 2022 in Kenya when it was safe to do so, following COVID 19 Interim Measures.				
Documentation provided by the project participant				
GS VVB assessment				Date: 06/07/2022
PP has clarified that the LSC was carried out after the completion of the monitoring period. The compliance of the LSC shall be checked at the time of the next periodic verification. FAR02 has been changed to a FAR for the next periodic verification.				

FAR ID	03	Section no.		Date: 30/06/2022
Description of FAR				
<i>During the 1st verification of the VPA, Verification team need to check supportive document for the methodology requirement “The water in its improved form should be available within 1 km walking/pedaling distance from the households. There is a two-year grace period (from date of registration) for any households falling outside of this distance, however once this period is over these households would not be included in the emission reductions calculation.</i>				
Project participant response				Date: 30/06/2022
The project was registered on 09/08/2021 and so is within the two-year grace period. The FAR is not applicable at the moment so has not been added to section B.1.1 of the MR.				
Documentation provided by the project participant				
GS VVB assessment				Date: 06/07/2022
PP has clarified that the project was registered on 09/08/2021 and since two-year grace period is not completed till the end date of the monitoring period was not completed and thus the document has not been provided. The compliance of the FAR shall be checked at the time of the next periodic verification. FAR03 has been changed to a FAR for the next periodic verification.				

Table 2. CLs from this verification

CL ID	01	Section no.	1.3	Date: 08/02/2022
Description of CL				
<p><i>In Key Project Information section of the monitoring report, CME has stated that version 7 of the PoA is applicable to the VPA. However, the PoA-DD version 1 is available on the Gold Standard Registry.</i></p> <p><i>CME shall clarify the correct applicable version of the PoA-DD and provide the applicable version of the PoA-DD to the verification team.</i></p>				
Project participant response				Date: 22/02/2022
PP has provided V7 of the PoA-DD as well as Design Change Closure confirmation, showing version 7 of the PoA-DD being confirmed.				
Documentation provided by project participant				
GS7591 IPSWAEC GS4GG_PoA-DD_v.7 – Clean GS7591_Design Change_Final Round				
GS VVB assessment				Date: 15/03/2022
PP has submitted the latest version of the PoA-DD to the VVB and the corresponding version of the PoA-DD is quoted in the monitoring report. CL01 is closed.				

CL ID	02	Section no.	3.1	Date: 08/02/2022
Description of CL				
<p><i>In Table 1 of the PoA-DD, the SDG Impact for SDG3 and SDG6 is identical. CME shall clarify if the impact is identical and also clarify how the reported value is different if the impact is identical.</i></p>				
Project participant response				Date: 22/02/2022
In Version 7 of the PoA-DD, PP cannot find any instance where SDG impact for SDG3 and SDG6 are identical.				
Documentation provided by project participant				
GS VVB assessment				Date: 15/03/2022
The SDG Impact provided for SDG3 and SDG6 provided in the VPA-DD and MR Table 1 is also identical. PP shall clarify if the impact is identical and also clarify how the reported value is different if the impact is identical. CL02 remains open.				
Project participant response				Date: 22/03/2022
PP has corrected the units/products column of Table 1. The difference in the units refers to consumption of safe water (SDG 3) and access to safe water (SDG 6). These are not equal. The ER calculations, SDG tab shows the difference in how the figures are calculated. SDG 3 impact factors in Cj and Pb boil parameters whereas SDG 6 impact factors Cj only. This is because people in the baseline who were boiling their water to purify were still consuming safe water. Therefore, the SDG 3 impact is calculated differently to SDG 6.				
Documentation provided by project participant				
GS VVB assessment				Date: 04/04/2022
PP has updated the units/products column of Table 1 in the MR. PP has also clarified that both the parameters are different and provided the justification on the difference of the parameters. CL02 is closed.				

