



GS VERIFICATION AND CERTIFICATION REPORT

- 1ST PERIODIC VERIFICATION

PEOPLE'S REPUBLIC OF BANGLADESH

IMPROVED COOKING STOVES IN
BANGLADESH

PoA GS REF. NO.: GS 10833

Report No: 8003041244-22/004

Date: 10/08/2022

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Verification Report:	Report No.	Rev. No.	Date of 1st issue:	Date of this rev.
	8003041244-22/004	3.0	04/03/2022	10/08/2022
Programme of Activities:	PoA Title:		project design certification	GS No.:
	Improved Cooking Stoves in Bangladesh		23/08/2021	GS10833
	PoA Scale		Verification No.:	
	<input type="checkbox"/> Large Scale	<input checked="" type="checkbox"/> Small Scale	1st periodic verification	
	Duration of the PoA:		From:	To:
	15 years (5-yr renewable cycle)		13/01/2016	12/01/2031
	Crediting period:		From:	To:
	<input checked="" type="checkbox"/> Renewable (5y) <input type="checkbox"/> Fixed (10y)		13/01/2016	12/01/2021
	VPA title:		Inclusion date	GS No.:
	VPA 01	Improved Cooking Stoves in Bangladesh – CPA No.12 “SZ Consultancy Services Ltd.”	23/08/2021	GS10974
	VPA 02	Improved Cooking Stoves in Bangladesh – CPA No.13 “SZ Consultancy Services Ltd.”	23/08/2021	GS10976
	VPA 03	Improved Cooking Stoves in Bangladesh – CPA No.14 “SZ Consultancy Services Ltd.”	23/08/2021	GS10977
	VPA 04	Improved Cooking Stoves in Bangladesh – CPA No.15 “SZ Consultancy Services Ltd.”	23/08/2021	GS10978
	VPA 05	Improved Cooking Stoves in Bangladesh – CPA No.16 “SZ Consultancy Services Ltd.”	23/08/2021	GS10979
VPA 06	Improved Cooking Stoves in Bangladesh – CPA No.17 “SZ Consultancy Services Ltd.”	23/08/2021	GS10980	
VPA 07	Improved Cooking Stoves in Bangladesh – CPA No.18 “SZ Consultancy Services Ltd.”	23/08/2021	GS10981	
VPA 08	Improved Cooking Stoves in Bangladesh – CPA No.19 “SZ Consultancy Services Ltd.”	23/08/2021	GS10982	
Project Participant(s):	Non Annex 1 country:		Annex 1 country:	
	People’s Republic of Bangladesh		-	
	PP from non-Annex 1 country:		PP from Annex 1 country:	
SZ Consultancy Services Ltd. (SZCSL) (also CME)		-		
Applied methodology/ies:	Title:		No.:	Scope(s) / TA(s)
	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass		version 3.0	3 / 3.1
Monitoring period and monitoring report	Monitoring period (MP):		Monitoring Report (final):	
	01/07/2018 to 12/01/2020 (both days inclusive) MS#2: 01/07/2018 to 12/01/2019 (both day inc) MS#3: 13/01/2019 to 12/01/2020 (both day inc)		2022-08-01 v 5.0	
Verification team:	Verification Team:		Technical review:	Final approval:
	Prakash Kumar Mishra – TL/T		David Lubanga, Christina Stöhr	Christina Stöhr



Key dates of verification:	Publication of the workplan:	Remote audit		
	2021-09-18	From 2020-09-21	To 2020-09-23	
Summary of Verification opinion	<p>SZ Consultancy Services Ltd. (SZCSL) has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic verification of first crediting period of the VPA titled: "Improved Cooking Stoves in Bangladesh", with regard to the relevant GS requirements for project activities. The VPAs (VPA 0012, VPA 0013, VPA 0014, VPA 0015, VPA 0016, VPA 0017, VPA 0018, and VPA 0019) have already been registered under CDM and are transitioned under Gold Standard. The crediting period duration for GS4GG is 15 years therefore, the crediting period from CDM has been adjusted and the final CP under GS4GG is 13/01/2020 to 12/01/2031. TRFs for the PoA and associated VPAs were reviewed. The VVB assessed that, the CME has selected Transition Pathway, Option 1.2 which refers to direct conversion of CDM CERs to GS VERs for the period 01/06/2018 to 12/01/2020 (inclusive of both days).</p> <p>As a result of this verification, the verifier confirms that:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> all operations of the project are implemented and installed as planned and described in the validated project design document, <input checked="" type="checkbox"/> the monitoring plan is in accordance with the applied approved GS methodology, <input checked="" type="checkbox"/> the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately, <input checked="" type="checkbox"/> the monitoring system is in place and functional. The project has generated GHG emission reductions, and <input checked="" type="checkbox"/> the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. <input checked="" type="checkbox"/> the project has contributed to sustainable development. <p>TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as listed below (verified amount).</p>			
Emission reductions: [tCO₂e]	Total verified amount		As per VPA-DD:	
	MS#2	194,669	MS#2	211,635
	MS#3	352,304	MS#3	394,116
	Total	547,161	Total	605,751
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Abbreviations:

CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO₂	Carbon dioxide
CO_{2eq}	Carbon dioxide equivalent
CL	Clarification Request
VPA-DD	Component Project Activity Design Document
DVerR	Draft Verification Report
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PoA-DD	Programme of Activities Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard



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1. INTRODUCTION

SZ Consultancy Services Ltd. (SZCSL) has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 1st periodic verification of the POA titled:

“Improved Cooking Stoves in Bangladesh”

under corresponding Programme of Activities ID GS10833 with regard to the relevant requirements for GS project activities. The verifiers have reviewed the implementation of the monitoring plan(s) (MP) as described in the registered PoA-DD and VPA-DD and GS PoA / VPA Transition Request Documents.

GHG data for this monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the GS regulations and the applied methodology.

Sustainable Development Indicators for this monitoring period were verified in detailed manner as required under the GS transition requirements/documents^{/GST/}, GS requirements^{/GSR/}, relevant GS Annexes, and GS4GG Requirements^{/GS4GG TA/}.

This report summarizes the findings and conclusions of this 1st periodic verification of the above-mentioned UNFCCC registered and GS transitioned project activity.

1.1. Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions. It includes the verification of the:

- implementation and operation of the project activity as given in the CDM-PDD, respective GS Transition Request Forms,
- compliance of the actual monitoring system and procedures with the provisions of the monitoring plan as a part of registered PDD, respective GS Transition Request Forms the GS SDG monitoring matrix and the applied approved monitoring methodology,
- data given in the monitoring report by checking the monitoring records, the emissions reduction calculation and supporting evidence,
- accuracy of the monitoring equipment,
- quality of evidence,
- significance of reporting risks and risks of material misstatements.

1.2. Scope

The verification of this GS transitioned program of activities is based on the validated Programme of Activities design document^{/GSPoA-DD/}, the validated GS PoA / VPA Transition Request Documents, the monitoring report(s)^{/MR/}, emission reduction calculation spreadsheet^{/XLS/}, GS4GG Requirements^{/GS4GG TA/}, supporting documents made available to the verifier and information collected through performing interviews and during the remote assessments. Furthermore, publicly available information was considered as far as available and required.



The verification is carried out on the basis of the following requirements, applicable for this Programme of Activities:

- Article 12 of the Kyoto Protocol ^{/KP/},
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 ^{/MA/}, and subsequent decisions made by the Executive Board and COP/MOP,
- other relevant rules, including the host country legislation,
- CDM Validation and Verification Standard ^{/VVS/},
- GS Transition Request Documents ^{/GST/GSR/}
- Monitoring plan as given in the registered PoA-DD and VPA-DD(s) respective GS Transition Request Forms ^{/GSPoA-DD/}
- Approved CDM Methodology ^{/GSM/}
- GS4GG Requirements ^{/GS4GG TA/}



2. GHG PROJECT DESCRIPTION

2.1. Technical Project Description of the Programme of Activities

The purpose of PoA is dissemination of efficient, improved cooking stoves (ICS) in Bangladesh. The PoA is already registered under CDM and renewed under GS against the GS4GG and UNFCCC criteria, GS4GG Principles and requirements, applied methodology and other relevant rules and requirements established for GS4GG PoA.

The VPAs under the PoA promote installation of two categories of ICS (based on service levels):

- Domestic ICS
- Non – Domestic (Commercial) ICS

The replacement of traditional stoves by ICS improves heat transfer, hence reducing the total amount of wood-fuel required for cooking and reducing amount of GHG emitted into the atmosphere. This VPAs included in this report use the same technology / measure.

The improvement in efficiency is achieved by properly adjusting the dimensions of the combustion chamber and ensuring effective air flow during cooking. In comparison to traditional stoves, the ICS provide a fuel savings of ~50% to cook the same amount of food.

2.2. Technical Description of the Voluntary Project Activities (VPAs)

The Programme of Activities consists of VPA briefly as below:

Improved Cooking Stoves in Bangladesh – VPA No.01 to 08 “SZ Consultancy Services Ltd.”

The technology implemented under this project is improved cookstoves.

The key parameters of the project are given in Table 2-1.1:

Table 2-1.1: Technical data of the VPA

Description (Technical specification)	Domestic	Non-Domestic
Portable/Fixed	Fixed	Fixed
Fuel grate present (yes/No)	Yes	Yes
Chimney present (Yes/No)	Yes	Yes
Fuel Type	Wood-fuel	Wood-fuel
Fabrication Material	Cement concrete	Cement concrete
Design Operational Lifetime	9-10 years	9-10 years

2.3. Project Location

The details of the VPA locations are given in Table 2-2:

Table 2-2: VPA(s) Location

VPA No.: 1	Project Location
Host Country	Bangladesh Small Scale
Region:	All across Bangladesh
Project location address:	All cities and towns in Bangladesh
Latitude / longitude of program provinces:	23.6850° N, 90.3563° E

2.4. Project Verification History

Essential events since the registration of the PoA are presented in the following Table 2-3.

Table 2-3: Status of previous Monitoring Periods

#	Item	Time	Status
1.	PoA validation (GS) based on Design Certification Review	08/09/2021	Registered
2.	Start date of Crediting period based on deviation was approved by Gold Standard on 09/11/2020 (Deviation reference number: COVID_DEV 160)	01/07/2018	Deviation approved
3.	1 st Monitoring period	01/07/2018 to 12/01/2020	Issuance Requested

An overview of all Post Registration Changes is given in the following table.

Table 2-4: Overview Post Registration Changes

#	Changes on PoA-DD/VPA-DD	Applicable from – to / as of	MP	Type of post registration change ¹⁾	Description	Status ²⁾ / Date
	n.a.					

- ¹⁾
- IVPAiPoA : Inclusion of component project activities in programme of activities
 - TDfrMP : Temporary deviation from registered monitoring plan
 - TDfMM : Temporary deviation from the monitoring methodology
 - CrVPADD : Corrections to the registered VPA-DD
 - PCfrMP : Permanent changes from registered Monitoring Plan
 - PCfMM : Permanent changes from Monitoring Methodology



TÜV NORD JI/CDM Certification Program

R-No: 88003041244-22/004

#	Changes on PoA-DD/VPA-DD	Applicable from – to / as of	MP	Type of post registration change ¹⁾	Description	Status ²⁾ / Date
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CoPD : Changes to the project design of a registered PoA, or generic or specific VPA

²⁾ Approval (by Accreditation Body) or Acceptance (by DOE)



3. METHODOLOGY AND VERIFICATION SEQUENCE

3.1. Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- A desk review of the carbon and SD Monitoring Reports^{/MR/} submitted by the client and additional supporting documents with the use of customized verification protocol^{/CPM/} according to the Validation and Verification Standards^{/VVS/}
- Verification planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

3.2. Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consisting of one team leader was appointed.

The list of involved personnel, the tasks assigned, and the qualification status are summarized in the Table 3-1 below.

Table 3-1: Involved Personnel



	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence	On-site visit ¹
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Prakash Kumar Mishra	TN CERT GmbH	TL	SA	<input checked="" type="checkbox"/>	3.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Lubanga, David	-	TR	SA	<input checked="" type="checkbox"/>	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Stöhr, Christina	TN CERT GmbH	TR/FA ^{B)}	SA	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1) TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

2) GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

3) GHG auditor status (at least Assessor)

4) As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

5) In case of verification projects

A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member

All team members contributed to the review of documents, the assessment of the component project activities and to the preparation of this report under the leadership of the team leader.

Technical experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence for the above-mentioned team members are enclosed in annex 2 of this report.

All above stated auditors are Gold Standard approved auditors as per <https://www.goldstandard.org/resources/approved-auditors>.

3.4. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Risk analysis and detailed audit testing planning

For the identification of potential reporting risks and the necessary detailed audit testing procedures for residual risk areas table A-1 is used. The structure and content of this table is given in Table 3-2 below.

¹ Remote Audit was performed. Justification is furnished below



Table 3-2: Table A-1; Identification of verification risk areas

Table A-1: GHG calculation procedures and management control testing / Detailed audit testing of residual risk areas and random testing				
Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
<i>The following potential risks were identified and divided and structured according to the possible areas of occurrence.</i>	<i>The potential risks of raw data generation have been identified in the course of the monitoring system implementation. The following measures were taken in order to minimize the corresponding risks. The following measures are implemented:</i>	<i>Despite the measures implemented in order to reduce the occurrence probability the following residual risks remain and have to be addressed in the course of every verification.</i>	<i>The additional verification testing performed is described. Testing may include:</i> <ul style="list-style-type: none"> - Sample cross checking of manual transfers of data - Recalculation - Spreadsheet 'walk throughs' to check links and equations - Inspection of calibration and maintenance records for key equipment - Check sampling analysis results <i>Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.</i>	<i>Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties are highlighted.</i>

The completed table A-1 is enclosed in Annex 1 (table A-1) to this report.

Project specific periodic verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific verification protocol has been developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:

- It organizes, details and clarifies the requirements a CDM/GS project is expected to meet for verification
- It ensures a transparent verification process where the verifying DOE documents how a particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the periodic verification is described in Table 3-3.



Table 3-3: Table A-2; Structure of the project specific periodic verification checklist

Table A-2: Periodic verification checklist				
Checklist Item	Reference	Verification Team Comments	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-2 are linked to the various requirements the monitoring of the project should meet. The checklist is organised in various sections as per the requirements of the topic and the individual project activity. It further includes guidance for the verification team.</i>	<i>Gives reference to the information source on which the assessment is based on.</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 shall be covered in this section.</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft verification stage.</i>	<i>In case of a corrective action or a clarification the final assessment at the final verification stage is given.</i>

The periodic verification checklist (verification protocol) is the backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in Annex 1 (table A-2) to this report.

3.5. Desk review

During the desk review all documents initially provided by the client and documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PoA-DD and VPA-DD, Transition Request Forms including the monitoring plan^{/GSPoA-DD/VPA/},
- the last revision of the validation report^{/VAL/},
- documentation of previous verifications^{/VER/}
- the monitoring report(s), including the claimed emission reductions for the project^{/MR/},
- the emission reduction calculation spreadsheet^{/XLS/}.
- The SD monitoring report
- Usage Survey Records^{/S1/,/S2/}
- GS4GG Requirements^{/GS4GG TA/}

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.



3.6. On-site assessment

As most essential part of the verification exercise, it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria and applied methodology and registered POA-DD and VPA-DD. Furthermore, the on-site assessment is necessary to check the monitoring data with respect to accuracy of the calculation of emission reductions. Changes to the key SDG Impact indicators and the achievement and implementation of mitigation / compensation measures are other integral parts of the on-site assessment. For this verification, “Other Means of Verification were availed” main tasks covered during the remote audit include, but are not limited to:

- an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data and monitoring/usage survey data were checked.
- The data aggregation trails were checked via spot sample down to the level of the data generation.
- Competency check of the ground personnel who conducts the monitoring survey.
- Appropriateness of the data collection, sampling and reliability test for the monitored sampling parameter.
- Possibility of leakage emissions were also checked.

During the remote audit scheduled on dates [21/09/2020 - 23/09/2020](#) the verification team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of SZ Consultancy Services Ltd. (SZCSL) including the operational staff of the plant were interviewed. The main topics of the interviews are summarized in Table 3-4.

Table 3-4: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Projects & Operations Personnel SZ Consultancy Services Ltd. (SZCSL)	<ul style="list-style-type: none"> - General aspects of the project - Technical equipment and operation - Changes since validation / previous verification - Monitoring and measurement equipment - Remaining issues from validation / previous verification - Calibrations - Quality management system

Interviewed Persons / Entities	Interview topics
	<ul style="list-style-type: none"> - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG emission reduction calculation - Implementation of SD indicators - Contribution to Sustainable Development - Procedural aspects of the verification - Maintenance - Environmental aspects - SD Indicators monitoring^{/S1/,/S2/,/SD1/} - Sampling approach - Usage survey^{/S1/,/S2/} - ER calculations
2. Monitoring Agency	<ul style="list-style-type: none"> - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GS monitoring parameters - GS Usage rate Guidelines - Monitoring team competency and skills - Training records of monitoring team^{/T1/}
3. ICS users	<ul style="list-style-type: none"> - Warranty extensions - Transfer of ownership of credits VERs to PP

The list of interviewees is included in chapter 7.4.

Remote audit assessment:

Due to COVID-19 pandemic, there was travel restrictions in the Host Country of Bangladesh where movement in the field was not permitted. The Verification Team is following the recommendations and COVID 19: INTERIM MEASURES of the GS Board published on 06/04/2020, which allows GS-VVB's to exempt onsite audit due to COVID-19 Pandemic and related worldwide travel restrictions. As per interim measures vide RULE UPDATE: COVID 19: INTERIM MEASURES published on 06/04/2020 which sets provision to exempt mandatory onsite audit by VVB for the period up to 30 June 2022. This [version 05 of the COVID 19: INTERIM MEASURES, dated 21/12/2021](#) extended the validity till 30/06/2022.

Sr. No	Requirement (RULE UPDATE: COVID 19: INTERIM MEASURES)	Assessment
§ 4	MANDATORY SITE VISITS BY VVBs: The Validation and Verification bodies & SustainCERT may apply following interim measures in cases where	Assessment is presented below:



Sr. No	Requirement (RULE UPDATE: COVID 19: INTERIM MEASURES)	Assessment
	on-site inspections cannot reasonably be performed due to COVID-19 and travel restrictions.	
4.1.1 a.	Alternative Measures relating to mandatory on-site visits for VVBs audits include: A VVB may postpone site visits for on-site inspections, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB (if any) and other relevant travel restrictions and guidance (for example, a requirement to self-isolation upon return from specific countries).	VVB has applied the remote audit techniques, as the site visit could not be postponed due to the GS VER delivery commitments by PP. The PP has requested retro active credits for 2 years. Thus, VVB has conducted assessment using other means of verification such as Telephonic Calls and Skype Calls.
4.1.1 b.	If site visit cannot be postponed due to significant impact of delaying the site visit on VVB and/or project developer due to timeline/commitment as per validation/verification or GS-VERs delivery agreement, VVB may replace mandatory on-site visits with remote audits. The audit may include but not limited to validation, verification, the inclusion of VPAs, design change review etc.	
4.2.1	In case of 4.1.1 a, the VVB shall complete the on-site inspection as normal when the COVID-19 situation eases.	Not applicable.
4.2.2 i.	In case of 4.1.1 b, the VVB shall: Use validation/verification techniques and advanced communication technology solutions to validate/verify information and compliance with applicable requirements to the extent possible, to ensure the completeness and credibility of the audit;	Please refer the above explanation on the techniques and mode of communication used to appropriately assess the implementation of the project together with credibility of the monitoring result. It is further noted that the same VVB and the same Verification Team conducted corresponding CDM Verification (MP3) remotely.
4.2.2 ii.	Use means such as, but not limited to, tele/video meetings; interviews with relevant stakeholders, local authorities, project participants, persons responsible for data collections, end user and/or beneficiaries of the project; photographic evidence, video recordings; data collection. For microscale project/PoAs/VPAs using drones, satellite image (where possible); relevant documents; and other publicly available information.	
4.2.2 iii.	Transparently disclose in the audit report that - The audit is undertaken remotely and - Describe the alternative means used and justification that they are sufficient for the audit	This Verification Report has been provided with a transparent disclosure on remote site assessment including explanation on other means utilized/ applied to verify the onsite information. Please refer Annex A.1 Verification Protocol of this report. The submission of this performance review is within relaxation period.



Sr. No	Requirement (RULE UPDATE: COVID 19: INTERIM MEASURES)	Assessment
4.2.2 iv.	Must submit the audit report requesting design certification and/or performance certification within Six (6) months of the declared end date of the Interim Measures.	Refer above explanation
4.3.1	The maximum monitoring period that VVB can verify based on remote audit (paragraph 4.1.1 b) is two years.	The monitoring period under this issuance request is from 01/07/2018 to 12/01/2020 i.e., which is well within the limit of submission under this interim measure i.e., 2 years.

Applied Other Credible means of verification:

The credible other means of verification is applied to cross check on-ground information as described below

Telephonic Call: During the telephonic assessment, the selected end users were interviewed and records for individual end user records, submitted by PP, were verified. The telephonic calls were recorded, stored and maintained so that the assessments of the Verification Team are traceable and reproducible if required.

Skype Calls: This tool has allowed connecting multiple stakeholders such as PP, project developer/ consultant, relevant personnel from Usage survey team and all other relevant persons as per the organogram of the PDD including QA/ QC key personnel. The VT could virtually verify the implementation of the project against the requirements in the most recent version of PDD and interviews with all the above-mentioned parties including sampled end users using this tool.