CL ID	03	Section no.	3.1	Date: 08/02/2022
Description of CL				
<p><i>In section A.4 of the monitoring report, project ID is stated as GS7128, the PoA GS ID is GS7591 and VPA GS ID is 10987. CME shall clarify which project ID is being referred in the section A.4 of the monitoring report.</i></p>				
Project participant response				Date: 22/02/2022
PP has corrected the project ID to GS10987. It is the ID of the VPA.				
Documentation provided by project participant				
GS VVB assessment				Date: 15/03/2022
PP has rectified the reference to incorrect GS project ID in the section A.4 of the monitoring report. CL03 is closed.				

CL ID	04	Section no.	2.3	Date: 08/02/2022
Description of CL				
<i>In section D.1 of the MR, the value of the parameter $f_{NRB,y}$ has been taken as 0.97. However, a value of 0.92 has been applied in the registered/ included VPA-DD.</i>				
Project participant response				Date: 22/02/2022
PP has corrected $f_{NRB,y}$ to 0.92 and updated ER calcs and applicable MR sections as a result.				
Documentation provided by project participant				
GS VVB assessment				Date: 15/03/2022
PP has revised the value for the parameter $f_{NRB,y}$ to 0.92 and the corresponding values in the ER sheet have also been revised. CL04 is closed.				

Table 3. CARs from this verification

CAR ID	01	Section no.	3.4	Date: 08/02/2022
Description of CAR				
<i>In section D.2 of the MR, CME shall justify the conservativeness of the value determined and decide if this is in compliance with the §3.1.4 of the Deviation approval procedure Version: 1.1.</i>				
Project participant response				Date: 22/02/2022
Deviation approval procedure Version 1.1 section 3.1.4 a. states. “Propose alternative monitoring arrangements for the non-conforming monitoring period. In this case, the project developer shall apply conservative assumptions or discount factors to the calculations to the extent required to ensure that GHG emission reductions or net anthropogenic GHG removals will not be overestimated as a result of the deviation” The value of 0.81 Litres per person per day for $Q_{p,rawboil,y}$ is justifiably conservative. No other safe water projects in CO2balance’s project portfolio have recorded a monitored value of $Q_{p,rawboil,y}$ above zero. Therefore, a reduction of 20% to the ERs guarantees overestimation of ERs does not occur.				
Documentation provided by project participant				
GS VVB assessment				Date: 15/03/2022
In accordance with the §3.1.4 a of the Deviation approval procedure Version: 1.1, PP shall clarify which alternative monitoring arrangements have been applied during the non-confirming period. PP shall also provide reference to other projects as source for the justification. Furthermore, the basis of the applied conservative assumptions or discount factors shall be justified. CAR01 remains open.				
Project participant response				Date: 04/04/2022

Type of Premises	Default value (litres/person/day)	Capped value (litres/person/day)	Applicability	Reference
Full-day premises	4	7	Premises like households etc.	WHO Technical Notes for Emergencies, Technical Note No. 9, Minimum Water Quantity

⁴⁹ "The human right to water is indispensable for leading a life in human dignity", The right to water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights), UN 2003

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Gold Standard

				Needed
Boarding school	7	7		WHO WASH standards schools ⁵⁰
Half-time premises	3	5.5	Premises like day-schools, offices etc.	Half ⁵¹ WHO reference above & WHO WASH standards schools

Alternative monitoring arrangements have not been applied during the non-conforming period. This is because page 49 of TPDDTEC v3.1 states "For the project scenario, projects are allowed to use the default values for water consumption provided in table above. If the default values are used then $(Q_{p,y} + Q_{p,rawboil,y})$ in equation 11 above can be replaced with the default value. The value of $Q_{p,rawboil,y}$ is therefore zero. PP has updated the Emissions Reductions Calculations to reflect this as well as the Monitoring Report.