Furthermore, the data collected during the above steps are further utilized for assessments which is described in relevant parts of the Verification Report

The sampling approach conducted is in accordance with “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities” version 04.0 and the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities version 08.0”. As the population is relatively homogeneous (for a given stove type) with respect to the object of the sampling effort, simple random sampling method is adopted for verification of the parameters.

3.7. Draft verification reporting

On the basis of the desk review, the remote-site assessment, follow-up interviews and further background investigation the verification protocol is completed. This protocol together with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.



3.8. Resolution of CARs, CLs and FARs

Nonconformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, if:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- Issues identified in a FAR during validation or previous verifications requiring actions by the project participants to be verified during verification have not been resolved.

The verification team uses the term Clarification Request (CL), which is issued if:

- information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the monitoring and reporting require attention and / or adjustment for the next verification period.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification pl. refer to chapter 4.

3.9. Final reporting

Upon successful closure of all raised CARs and CLs the final verification report including a positive verification opinion can be issued. In case not all essential issues could finally be resolved, a final report including a negative verification opinion is issued.

The final report summarizes the final assessments w.r.t. all applicable criteria.

3.10. Technical review

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision-making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may be confirmed or revised. Furthermore, reporting improvements might be achieved.



3.11. Final approval

After successful technical review an overall (esp. procedural) assessment of the complete verification will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the request for issuance can be started.

4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report(s)^{/MR/}, the calculation spreadsheet^{/ER/}, PoA-DD^{/PoA-DD/}, VPA-DD^{/VPA-DD/}, the Validation Report^{/VAL/}, PoA and VPA Transition Request Documents and other supporting documents, as well as from the remote site assessment and the interviews are summarized.

The summary of CAR, CL and FAR issued are shown in Table 4.1:

Table 4.1: Summary of CAR, CL and FAR

Verification topic	No. of CAR	No. of CL	No. of FAR
A – Description of project activity	0	1	1
B – Implementation of project activity	0	0	0
C – Description of Monitoring System	1	2	0
D – Carbon Data and Parameters	2	0	0
E - Calculation of Emission Reductions	1	0	0
F – Sustainability Monitoring Parameters	1	0	0
SUM	5	3	1

The following tables include all raised CARs, CLs and FARs and the assessments of the same by the verification team. For an in-depth evaluation of all verification items it should be referred to the verification protocols (see Annex).

Table 4.2: Remaining FAR from validation and/or previous verification

FAR ID	1	Section no.		Date:	20/06/2022
Description of FAR					
In line with GS4GG Principles and Requirements, VVB and PP shall consider the following rule after Design Certification is achieved: 5.1.39: An annual update report shall be provided to GS-when design certification is achieved- for each monitoring year by the end of the next calendar year for which verification is not completed.					
Failure to provide Annual Reports as required shall result in the de- certification of the Project.					
Project participant response					Date: 26/06/2022
These VPAs were successfully design certified under GS4GG on 23/08/2021 with a retroactive date of registration/crediting as 01/07/2018. Thus, the annual report needs to be submitted by end of 2022. The verification for the period 2020-2021 is expected to take place in next month.					
Documentation provided by project participant					
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment					Date: 30/06/2022



The conformance to the stipulation of FAR will be assessed in the subsequent periodic verification. The verifying VVB shall check the conformance.	
Conclusion <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during next verification <input type="checkbox"/> The finding is closed

Table 4.3: CL from this verification

CL ID	01	Section no.	A.4	Date: 28/01/2022
Description of CL				
The VVB request submission of the SDG monitoring survey documents.				
CME response (1st round)				Date: 02/02/2022
The survey documents are resubmitted.				
Documentation provided by CME (1st round)				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in XLS	Section(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date: 10/02/2022
The survey documents are verified against the submitted calculator for SDG parameter. This survey was performed for MS2 and MS3 by the trained enumerators. All the applicable SDG parameter under the monitoring plan were appropriately captured. The survey was conducted along with CDM verification and hence the periodicity of monitoring is accepted. The data under the SDG parameter is reported consistently. Finding has been CLOSED.				
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CL ID	02	Section no.	KEY PROJECT INFORMATION	Date: 28/01/2022
Description of CL				
Considering the fact that 02 years credit can be transitioned from CDM to GS, clarification is requested over the logic and appropriateness of the applied monitoring period.				
CME response (1st round)				Date: 03/02/2022
A deviation was approved by Gold Standard on 09/11/2020 (Deviation reference number: COVID_DEV 160) allowing the PD a grace period for transition of the PoA/CPAs under GS (suppressed due to COVID), enabling the PD to start crediting under the PoA from 01/07/2018. The applied crediting period start date is in accordance with the approved deviation.				
Documentation provided by CME (1st round)				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in XLS	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Other:	Deviation Request Form		
DOE assessment (1st round)				Date: 10/02/2022
The VVB has verified the Deviation reference number: COVID_DEV 160 and also section F.2 of Transition and Validation assessment report for GS4GG Verified Project Activities (Gold Standard for Global Goals), version 3.0 dated 06/09/2021. The extract of the validation report is reproduced as below <i>"The VPAs (VPA 0012, VPA 0013, VPA 0014, VPA 0015, VPA 0016, VPA 0017, VPA 0018, and VPA 0019) have already been registered under CDM and are seeking transition under Gold Standard. The crediting period duration for GS4GG is 15 years therefore, the crediting period from CDM has been adjusted and the final CP under GS4GG is 13/01/2020 to 12/01/2031. It is to be noted that the CDM CERs issued for the period 01/06/2018 to 12/01/2020 shall be converted to GS VERs."</i>				
The CL has been CLOSED.				
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			



CL ID	03	Section no.	KEY PROJECT INFORMATION	Date: 28/01/2022
Description of CL				
As per the CDM project page of PoA 4791 : Improved Cooking Stoves in Bangladesh, Grameen Shakti is the CME and SZ Consultancy Services Limited (SZCSL) is the Partner Organization (PO) ,whereas the submitted GS PoA GS10833 documentation mentions SZ Consultancy Services Limited (SZCSL) as the CME. Clarification is requested.				
CME response (1st round)				Date: 02/02/2022
The GS4GG Transition rules provision for changing the CME during transition from CDM to GS. SZ Consultancy Services Limited (SZCSL) has already been approved as CME, during design certification by GS.				
Documentation provided by CME (1st round)				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in XLS	Section(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date: 10/02/2022
The VVB has verified the Transition and Validation assessment report for GS4GG Verified Project Activities (Gold Standard for Global Goals), version 3.0 dated 06/09/2021and confirms that “SZ Consultancy Services Limited (SZCSL)” is approved as CME.				
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Table 4.4: CAR from this verification

CAR ID	01	Section no.	Survey forms	Date: 28/01/2022
Description of CAR				
The submitted MS2 and MS3 forms do not cover the responses to SDG 7,8,12 and 15.				
CME response (1st round)				Date: 04/02/2022
Following table contains the aforesaid SDGs, the respective indicators and the references / clarifications:				
SDG	Indicator	Source/Reference		
SDG 7	% Users reporting an operational ICS in project	Q. No 18 of the survey form		
SDG 8	Number of male / female numbers of employment created by project	Employment record is maintained and is being submitted. This is not covered in the survey forms as this is deemed outside the scope of end user / beneficiary interviews.		
SDG 12	Average % Fuel savings reported by users in the project	<p>The survey form has a question to check if there has been a reduction in fuel consumption after project ICS intervention. However, the end user /beneficiary may not be able to confirm the true extent of fuel savings, hence no further questions on this aspect were included in the survey forms.</p> <p>The actual value of this parameter is therefore, calculated based on the ex-ante fixed baseline fuel consumption and monitored relative thermal efficiency improvement over baseline stove (Refer cells B56 to B59 of the tab named SD Parameters Assessment of the ER spreadsheet).</p>		
SDG 15	Wood fuel eq savings reported by user in the project (Tonnes / user / year)	Same as above.		
Documentation provided by CME				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/>	Other:	Employment record		



DOE assessment		Date: 10/02/2022
Explanation accepted. CAR is CLOSED.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open)	
	<input checked="" type="checkbox"/> The finding is closed	

CAR ID	02	Section no.	Different sections	Date: 28/01/2022
Description of CAR				
Following points are raised with reference to conformance with the GS MR filling guidelines:				
<ol style="list-style-type: none"> 1. The section number under heading “Key Project Information” on page no. 01 get modified during conversion to PDF format. Appropriate corrections are requested. 2. VPA numbers are missing under row no. 4 of table “Programme of Activity Information”. 3. Row no.1, 02 and 03 of the table “Key Project Information” are lacking with VPA numbers of respective GS IDs. 4. All the VPAs along with the “Date of project design certification” is missing under row no. 06 of table “Key Project Information”. 5. Monitoring period number and duration of MP (row no. 08 and 09) under the table “Key Project Information” is not in line with the guideline. 6. Units related to applicable SDGs under Table 1 – “Sustainable Development Contributions Achieved” is not exactly in line with the GS MR filling guideline. 7. Various sections under the submitted MR are referring to the “CDM Monitoring report of 4791-MP3-MRP1”, without reporting the required information as per the GS MR filling guidelines. Appropriate corrections/updates are requested (Ex. Section A.1, A.2, B.1, C, D.4, E.3) 8. Crediting period start date mentioned under section A.4 of MR are not reported as per the GS MR filling guideline 9. Tables under section D.2 are not reported as per the GS MR filling guideline. 10. Sample calculations for all formulae used to calculate/estimate baseline values (SDG 13 - emissions or net baseline removals), applying actual values. Clear reference the spreadsheets used (including sheet names as necessary) references are missing under section E.1, E.2 and E.4 of MR. 				

CME response (1st round)		Date: 04/02/2022
Following points are raised with reference to conformance with the GS MR filling guidelines:		
<ol style="list-style-type: none"> 1. The same has been corrected. 2. The required correction has been done by indicating the VPA numbers against the respective GD IDs. 3. The required correction has been done by indicating the VPA numbers against the respective GD IDs. 4. All the VPAs along with the “Date of project design certification” have been stated under row no. 06 of table “Key Project Information”. 5. Monitoring period number and duration of MP (row no. 08 and 09) under the table “Key Project Information” have been rectified to be in line with the guideline. 6. Units related to applicable SDGs under Table 1 – “Sustainable Development Contributions Achieved” have been rectified to be in line with the GS MR filling guideline. 7. Appropriate corrections/updates have been made to the MR. 8. Crediting period start date mentioned under section A.4 of MR are now reported as per the GS MR filling guideline 9. Tables under section D.2 are now reported as per the GS MR filling guideline. 		



10. Sample calculations for all formulae used to calculate/estimate baseline values (SDG 13 - emissions or net baseline removals), applying actual values have been specified in the revised MR.		
Documentation provided by CME		
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		
DOE assessment		Date: 10/02/2022
<ol style="list-style-type: none"> The section number under heading “Key Project Information” on page no. 01 is updated. All VPA numbers are added against respective GS IDs under row no. 4 of table “Programme of Activity Information”. Row no.1, 02 and 03 of the table “Key Project Information” are updated with VPA numbers of respective GS IDs. All the VPAs along with the “Date of project design certification” are added under row no. 06 of table “Key Project Information”. Monitoring period number and duration of MP (row no. 08 and 09) under the table “Key Project Information” are updated and now it is in line with the guideline. Units related to applicable SDGs under Table 1 – “Sustainable Development Contributions Achieved” are updated and now it is in line with the GS MR filling guideline. Appropriate corrections are made under sections A.1, A.2, B.1, C, D.4, E.3. Crediting period start date mentioned under section A.4 of MR is updated and now it is in line with GS MR filling guideline Tables under section D.2 are updated as per the GS MR filling guideline. Sample calculations for all formulae are added for (SDG 13 - emissions or net baseline removals), under section E.1, E.2 and E.4 of MR. <p>CAR is CLOSED.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	03	Section no.	Different sections of MR	Date: 28/01/2022
Description of CAR				
<p>Following inconsistencies are observed while carrying out consistency check between submitted ER worksheet, MR and the submitted documents.</p> <ol style="list-style-type: none"> Host country name is inconsistent with CDM MR (Refer table “Key Project Information “. Geographical coordinates are missing under section A.2 of MR Inconsistency is identified between the footnote 3 (section A.4 of MR) and the applied monitoring period. Inconsistency observed between unit for parameter FCBaseline under section D.1 of submitted MR and the transition forms. Section E.2 and E.4: Average % fuel saving value mentioned for domestic under SDG12 for MS3 is inconsistent with submitted ER worksheet. Section E.2 and E.4: Project estimate values for wood fuel consumption reported under SDG 15 is not traceable in the submitted ER worksheet. 				
CME response (1st round)				Date: 08/02/2022
<p>Following inconsistencies are observed while carrying out consistency check between submitted ER worksheet, MR and the submitted documents.</p> <ol style="list-style-type: none"> Rectification in the Host country name has been done. Geographical coordinates have been inserted in the section A.2. The concerned footnote has been removed. 				



4. Required rectification has been done in the unit of FC_{Baseline}
5. The aforesaid values have been revised in the MR sheet and are consistent with the ER spreadsheet.
6. A table (A71:B75 in the sheet “SD Parameters Assessment”) has been inserted in the ER spreadsheet indicating the Project estimate values for wood fuel consumption.

Documentation provided by CME

<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Installation Database	New version No.: 2.0
<input type="checkbox"/>	Other:		

DOE assessment

Date: 10/02/2022

1. Host country name is updated.
2. Geographical coordinates are added in section A.2 of MR
3. OK
4. The unit of FC_{Baseline} is updated as per the transition forms.
5. Average % fuel saving value for domestic (under SDG12 for MS3) is consistent with submitted ER worksheet Section E.2 and E.4.
6. Project estimate values in section E.2 and E.4 for wood fuel consumption reported under SDG 15 is now traceable in the submitted ER worksheet.

CAR is CLOSED.

Conclusion

Tick the appropriate checkbox

- Additional action should be taken (finding remains open)
 The finding is closed

CAR ID	04	Section no.	Different sections	Date: 28/01/2022
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Description of CAR

Below documentary evidences requested:

1. Sample Sales receipt with unique ID number on it to cross-check the Sales Record submitted in form of “Sales / Installation records” and “Sample Installation forms”
2. Monitoring Team Training Certificates
3. Usage Survey Team Training Attendance sheet
4. Latest version of the Operations Manual for allocation of unique serial number
5. Invoice of newly purchased equipments
6. WBT equipment details
7. Stove testing procedure
8. Undertaking pertaining to Employment Count Confirmation
9. Undertaking pertaining to Employment compensation

CME response (1st round)

Date: 08/02/2022

Requisite documents have been submitted.

Documentation provided by CME

<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/>	Other:		

DOE assessment

Date: 10/02/2022

1. Sample Sales receipt with unique ID number on it to cross-check the Sales Record submitted in form of “Sales / Installation records” and “Sample Installation forms” – in Regional language-provided, verified and deemed as appropriate.
2. Monitoring Team Training Certificates-provided, verified and deemed as appropriate.



<p>3. Usage Survey Team Training Attendance sheet-provided, verified and deemed as appropriate.</p> <p>4. Latest version of the Operations Manual for allocation of unique serial number-provided, verified and deemed as appropriate.</p> <p>5. Invoice of newly purchased equipments is submitted-provided, verified and deemed as appropriate.</p> <p>6. WBT equipment details-provided, verified and deemed as appropriate.</p> <p>7. Stove testing procedure-provided, verified and deemed as appropriate.</p> <p>8. Undertaking pertaining to Employment Count Confirmation-provided, verified and deemed as appropriate.</p> <p>9. Undertaking pertaining to Employment compensation-provided, verified and deemed as appropriate.</p> <p>CAR is CLOSED.</p>
<p>Conclusion Tick the appropriate checkbox</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>

CAR ID	05	Section no.	D.1, D.2	Date:	20/02/2022	
Description of CAR						
Below consolidated finding was raised during the Technical Review						
<p>1. Section D.1 (SDG 15 – parameter $FC_{Baseline}$): The description and units shall be corrected</p> <p>2. Section D.2 (SDG 1): The MS2 values for parameters $HHS_{Project}$, $SPM_{HHProject}$ & $HHT_{Project}$ shall be corrected</p> <p>3. Section D.2 (Parameter SDG 15): The description and units shall be corrected.</p>						
CME response (1st round)					Date:	25/02/2022
The updated MR is submitted.						
Documentation provided by CME						
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:			
<input checked="" type="checkbox"/>	Changes in MR	Section(s):	New version No.: 03			
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:			
<input type="checkbox"/>	Other:					
DOE assessment					Date:	28/02/2022
The description and units are appropriately corrected w.r.t the VPA-DD and the Transition Documents for parameters						
<ul style="list-style-type: none"> • $FC_{Baseline}$ (section D.1), • $HHS_{Project}$, $SPM_{HHProject}$ & $HHT_{Project}$ (Section D.2) • $FC_{Project}$ (Section D.2) 						
is corrected by the PP						
CAR is CLOSED.						
Conclusion Tick the appropriate checkbox		<input type="checkbox"/> Additional action should be taken (finding remains open)				
		<input checked="" type="checkbox"/> The finding is closed				

Table 4.5: FAR from this verification

N/A

5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CLs are closed out. For details of the assessments pl. refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

5.1. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity.

Table 5-1: Project Parties and project participants

Characteristic	Party	Project Participant
Non-Annex 1	Bangladesh	SZ Consultancy Services Ltd. (SZCSL)
Annex 1	NA	NA

5.2. Implementation of the project

During the CDM verification, a remote site visit was carried out from 21/09/2020 to 23/09/2020 covering the monitoring period of 13/01/2017 – 12/01/2020 (both days included). Based on this remote site visit and the reviewed project documentation, it can be confirmed that w.r.t. the realized technology, the project has been implemented and operated as described in the registered PoA-DD, VPA-DD and GS / VPA Transition Request Documents. As per the provisions of the retroactive crediting period, the PP has transitioned the CDM CER into GS VER for applied monitoring period.

This 1st monitoring period is from 01/07/2018 to 12/01/2020 (both dates inclusive).

The VPA has two categories of service level, domestic and non-domestic (commercial). Till the end of the applied monitoring period 433,052 domestic units and 4,164 non-domestic (commercial) units are installed^{/DB1, DB2/}. Details of both the units as stated in section B.1 of MR^{/MR/} are verified and cross checked with spreadsheet data (tab: “CPA12-19 Installation Summary”)^{/ER/} and found as deemed appropriate.

The verification team was able to confirm that the project is implemented in accordance with the project description contained in the registered GS PDD^{/GSPPoA/}. The verified sales breakdown is tabulated below:

CPA	Total number of domestic ICS	Total number of non-domestic ICS
VPA 01 - GS10974	44457	971
VPA 02 - GS10976	49842	713
VPA 03 - GS10977	53837	554
VPA 04 - GS10978	57433	391
VPA 05 - GS10979	55934	495
VPA 06 - GS10980	60068	305
VPA 07 - GS10981	58448	379
VPA 08 - GS10982	53033	356
Total	433052	4164



The verification team can thus confirm the accuracy of the stated values in the emission reduction calculations.

As per the ex-ante calculation by VPA-DD, estimated emission reduction equivalent to the monitoring period 605,751 tCO₂e (for applied monitoring period). However, the actual accrued emission reduction as per the MR^{/MR/} submitted for verification are 547,161 tCO₂e.

Refer CAR 02 and CAR 03 were raised and closed out.

5.3. Project history

During the validation, the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose, FARs might have been raised. All FARs raised during the validation (under GS)^{/VAL/} have been addressed by the verifying DOE during the 3rd verification under CDM.

FAR status during Third Periodic Verification (CDM):

Based on the review of the Final Verification Report^{/VER/}, the VVB confirms that there is no pending FAR from third periodic verification.

GS transition review:

Based on the review of the validation report and GS Design review report^{/GSPPoA/}, the VVB confirms that there is no pending FAR applicable to this verification.

Please refer related FAR stated under section 4 of this report.

5.4. Post registration changes

No post registration changes applicable for this monitoring period have been observed.

5.5. Compliance with the monitoring plan

The monitoring system and all applied procedures are in compliance to monitoring plan of the registered CDM-PoA-DD^{/VPA/}, CDM-CPA-DD^{/GSPPoA/}, corresponding GS Transition Request Forms. Evidence was available to the verification team to check the compliance of the monitoring plan.

The reporting procedures reflect the requirements of the monitoring plan for the carbon monitoring and sustainability development criteria. All relevant data stored is for the whole monitoring period and traceable to the computer server at the PP office and database records.

5.6. Compliance with the monitoring methodology

The monitoring system is in compliance with the applied monitoring methodology "AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass, Version 03.0"^{/GSM/}.



5.7. Carbon Monitoring parameters

During the verification all relevant monitoring parameters (as listed in Transition Request Form) have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist.