Please find below an example list of GS IDs from which $Q_{p,rawboil,y}$ values can be cross-examined on the GS registry:

- GS7672
- GS7581
- GS7484
- GS7474
- GS7463
- GS7128 – also located in Coastal Kenya, Kilifi County
- GS7364
- GS7335

Documentation provided by project participant

GS10987_ERs_v3

GS10987_MR_MP1_v3 (clean and track)

GS VVB assessment

Date: 04/04/2022

PP has applied the default values for the parameter $Q_{p,rawboil,y}$ in accordance with the section A3.2 of the methodology TPDDTEC, version 3.1 (p.48-49/92). Since, a default value is already being used for the parameter $Q_{p,y}$, the use of a default value for the parameter

$Q_{p,rawboil,y}$ is justified. The target premises for the VPA is household. PP has also provided the references for other GS projects by the same PP where the value has been capped at 7 and the monitored values are much higher. PP shall also clarify how the condition stated in the deviation approval process is justified: “*shall apply conservative assumptions or discount factors*”. CAR01 remains open.

Project participant response **Date:** 05/04/2022

Values of $Q_{p,y}$ are capped at 7 in other projects. The values of $Q_{p,rawboil,y}$ are still zero, however. PP is using a default value for $Q_{p,y}$ of 4 litres per person per day, which is by definition a conservative assumption, when compared to the capped value of 7 litres per person per day achieved in other SWS projects. Therefore, PP has followed the deviation approval process and applied a “*conservative assumption*” to the value of $Q_{p,rawboil,y}$.

Documentation provided by project participant

GS VVB assessment **Date:** 05/04/2022

PP has clarified that the default value for the parameter $Q_{p,y}$ of 4 litres per person per day is a conservative assumption compared to the capped value of 7 litres per person per day in other projects from the same project proponent. Thus, the value determined by the project proponent for the parameter $Q_{p,rawboil,y}$ is zero and is considered conservative. CAR01 is closed.

CAR ID	02	Section no.	3.4	Date: 08/02/2022
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Description of CAR

In section E.5 of the MR, a comparison of the consistent units of ex-ante values has not been provided with the monitored values. The values shall be compared either on per year basis or for the whole monitoring period.

Project participant response **Date:** 22/02/2022

PP has corrected Section E.5 of the MR. Consistent units are provided.

Documentation provided by project participant

GS VVB assessment **Date:** 15/03/2022

PP has revised the values reported in the section E.5 of the MR to provide a comparison of the ex-ante values with the monitored values based on the total value for the monitoring period. CAR02 is closed.

CAR ID	03	Section no.	3.1	Date: 08/02/2022
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Description of CAR

*In accordance with the section D.3 of the MR, following details are not provided:
A comprehensive installation record details the following information:*

- *Date of installation*
- *GPS location of the technology*
- *Quantity of plants installed*
- *The total volume of water being sold by each plant*
- *Mode of use: commercial/domestic*

Project participant response **Date:** 04/04/2022

ER calculation Excel contains the Project Database.

Please see PTDs tab for:

- Date of installation
- Quantity of plants installed
- Mode of use
- GPS location

Also, total volume of water being sold is provided in the relevant sales data tabs.

Documentation provided by project participant

GS10987_ERs_v3

GS VVB assessment **Date:** 04/04/2022

In accordance with the section D.3 of the MR, the comprehensive installation records for the safe drinking solutions have been provided in the PTDs workbook of the ER sheet. CAR03 is closed.

Table 4. FARs from this verification

FAR ID	01	Section no.		Date: 08/02/2022
Description of FAR				
<p><i>In accordance with the deviation request dated 14/12/2021, the PD shall assure that the Hygiene campaigns are performed as soon as the country situation allows. The details of the hygiene campaigns shall be checked at the time of the next periodic verification.</i></p>				
Project participant response				Date: 22/02/2022
Hygiene Campaign are intended to be completed in 2022, during MP2. Details shall be provided for next verification.				
Documentation provided by the project participant				
GS VVB assessment				Date: 15/03/2022
CME shall ensure that the Hygiene campaigns are completed at the time of next periodic verification. FAR01 shall be checked at the time of next periodic verification.				