Data and parameters monitored:

Parameter	Monitored Value			Verification Opinion
η_{new} (Efficiency of the system being deployed as part of the project activity)	Monitoring session	Domestic	Non-domestic	<p>The efficiency of ICS for each category (domestic / non-domestic) was determined by conducting water boiling tests (WBT), in line with applied version of AMS II.G and the registered monitoring plan. The PP employed newly purchased instruments (which are factory calibrated at the time of purchase) for the tests. The instruments include Digital Thermometer, Digital Weighing Scale and Digital Moisture Meter. The technical specification of the equipment was duly verified by the Verification Team and deemed accurate and acceptable.</p> <p>Values applied in ER calculator and WBT calculator are comparable to the values available in the WBT records. The WBT was carried out by SZCSL using Global Alliance for clean cooking, Water Boiling Test' protocol version 4.2.3. SZCSL has followed annual monitoring frequency consistent to the frequency specified in monitoring plan. The sample size included all ICS divided under two categories (domestic and non-domestic ICS) and were randomly sampled from the randomly selected ICS for monitoring SOF for a given category separately.</p> <p>The key personnel of WBTs were interviewed on procedures, recording calculation and analysis of result and associated training. The WBT records have been analyzed.</p> <p>The calculations of sample sizes and measurement procedures have largely</p>
	MS2	26.2%	22.4%	
	MS3	25.7%	22.1%	



Parameter	Monitored Value	Verification Opinion																														
		<p>followed the GACC (Global Alliance for Clean Cooking) WBT protocol and followed the excel calculation sheet.</p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>																														
N _{all} (Total number of stoves installed)	<table border="1"> <thead> <tr> <th>CPA</th> <th>Total number of domestic ICS</th> <th>Total number of non-domestic ICS</th> </tr> </thead> <tbody> <tr> <td>VPA 01 - GS10974</td> <td>44457</td> <td>971</td> </tr> <tr> <td>VPA 02 - GS10976</td> <td>49842</td> <td>713</td> </tr> <tr> <td>VPA 03 - GS10977</td> <td>53837</td> <td>554</td> </tr> <tr> <td>VPA 04 - GS10978</td> <td>57433</td> <td>391</td> </tr> <tr> <td>VPA 05 - GS10979</td> <td>55934</td> <td>495</td> </tr> <tr> <td>VPA 06 - GS10980</td> <td>60068</td> <td>305</td> </tr> <tr> <td>VPA 07 - GS10981</td> <td>58448</td> <td>379</td> </tr> <tr> <td>VPA 08 - GS10982</td> <td>53033</td> <td>356</td> </tr> <tr> <td>Total</td> <td>433052</td> <td>4164</td> </tr> </tbody> </table>	CPA	Total number of domestic ICS	Total number of non-domestic ICS	VPA 01 - GS10974	44457	971	VPA 02 - GS10976	49842	713	VPA 03 - GS10977	53837	554	VPA 04 - GS10978	57433	391	VPA 05 - GS10979	55934	495	VPA 06 - GS10980	60068	305	VPA 07 - GS10981	58448	379	VPA 08 - GS10982	53033	356	Total	433052	4164	<p>The parameter is monitored to determine the baseline emissions. The number of ICS installed is tracked through ICS Installation Database and recorded appropriately by SZCSL. The monitoring (at time of installation) involves the recording ICS type, ICS unique serial number, Date of installation, End user details, address, location etc. The CPA implementer excludes the subsequent ICS from the ER calculations, in case an existing Bondhu Chulha is found at the household, thus ensuring that only one project device is credited per household. For the applied monitoring period no ICS were eliminated from the ER calculation on account of this. This is verified by the Assessment Team. The verification team remotely pulled random end user agreement records and compared the details with the information in the provided ICS installation database. Furthermore, the team randomly selected households from the database to compare the information in the database with the actual stoves being used. The way of recording all stoves data (including end user detail) complies with the registered monitoring plan.</p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>
	CPA	Total number of domestic ICS	Total number of non-domestic ICS																													
	VPA 01 - GS10974	44457	971																													
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Monitoring session	Domestic	Non-domestic																														
MS2	88.9%	91.7%																														
MS3	87.3%	91.1%																														



Parameter	Monitored Value	Verification Opinion
survey/ user feedback)		<p>categories i.e., domestic and non-domestic ICS. Simple random sampling was applied to each category separately. The ICS were randomly sampled from a list of all the participating ICS for each category. Data was collected using survey questionnaire forms to enable surveyors to collect applicable and necessary information during monitoring visit to the sampled user. Procedures for sampling have been duly articulated in the monitoring report, and a sample of survey questionnaires furnished to DOE. The survey forms were verified by the Verification Team and deemed as complete and relevant with respect to the monitoring requirements.</p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>

After appropriate corrections were made by the project participant, it can be confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

Refer CL 01, CL 02, CAR 01 and CAR 03 were raised and closed out.

Data and parameters not monitored:

The ex-ante parameters stated in under section D.1 of MR^{MR/} are derived from the registered CDM-PDD and Transition Request Forms. The ex-ante data will be applicable for the current crediting period from 2018-07-01 to 2020-01-12 (both days included). The ex-ante fixed parameters have been correctly applied in the emission reductions calculation for this monitoring period.

5.8. Monitoring report(s)

A GS Monitoring Report^{MR/} along with relevant supporting documents was submitted to the verification team by the project participants. These documents form the basis for the verification opinion of TÜV NORD.

During the verification, mistakes and needs for clarification were identified. The PP has carried out the requested corrections so that it can be confirmed that the Monitoring report is complete and transparent and accordance with the registered VPA-DD^{VPA/}, the GS PoA / VPA Transition Request Documents^{GSPPoA/} and relevant GS requirements.



5.9. Sampling

5.9.1. Implementation of the sampling plan

The sampling is transparently documented under the [Final Verification Report](#), MP#3 under CDM, section “E.3.4.3. Implementation of sampling plan”.

5.9.2. Sampling approaches during verification

The sampling is transparently documented under the [Final Verification Report](#), MP#3 under CDM, section “D.4 Sampling Approach”.

5.10. ER Calculation

During the verification mistakes in the ER calculation were identified. Corresponding CARs were raised. A revised ER calculation was prepared by the PP and presented to the verification team. All raised issues were addressed appropriately so that all corresponding CARs could be closed out. Thus, it is confirmed that the ER calculation is overall correct.

Baseline Emissions:

The emission reduction is given by below equation of applied methodology stated:

$$ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel}$$

Where:

ER_y	Emission reductions during the year y in tCO ₂ e
$B_{y,savings}$	Quantity of biomass that is saved in tonnes
$f_{NRB,y}$	Fraction of biomass saved by the project activity in year y that can be established as non-renewable biomass using survey methods
$NCV_{biomass}$	Net calorific value of the non-renewable biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)
$EF_{projected_fossilfuel}$	Emission factor for the substitution of non-renewable biomass by similar consumers. Use a value of 81.6 tCO ₂ / TJ

$B_{y,savings}$ is estimated using option 2 of the methodology AMS-II.G version 3.

$$B_{y,savings} = B_{old} * (1 - \eta_{old} / \eta_{new})$$

Following option (a) of the methodology, B_{old} is calculated as the product of the number of appliances multiplied by the estimate of average annual consumption of biomass per appliance (tonnes/year) derived from historical data/ survey of local usage.

$$B_{old} = N * Q_{biomass}$$

B_{old}	Quantity of woody biomass used in the absence of project activity (tonnes)
N	Total number of systems (number)
$Q_{biomass}$	Average annual biomass consumption per appliance (tonnes/ year)

$$N = N_{all} * SOF$$

Where,

N_{all} Total number of ICS installed
 SOF ICS Operation Fraction (% of ICS operating or replaced by equivalent in service appliance) – measured ex post using survey/ user feedback

In compliance with the monitoring requirements of the methodology B_{old} is adjusted for Leakage and average ICS operation period during monitoring period.

Thus,

$$B_{old} = LAF * N_{all} * SOF * Q_{biomass} * Stove_{year}$$

Where,

$Stove_{year}$ Calculated average ICS operation years in the monitoring period (years)
 LAF Net to gross Adjustment factor (0.95) applied in accordance with paragraph

13 and 23 of AMS-II. G version 03

The below ERs are summation for the monitoring period.

Vintage	Period	ER (tCO _{2e})
MS2	01/07/2018 to 31/12/2018	182,750
	01/01/2019 to 12/01/2019	11,919
MS3	13/01/2019 to 31/12/2019	340,915
	01/01/2020 to 12/01/2020	11,589
Total ER claimable for this monitoring period		547,173
Total for all the VPAs together		547,161*
Total ER claimable for this monitoring period		547,161

** The difference in summation is due to rounding off error. The lower value between the MS2 + MS3 and summation of VPAs is considered.*

To be conservative, the total baseline emissions for water filter extracted are rounded down as integer. Project emissions are found to be rounded-up to the next integer.

To conclude, from the reviewed and replication of data input to the ER calculation, it can be confirmed the data stated in the MR is correct and free from any material misstatement.

However, during course of verification, CL 02, CAR 02 and CAR 03 were raised and closed out successfully.

5.11. Quality Management

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of

this GS PoA-DD have been defined. The procedures defined can be assessed as appropriate for the purpose. No significant deviations thereof have been observed during the verification.

5.12. Actual emission reductions during the first commitment period and the period from 1 January 2013 onwards

The MR(s) include(s) actual ER values achieved from 1 January 2013 onwards as follows:

Table 5-2: Emission reductions before and after the end of 2012

	until 2012-12-31 ¹⁾	from 01/07/2018 ¹⁾ to 12/01/2020	Sum
Emission reductions [tCO₂e]	-	547,161	547,161

¹⁾ Both days included

5.13. Comparison with ex-ante estimated emission reductions

The MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered VPA-DD.

CPA	Ex-Ante Annual ER Estimations (MS2) (tCO ₂ e)	Ex-Ante Annual ER Estimations (MS3) (tCO ₂ e)	Amount estimated ex ante for this monitoring period(tCO ₂)	Actual values achieved during this monitoring period (tCO ₂ e)
GS10974	26,610	49,554	76,164	69,556
GS10976	26,458	49,272	75,730	68,732
GS10977	26,637	49,604	76,241	68,917
GS10978	26,619	49,571	76,190	68,595
GS10979	26,950	50,188	77,138	69,619
GS10980	26,907	50,107	77,014	69,183
GS10981	26,920	50,131	77,051	69,343
GS10982	24,534	45,689	70,223	63,216
Total	211,635	394,116	605,751	547,161

Ex-Ante ERs: **605,751** tCO₂e

Ex-Post ERs: **547,161** tCO₂e

Difference: **58,590** tCO₂e

The ex-post value is found to be lower than the ex-ante determined value.

5.14. Contribution to Sustainable Development

The SD indicators as outlined in the sustainability monitoring plan of the GS PoA / VPA Transition Request Documents are monitored and reported appropriately and cross-verified by means of desk review of survey reports, interviews with the CME operation personnel and



selected households. The monitoring system and all applied procedures are in compliance to the sustainability monitoring plan in the registered GS VPA-DD and the Gold Standard principles.

Table 5-1: Assessment of monitored SD Indicators

Indicator	Chosen Parameter	Situation as at 2020-01-12	Verification Opinion																								
SDG 1: No Poverty	<p>1. BSA_{Project} (Access to Basic Services (Number of ICS distributed under the project))</p> <p>2. HHS_{Project} (% Users reporting money saving due to reduced fuel consumption in project)</p>	<p>Cumulative Number of ICS distributed under the project</p> <p>Domestic</p> <table border="1"> <tr> <td>MS#2</td> <td>433,052</td> </tr> <tr> <td>MS#3</td> <td>433,052</td> </tr> </table> <p>Non-Domestic</p> <table border="1"> <tr> <td>MS#2</td> <td>4,164</td> </tr> <tr> <td>MS#3</td> <td>4,164</td> </tr> </table> <p>% Users reporting money saving</p> <table border="1"> <tr> <td rowspan="6">HHS</td> <td rowspan="2">2018</td> <td>D</td> <td>88.89%</td> </tr> <tr> <td>ND</td> <td>91.67%</td> </tr> <tr> <td rowspan="2">2019</td> <td>D</td> <td>87.38%</td> </tr> <tr> <td>ND</td> <td>91.13%</td> </tr> <tr> <td rowspan="2">2020</td> <td>D</td> <td>87.32%</td> </tr> <tr> <td>ND</td> <td>91.11%</td> </tr> </table>	MS#2	433,052	MS#3	433,052	MS#2	4,164	MS#3	4,164	HHS	2018	D	88.89%	ND	91.67%	2019	D	87.38%	ND	91.13%	2020	D	87.32%	ND	91.11%	<p>The parameter “Number of ICS distributed under the project” indicates the access to the basic services, in this case clean and efficient cooking device (ICS). The program is develop with the objective to make efficient, economic (fuel economy), healthy devices to all the strata of community including the poor people. The end users were also surveyed to confirm if the ICs saved fuel. Based on survey results, it was confirmed that ICS reduced the fuel consumption and hence led to savings which was utilize for other expenses.</p> <p>The parameter is therefore represented based on number of ICS disseminated. The VVB has verified the dissemination record of ICS during the CDM verification and also during the applied verification. The VVB confirms that the applied values are accurate and best represent the monitored parameter under the perspective of meeting the SDG goal for the PoA.</p>
MS#2	433,052																										
MS#3	433,052																										
MS#2	4,164																										
MS#3	4,164																										
HHS	2018	D	88.89%																								
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		ND	91.13%																								
	2020	D	87.32%																								
		ND	91.11%																								
SDG 3: Good Health and Well Being	<p>SPM_{HHP}_{Project} (% Users reporting reduction in smoke/PM emissions while cooking on improved stove in Project)</p>	<p>% Users reporting reduction in smoke/PM</p> <table border="1"> <tr> <td rowspan="6">SPM</td> <td rowspan="2">2018</td> <td>D</td> <td>88.89%</td> </tr> <tr> <td>ND</td> <td>91.67%</td> </tr> <tr> <td rowspan="2">2019</td> <td>D</td> <td>87.38%</td> </tr> <tr> <td>ND</td> <td>91.13%</td> </tr> <tr> <td rowspan="2">2020</td> <td>D</td> <td>87.32%</td> </tr> <tr> <td>ND</td> <td>91.11%</td> </tr> </table>	SPM	2018	D	88.89%	ND	91.67%	2019	D	87.38%	ND	91.13%	2020	D	87.32%	ND	91.11%	<p>During the survey, the PP has enquired about reduction in smoke/PM emissions while cooking on improved stove. The majority of the end users have confirmed that there was certain decrease in the indoor emissions. The VVB has verified the parameter by comparing the requirements of monitoring under GS transition request.</p> <p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed reduction in the smoke levels which in turn</p>								
SPM	2018	D			88.89%																						
		ND		91.67%																							
	2019	D		87.38%																							
		ND		91.13%																							
	2020	D		87.32%																							
		ND	91.11%																								



Indicator	Chosen Parameter	Situation as at 2020-01-12	Verification Opinion																
			<p>confirms good health and wellbeing.</p> <p>The VVB confirms that the applied values are accurate and best represent the monitored parameter under the perspective of meeting the SDG goal for the PoA.</p>																
SDG 5: Gender Equality	HHT _{Project} (% Users reporting time saving due to reduced collected fuel consumption / cooking time in project)	<p>% Users reporting time saving</p> <table border="1"> <thead> <tr> <th rowspan="2">HHT</th> <th rowspan="2">2018</th> <th>D</th> <td>88.89%</td> </tr> <tr> <th>ND</th> <td>91.67%</td> </tr> <tr> <th rowspan="2">2019</th> <th>D</th> <td>87.38%</td> </tr> <tr> <th>ND</th> <td>91.13%</td> </tr> <tr> <th rowspan="2">2020</th> <th>D</th> <td>87.32%</td> </tr> <tr> <th>ND</th> <td>91.11%</td> </tr> </thead> </table>	HHT	2018	D	88.89%	ND	91.67%	2019	D	87.38%	ND	91.13%	2020	D	87.32%	ND	91.11%	<p>During the survey, the PP has enquired about reduction in time saving due to reduced collected fuel consumption / cooking time in project while cooking on improved stove. The majority of the end users have confirmed that there was certain decrease in the fuel consumption, and hence corresponding decrease in the time required to collect the fuel. The VVB has verified the parameter by comparing the requirements of monitoring under GS transition request.</p> <p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed reduction in the fuel requirement to cook food which in turn saves the time for women for the collection fuel.</p>
HHT	2018	D			88.89%														
		ND	91.67%																
2019	D	87.38%																	
	ND	91.13%																	
2020	D	87.32%																	
	ND	91.11%																	
SDG 7: Affordable and Clean Energy	ACS _{Project} (Access to affordable and clean energy (% of operating ICS units under Project))	<p>% Users reporting an operational ICS in project</p> <table border="1"> <thead> <tr> <th rowspan="2">ACS</th> <th rowspan="2">2018</th> <th>D</th> <td>88.89%</td> </tr> <tr> <th>ND</th> <td>91.67%</td> </tr> <tr> <th rowspan="2">2019</th> <th>D</th> <td>87.38%</td> </tr> <tr> <th>ND</th> <td>91.13%</td> </tr> <tr> <th rowspan="2">2020</th> <th>D</th> <td>87.32%</td> </tr> <tr> <th>ND</th> <td>91.11%</td> </tr> </thead> </table>	ACS	2018	D	88.89%	ND	91.67%	2019	D	87.38%	ND	91.13%	2020	D	87.32%	ND	91.11%	<p>This parameter is already assessed. Please refer the assessment for “SOFdomestic”, “SOFnon-domestic”.</p>
ACS	2018	D			88.89%														
		ND	91.67%																
2019	D	87.38%																	
	ND	91.13%																	
2020	D	87.32%																	
	ND	91.11%																	
SDG 8: Decent Work and Economic Growth	EQ IG _{Project} (Quantitative Employment and income generation (Number of person (male and female)))	<table border="1"> <thead> <tr> <th rowspan="3">QE IG</th> <th>2018</th> <td>30</td> </tr> </thead> <tbody> <tr> <th>2019</th> <td>30</td> </tr> <tr> <th>2020</th> <td>30</td> </tr> </tbody> </table>	QE IG	2018	30	2019	30	2020	30	<p>The employment database was reviewed to cross-checked on the number of direct jobs created by the project activity. Based on the review of “Statement of Employees at SZ Consultancy</p>									
QE IG	2018	30																	
	2019	30																	
	2020	30																	



Indicator	Chosen Parameter	Situation as at 2020-01-12	Verification Opinion																																
	hired under Project))		Services Limited”, 08 female employee and 22 male employees were employed. The VVB confirm that the wages were at par with the industrial standard and meeting the requirements of minimum wages (applicable to the host country Bangladesh) ^{/SD1/} . The reported parameter is deemed accurate.																																
SDG 12: Responsible consumption and production And SDG 15: Life on Land	FC _{Project} (Average fuel consumption per HH in Project)	Wood fuel consumption reported in the project (t/year/HH) <table border="1"> <tr> <td rowspan="6">% FUEL SAVING</td> <td rowspan="2">2018</td> <td>D</td> <td>61.89%</td> </tr> <tr> <td>ND</td> <td>55.44%</td> </tr> <tr> <td rowspan="2">2019</td> <td>D</td> <td>61.17%</td> </tr> <tr> <td>ND</td> <td>54.69%</td> </tr> <tr> <td rowspan="2">2020</td> <td>D</td> <td>61.15%</td> </tr> <tr> <td>ND</td> <td>54.67%</td> </tr> </table> <table border="1"> <tr> <td rowspan="6">AVERAGE FUEL CONSUMPTION</td> <td rowspan="2">2018</td> <td>D</td> <td>0.4057</td> </tr> <tr> <td>ND</td> <td>12.2409</td> </tr> <tr> <td rowspan="2">2019</td> <td>D</td> <td>0.4134</td> </tr> <tr> <td>ND</td> <td>12.4465</td> </tr> <tr> <td rowspan="2">2020</td> <td>D</td> <td>0.4136</td> </tr> <tr> <td>ND</td> <td>12.4535</td> </tr> </table>	% FUEL SAVING	2018	D	61.89%	ND	55.44%	2019	D	61.17%	ND	54.69%	2020	D	61.15%	ND	54.67%	AVERAGE FUEL CONSUMPTION	2018	D	0.4057	ND	12.2409	2019	D	0.4134	ND	12.4465	2020	D	0.4136	ND	12.4535	The parameter is monitored based on the monitoring survey. The VVB has verified the submitted survey records and confirms the reported value as accurate.
% FUEL SAVING	2018	D			61.89%																														
		ND		55.44%																															
	2019	D		61.17%																															
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		ND	12.4465																																
	2020	D	0.4136																																
		ND	12.4535																																
SDG 13:	Amount of CO _{2e} emissions reduced by the project	Please refer above section 5.15.	The ER’s are calculated appropriately based on the ex-ante fixed and the monitored parameters. Please refer to the detailed assessment of the ER calculation, monitored parameters and ex-ante parameters.																																

The verification team confirmed that no changes to the registered SD parameters have occurred that may have an impact on Gold Standard qualification of this project activity.

5.15. Overall Aspects of the Verification

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installed domestic and non-domestic which are relevant for the project performance and the monitoring activities.



The verification team has checked on the agreement between the manufacturer and users (domestic and non-domestic) which is basically the part of the purchase receipt where users of ICS surrender the carbon credits generated due to their use.

Users agreed to give up the right to the use the carbon emission reductions to SZ Consultancy Services Ltd. (SZCSL).

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are compliant with the GS requirements.

5.16. Grievances

The verification team has interviewed the operational personnel, reviewed the survey report and there are no complaints and grievances raised by the householders.

The verification team has interviewed the domestic and non-domestic during the remote onsite inspection and observed that there were no complaints as regards to the CME personnel and the other involved parties.

5.17. Hints for next periodic Verification

Not applicable. No FARs were raised during CP renewal, all FARs from MP#3 CDM verification were already closed. No new FAR were raised during applied Verification.