FAR ID	02	Section no.		Date: 30/06/2022
Description of FAR				
<p><i>As per para 2.1.1 of COVID 19: Interim Measures /28/, project developer may postpone physical stakeholder consultation meetings and the Stakeholder Feedback Round (SFR) for Gold Standard project/POA/VPAs until the COVID-19 situation eases. CME/CPA implementer need to carry out the physical stakeholder consultation meeting and SFR at a later stage as soon as the situation allows. The compliance of this FAR shall be checked at the time of the next periodic verification.</i></p>				
Project participant response				Date: 30/06/2022
Postponement of the LSC has been added to section B.1.1 – Forward Action Requests in the MR. The LSC was conducted on 22nd March 2022 in Kenya when it was safe to do so, following COVID 19 Interim Measures.				
Documentation provided by the project participant				
GS VVB assessment				Date: 06/07/2022
FAR02 shall be checked at the time of the next periodic verification.				

FAR ID	03	Section no.		Date: 30/06/2022
Description of FAR				
<p><i>During the 1st verification of the VPA, Verification team need to check supportive document for the methodology requirement “The water in its improved form should be available within 1 km walking/pedaling distance from the households. There is a two-year grace period (from date of registration) for any households falling outside of this distance, however once this period is over these households would not be included in the emission reductions calculation. The compliance of this FAR shall be checked at the time of the next periodic verification.</i></p>				
Project participant response				Date: 30/06/2022
The project was registered on 09/08/2021 and so is within the two-year grace period. The FAR is not applicable at the moment so has not been added to section B.1.1 of the MR.				
Documentation provided by the project participant				
GS VVB assessment				Date: 06/07/2022
FAR03 shall be checked at the time of the next periodic verification.				

FAR ID	04	Section no.		Date: 02/08/2022
Description of FAR				
<p><i>During the 1st verification of the VPA, a deviation request was approved by the SustainCERT. In accordance with the deviation request, the requirements on the usage rate shall be complied by the PP and other points of the deviation request may be addressed during the next periodic verification.</i></p>				
Project participant response				Date: DD/MM/YYYY

Documentation provided by the project participant	
GS VVB assessment	Date: 02/08/2022
FAR04 shall be checked at the time of the next periodic verification.	

APPENDIX C

Certificates of Competence



Carbon Check (India) Private Ltd.

Mr. Anubhav Dimri

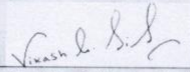
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

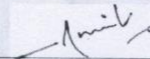
Validator Team Leader Technical reviewer
 Verifier Technical Expert Local Assessor¹

In the following Technical Areas:

TA 1.1 TA 4.1 TA 9.1 TA 13.1
 TA 1.2 TA 5.1 TA 9.2 TA 13.2
 TA 3.1 TA 5.2 TA 10.1 TA 14.1



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

Revision History of the Document

01/03/2020 ²	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision
24/12/2021	Annual Revision

¹ India, South Africa

² Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED

CIN: U74930DL2012PTC232495

Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005

Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh

Tel: +91 120 4373114 | URL: www.carboncheck.co.in | e-mail: info@carboncheck.co.in


Carbon Check (India) Private Ltd.
Ms. Indumathi. C

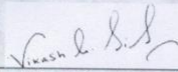
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

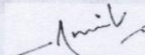
Validator Team Leader Technical reviewer
 Verifier Technical Expert Local Assessor¹

In the following Technical Areas:

TA 1.1	<input checked="" type="checkbox"/>	TA 4.1	<input type="checkbox"/>	TA 9.1	<input type="checkbox"/>	TA 13.1	<input checked="" type="checkbox"/>
TA 1.2	<input checked="" type="checkbox"/>	TA 5.1	<input type="checkbox"/>	TA 9.2	<input type="checkbox"/>	TA 13.2	<input checked="" type="checkbox"/>
TA 3.1	<input checked="" type="checkbox"/>	TA 5.2	<input type="checkbox"/>	TA 10.1	<input type="checkbox"/>	TA 14.1	<input type="checkbox"/>



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

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¹ India.

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