6. VERIFICATION AND CERTIFICATION STATEMENT

SZ Consultancy Services Ltd. (SZCSL) has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic verification of the PoA:

“Improved Cooking Stoves in Bangladesh”,

with regard to the relevant requirements for GS project activities. The PoA reduces GHG emissions by reducing the use of non-renewable biomass or fossil fuel for cooking. Technologies disseminated under the PoA are more efficient than baseline. This verification covers the emission reductions achieved by VPAs in its corresponding monitoring periods:

VPA No.	Monitoring period (MP):	
1 to 08	From:	To:
	01/07/2018	12/01/2020

In the course of the verification 05 Corrective Action Requests (CAR), 03 Clarification Requests (CL) were raised and successfully closed. Besides, no Forward Action Request (FAR) has been raised to be considered during next subsequent verification. The verification is based on the draft monitoring report(s), revised monitoring report(s), the monitoring plan as set out in the registered VPA-DD(s), the validation report, emission reduction calculation spreadsheet and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved GS methodology.
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.
- the project contributes to sustainability development

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the PoA has achieved emission reductions in the above-mentioned reporting period as follows:

Emission reductions: **547,161 tCO₂e**

New Delhi, 10/08/2022

Prakash Kumar Mishra
TÜV NORD JI/CDM Certification Program
Verification Team Leader

Essen, 10/08/2022

Christina Stöhr
TÜV NORD JI/CDM Certification Program
Final Approval

7. REFERENCES

Table 7-1: Documents provided by the project participant(s)

Reference	Document
Monitoring Report	
/MR/	Monitoring Report dated 2021-12-22 v 1.0 Monitoring Report dated 2021-12-22 v 2.0 Monitoring Report dated 2022-02-25 v 3.0 Monitoring Report dated 2022-06-24 v 4.0 Monitoring Report dated 2022-08-01 v 5.0
ER Spreadsheet	
/ER1/	Emission reduction worksheet for Monitoring Report dated 2021-12-22 v 1.0 Emission reduction worksheet for Monitoring Report dated 2022-02-04 v 2.0 Emission reduction worksheet for Monitoring Report dated 2022-06-24 v 3.0
/CAL/ /INV/	Thermometers, weighing scales, sensor, moisture meters photos and purchase invoice dated 28/12/2017, 08/10/2018 and 08/09/2019 for MS2, MS3 respectively.
Database	
/DB1/	Domestic Sales Database + Survey
/DB2/	Non-domestic Sales Database + Survey
/DB3/	<ul style="list-style-type: none"> • Contractual agreement in between the CME and the DO (Agreement between CME and SZCSL) • Customer terms & conditions document provided as Proof of Carbon Credits waiver by End user (ERPA Agreement between SZ & VNV) • Sample customer agreement document provided as proof of ICS distribution receipt provided for MS#2 and MS#3 • Evidence for random number generator for sampling for MS#2 and MS#3 • Contractual agreement in between the CME and the PO (SZ Consultancy Services) dated 08/08/2016 clearly covering scope of engagement (as per requirement of the PoA-DD) • Sample End User Agreement (in local language Bengali) – <ul style="list-style-type: none"> ○ 08 for MS2 domestic, ○ 09 for MS2 domestic, ○ 08 for MS3 domestic, ○ 08 for MS3 domestic, • Sample customer agreement document provided as proof of ICS distribution receipt • Random number generator for sampling • ERPA confirming delivery commitments

Reference	Document
/DB4/ /RC/	<ul style="list-style-type: none"> • Sample Monitoring Survey Forms in form of questionnaire • Reliability Check • Sample size and Reliability check for WBT integrated into the ER worksheet
/TRG/	Training records of imparted for below fields: <ul style="list-style-type: none"> • Partner Training Manual.pdf • Partner Training sample Photographs • Monitoring survey training photographs • Attendance of Monitoring survey training Sheets for the year 2018, 2019 and 2020 • WBT team training records • BBF Experience - Field monitoring and performance testing
Survey and monitoring records	
/S1/	Domestic – Usage Survey <ul style="list-style-type: none"> • Monitoring Survey Records for MS#2 and MS#3 • Monitoring Survey worksheets integrated as part of Emission reduction worksheet • Reliability check spreadsheet as part of Emission reduction worksheet
/S2/	Non-domestic (commercial) - Usage Survey <ul style="list-style-type: none"> • Monitoring Survey Records for MS#2 and MS#3 • Monitoring Survey worksheets integrated as part of Emission reduction worksheet • Reliability check spreadsheet as part of Emission reduction worksheet
Sustainability Development Indicator	
/SD1/	Employment Records by SZ Consultancy Services Ltd. (SZCSL)
/S1/, /S2/	Refer description above
Training	
/T1/	Monitoring WBT Team Training Records
/TECH/	<ul style="list-style-type: none"> • Technical Specification of Bondhu Chulha (Domestic/Non-Domestic) • Performance Specifications of Domestic and Non-Domestic Bondhu Chula issued by SZ Consultancy Services Limited dated 10.09.2012
QA/QC	
/QA1/	Operation and Maintenance Manual
Deviation	

Reference	Document
/DEV/	T-V3.0-Deviation-Request-form_CDM PoA 4791_GSdecision.pdf

Table 7-2: Background investigation and assessment documents

Reference	Document
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GS4GG TA/	GS4GG Requirements
/GSGWP/	The Application of Global Warming Potentials for Gold Standard Project Activities
/GSM/	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass, Version 03.0
/GSPPoA/	PoA-DD- Version 03 dated 01/09/2021 PoA / VPA Transition Request Documents- Version 3.0, 01/09/2021
/GSS/ /SSP/	Guidelines for Sampling and Surveys for CDM Project Activities and Programme Of Activities, EB 67, Annex 6
/GST/	Gold Standard transition requirements for VPA/PoA
/IPCC/	Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories: <ol style="list-style-type: none"> 1. Non-CO₂ Stationery Combustion 2. Emissions from Livestock and Manure Management (Chapter 10) 3. IPCC Second Assessment Report – Climate Change 1995: A Report of the Intergovernmental Panel on Climate Change
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)
/GSPoA-DD/	PoA GS10833 - GS Transition and PoA KPID.pdf
/PS/	CDM Project Standard (Version 3.0)
/SSS/	Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 08

Reference	Document
/VAL/	Validation and transition assessment report for GS4GG Program of Activities “Improved Cooking Stoves in Bangladesh” version 03 dated 06/09/2021
/VER/	Documents of previous verification (Monitoring report, verification report, ER calculation sheet available on the project page) https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/SE7XIMKF8NYVOTL16BW3U45C9ZDGAP/view?cp=1
/VPA/	<ol style="list-style-type: none"> 1. VPA 12 GS10974 - GS Transition and VPA KPID.pdf 2. VPA 13 GS10976 - GS Transition and VPA KPID.pdf 3. VPA 14 GS10977 - GS Transition and VPA KPID.pdf 4. VPA 15 GS10978 - GS Transition and VPA KPID.pdf 5. VPA 16 GS10979 - GS Transition and VPA KPID.pdf 6. VPA 17 GS10980 - GS Transition and VPA KPID.pdf 7. VPA 18 GS10981 - GS Transition and VPA KPID.pdf 8. VPA 19 GS10982 - GS Transition and VPA KPID.pdf
/VVS/	CDM Validation and Verification Standard (Version 03.0)

Table 7-3: Websites used

Reference	Link	Organisation
/gs/	http://www.goldstandard.org/	CDM Gold Standard
/unfccc/	http://cdm.unfccc.int	UNFCCC
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/ssl/	http://www.raosoft.com/samplesize.html	Sampling Size

Table 7-4: List of interviewed persons

/IM01/	T	Khalequzzaman Md.	CPA (SZCSL) Implementer-CME Representative
	T	Sirajum Joya Munira	Communication Officer (SZCSL)
	T	Atanu Kumar Saha	DGM (SZCSL)
	T	Kamal Hossain	DGM (SZCSL)
	T	Sonjoy Das	DSM (SZCSL)
	T	SM Shah Jaman	DSM (SZCSL)

	T	Samsuzzaman	DSM (SZCSL)
	T	Partho Protim Paul	ADM (SZCSL)
	T	Shafiqul Islam	DSM (SZCSL)
	T	Monawal Hossain	ADM(SZCSL)
/IM02/	T	Rohit Lohia	Director (CSIPL)
	T	Ritesh Kumar	Consultant (CSIPL)
/IM03/	T	Anora Begum Mother of Epi Molla	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Sukchak Mother of Rubel Hosen	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Harendranath Mondol Husband of Monika Mondal	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Md. Sjhila Begum	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Md. Saddam	Commercial Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Ala Amin	Commercial Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Md.Lalu Mollik	Commercial Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Md.Rashel Ali	Commercial Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Rakib Son of Md. Shalaman Sheak	Commercial Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Sajeda Begum Wife of Md. Rahamat Ali	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Md. Samsul Islam Teacher at Joypurhat Cadet Madrasah	Commercial Stove User (MS#2 Survey Sample)
/IM03/	T	Boshu	Commercial Stove User (MS#2 Survey Sample)
/IM03/	T	Ibrahim Mollah	Commercial Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Dinesh Biswas	Commercial Stove User (MS#2 Survey +WBT Sample)

/IM03/	T	Rashidul	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Khalida Mondol	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Wife of Md. Ataur rahman	Domestic Stove User (MS#2 Survey +WBT Sample)
/IM03/	T	Soref	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Sajeda Khatun Daughter-in-law of Latif	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Halimon	Domestic Stove User (MS#3 Survey Sample)
/IM03/	T	Sabina Wife of Julhas Mia	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Sahanara Khatun	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Kinaram	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Salma Mother of Sonia	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Rita Golddar Daughter-in-law of Sonia	Domestic Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Fazlu Haque	Commercial Stove User (MS#3 Survey Sample)
/IM03/	T	Md. Asraful	Commercial Stove User (MS#3 Survey Sample)
/IM03/	T	Sujon Pramanik	Commercial Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Helal Biswas Brother of Jamal Biswas	Commercial Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Mokhlesh Munsu	Commercial Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Md. Mintu Mia	Commercial Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Dipak Gosh	Commercial Stove User (MS#3 Survey +WBT Sample)
/IM03/	T	Mintu Kumar Nandi	Commercial Stove User (MS#3 Survey +WBT Sample)

List of households visited: /LHH/

List of households interviewed by telephone calls: /LHH/

1) Means of Interview: (Telephone, E-Mail, Visit)



ANNEX

- A1:** Verification Protocol
- A2:** Statements of Competence of involved Personnel



ANNEX 1: VERIFICATION PROTOCOL

Table A-1: GHG calculation procedures and management control testing / detailed audit testing of residual risk areas and random testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
Raw data generation				
<ul style="list-style-type: none"> • Installation of measuring equipment • Dysfunction of installed equipment • Maloperation by operational personnel • Downtimes of equipment • Exchange of equipment • Change of measurement equipment characteristic • Insufficient accuracy • Change of technology 	<ul style="list-style-type: none"> • Installation of modern and state of the art equipment • Process control automation • Internal data review • Regular visual inspections of installed equipment • Only skilled and trained personnel operates the relevant equipment • Daily raw data checks • Immediate exchange of dysfunctional equipment • Stand-by duty is organized 	<ul style="list-style-type: none"> • Inadequate installation / operation of the monitoring equipment • Inadequate exchange of equipment • Change of personnel • Undetected measurement errors • Inappropriateness of Management system procedures w.r.t. monitoring plan requirements (e.g. substitute value strategies) • Non-application of management system procedures • Insufficient accuracy 	<ul style="list-style-type: none"> • Site – visit • Check of equipment • Check of technical data sheets • Check of suppliers information / guarantees • Check of calibration records, if applicable • Check of maintenance records • Counter-check of raw data and commercial data • Check of CDM management system • Check of CDM related procedures 	<ul style="list-style-type: none"> • See Table A-2



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
<ul style="list-style-type: none"> Accuracy of values supplied by Third Parties 	<ul style="list-style-type: none"> Training Internal audit procedures Internal check of QA/QC measures of involved Third Parties 	<ul style="list-style-type: none"> Inappropriate QA/QC measures of Third Parties 	<ul style="list-style-type: none"> Application of CDM management system procedures Check of trainings Check of responsibilities Check of QA/QC documentation / evidences of involved Third Parties 	
Raw data collection and data aggregation				
<ul style="list-style-type: none"> Wrong data transfer from raw data to daily and monthly aggregated reporting forms IT Systems Spread sheet programming Manual data transmission Data protection Responsibilities 	<ul style="list-style-type: none"> Cross-check of data Plausibility checks of various parameters. Appropriate archiving system Clear allocation of responsibilities Application of CDM Management system procedures 	<ul style="list-style-type: none"> Unintended usage of old data that has been revised Incomplete documentation Ex-post corrections of records Ambiguous sources of information Non-application of management system procedures Manual data transfer mistakes 	<ul style="list-style-type: none"> Check of data aggregation steps Counter-calculation Data integrity checks by means of graphical data analysis and calculation of specific performance figures Check of management system certification Check of data archiving system 	<ul style="list-style-type: none"> See Table A-2



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
	<ul style="list-style-type: none"> • Usage of standard software solutions (Spreadsheets) • Limited access to IT systems • Data protection procedures 	<ul style="list-style-type: none"> • Unintended change of spread sheet programming or data base entries • Problems caused by updating/upgrading or change of applied software 	<ul style="list-style-type: none"> • Check of application of Management system procedures 	
Other calculation parameters				
<ul style="list-style-type: none"> • Emission factors, oxidation factors, coefficients 	<ul style="list-style-type: none"> • The values and data sources applied are defined in the VPA-DD and monitoring plan 	<ul style="list-style-type: none"> • Unintended or intended Modification of calculation parameters • Wrong application of values • Misinterpretations of the applied methodology and/ or the VPA-DD • Missing update of applicable regulatory framework (e.g. IPCC values) 	<ul style="list-style-type: none"> • Update-check of regulatory framework • Countercheck of the applied MP in the MR against the methodology and the VPA-DD 	<ul style="list-style-type: none"> • See Table A-2
Calculation Methods				



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
<ul style="list-style-type: none"> • Applied formulae • Miscalculation • Mistakes in spreadsheet calculation 	<ul style="list-style-type: none"> • Advanced calculation and reporting tools • A CDM coordinator is in charge of the CDM related calculations • Usage of tested / counterchecked Excel spreadsheets • Involvement of external consultants 	<ul style="list-style-type: none"> • The danger of miscalculation can only be minimized. 	<ul style="list-style-type: none"> • Countercheck on the basis of own calculation. • Spread sheet walk-through. • Plausibility checks • Check of plots 	<ul style="list-style-type: none"> • See Table A-2
Monitoring reporting				
<ul style="list-style-type: none"> • Data transfer to the author of the monitoring report • Data transfer to the monitoring report • Unintended use of outdated versions 	<ul style="list-style-type: none"> • An experienced CDM consultant is responsible for monitoring reporting. • CDM QMS procedures are defined 	<ul style="list-style-type: none"> • The danger of data transfer mistakes can only be minimized • Inappropriate application of QMS procedures 	<ul style="list-style-type: none"> • Counter check with evidences provided. • Audit of procedure application 	<ul style="list-style-type: none"> • See Table A-2



Table A-2: (Project specific) Periodic Verification Checklist

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
A. Description of the PoA and its component project activity (-ies)				
<p>A.1. Purpose and general description of the PoA and VPA(s) Check if section of the MR includes the following:</p> <ul style="list-style-type: none"> - Purpose of the PoA and each VPA and the measures taken to reduce GHG emissions - Brief description of the installed technology and equipment - Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc.) - Total emission reductions achieved in this monitoring period 	/MR/ /GSPoA-DD/ /VPA/	The verification team has checked section A.1 of the MR and confirms that the information provided is complete and correct with regards to the following: Purpose of the PoA and its VPA(s) and the measures taken to reduce GHG emissions <input checked="" type="checkbox"/> Brief description of the installed technology and equipments <input checked="" type="checkbox"/> Relevant dates for the VPAs (e.g. construction, commissioning, continued operation periods, VPA inclusion, etc) <input checked="" type="checkbox"/> Emission reductions achieved in this monitoring period by each VPA and total emission reductions achieved by the PoA In this context the below finding has been identified: NA	OK	OK
<p>A.2. Location of project activity Check if section of the MR reflects correctly the following:</p> <ul style="list-style-type: none"> - Host Party(ies) - Region / State / Province etc. - City / Town / Community etc. - Physical / geographical location (e.g. Latitude and Longitude) 	/MR/ /VPA/ /IM01/ /IM03/	The verification team has checked section A.2 of the MR and confirms by means of comparison with the information given in the VPA-DD and information gathered during the remote site visit that the information provided is complete and correct with regards to the following: <input checked="" type="checkbox"/> Host Party(ies) <input checked="" type="checkbox"/> Region / State / Province <input checked="" type="checkbox"/> City / Town / Community	CAR-03	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<input checked="" type="checkbox"/> Physical / Geographical location In this context refer CAR 03.		
<p>A.3. Parties and Project Participants (EB 75, Annex 7, A.3)</p> <p><i>Check if section of the MR includes the following:</i></p> <ul style="list-style-type: none"> - All PPs as displayed on the UNFCCC website - A correctly filled table as per the MR template 	/MR/ /GS/	The verification team has checked Appendix of the MR as well as the GS website and confirms that: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> all PPs as displayed on the project related GS website are correctly listed <input checked="" type="checkbox"/> the table as per the template MR has been correctly filled In this context CL 03 findings have been identified:	CL-03	OK
<p>A.4. Reference of applied methodology</p> <p><i>Check if section of the MR correctly describes / includes the following:</i></p> <ul style="list-style-type: none"> - Reference to the applicable version of the methodology - Reference to the applicable version(s) of relevant methodological tools - Relevant GS/EB decisions, if applicable 	/MR/ /VPA/ /GS/	The verification team has checked section A.3 of the MR and confirms by means of comparison with the information given in the VPA-DD and displayed on the GS website that the information provided is complete and correct with regards to the following: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Number, title and version of the applicable GS Methodology <input checked="" type="checkbox"/> Name and version of applicable methodological tools <input checked="" type="checkbox"/> Relevant GS decisions In this context no findings have been identified.	OK	OK
<p>A.5. Crediting period of project activity</p> <p><i>Check if section of the MR correctly includes the following:</i></p> <ul style="list-style-type: none"> - Start date of the crediting period. In this context please check, if applicable, whether post 	/MR/ /GS/	The verification team has checked section A.4 of the MR(s) and confirms by means of comparison with the information displayed on the GS website that the information provided is complete and correct with regards to the following: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Start date of the crediting period. <input checked="" type="checkbox"/> Type and length of the crediting period 	CAR-02	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>registration changes to the start date have been accepted by the GS.</i> - <i>Length and type of the crediting period</i>		In this context refer CAR 02.		
A.6. Publication of the Work Plan <i>Check if the work plan has been made submitted to GS before the verification commenced.</i>	/GS/	The verification team has ensured and confirms by means of checking the respective project information on the GS website that: <input checked="" type="checkbox"/> The work and audit plan, was submitted to GS prior to the start of the verification activities. <input checked="" type="checkbox"/> No comments have been received. In this context no findings have been identified.	OK	OK
B. Implementation of project activity				
B.1. Description of implemented registered programme of activities <i>Check if section of the MR correctly describes / includes the following:</i> - <i>Implementation status of the PoA and its VPAs</i> - <i>Detailed description of installed technology(ies) / technical processes and equipment applied</i> - <i>Diagrams (where appropriate)</i> - <i>Whether a single report or two MR are prepared; in case of two MR, check that all VPAs are considered in two separate batches</i>	/MR/ /GSPoA-DD/ /VPA) /IM01/	The verification team has checked section 1 of the MR and confirms by means of comparison with the information given in the PoA-DD and VPA-DD, the project standard and information gathered during the remote site visit that: <input checked="" type="checkbox"/> the description of the implementation status of the VPA is in line with the applicable provisions of the Gold standard <input checked="" type="checkbox"/> an appropriate description of the installed technology(ies), technical process and equipment incl. diagrams, where applicable, has been included <input checked="" type="checkbox"/> one single MR has been provided including all VPAs, OR <input type="checkbox"/> two different MRs are prepared including all VPAs and information on the reference numbers of the VPAs that are included in each batch.	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		In this context no findings have been identified.		
<p>B.1.1. Initial project implementation</p> <p><i>Assess whether the VPA has been implemented and operated as per the registered VPA-DD and are all physical features of the project in place.</i></p> <p><i>Further focus on the potential phase wise implementation and check the reporting on the corresponding status and starting dates accordingly.</i></p> <p><i>Check if the project is still in compliance with the applicability conditions of the methodology.</i></p> <p><i>Also, discuss – if applicable – the necessity of PRC notifications / approvals.</i></p>	/MR/ /VPA/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable Gold Standard Requirements, Transition Request Documents and information gathered during the remote site visit that:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> the project has been implemented and operated as per the registered VPA-DD and the GS / VPA Transition Request Documents and all physical features of the project are in place <input checked="" type="checkbox"/> the project has been implemented phase wise and corresponding evidence has been provided <input checked="" type="checkbox"/> the project is still in compliance with the applied methodology <p>In this context no findings have been identified.</p>	OK	OK
<p>B.1.2. Technical equipment changes (VVS; § 225 a, 226)</p> <p><i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period. Further ensure that consistent notations of key equipment (meters etc.) in MR and calculation spreadsheet are applied</i></p> <p><i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i></p>	/MR/ /VPA/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable GS Requirements and Transition Request Documents and information gathered during the remote site visit and interviews that:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> no technical equipment has been exchanged or modified during the monitoring period <input checked="" type="checkbox"/> the notations of key equipment are consistently applied in the project documentation <p>In this context no findings have been identified.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>In case of changes, check whether the project is still in line with the registered VPA-DD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>				
<p>B.1.3. Operation of the project activity (VVS; § 225 a, 226)</p> <p><i>Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.</i></p> <p><i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered VPA-DD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>	/MR/ /VPA/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable Gold Standard Requirements and Transition Request Documents and information gathered during the remote site visit and interviews that:</p> <p><input checked="" type="checkbox"/> no relevant operation modes of the project activity have been exchanged or modified during the monitoring period</p> <p><input type="checkbox"/> the following changes have been adopted during the monitoring period; however, the project is still in line with the registered PDD:</p>	OK	OK
<p>B.1.4. Incidents (VVS; § 225 a, 226)</p> <p><i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?</i></p>	/MR/ /VER/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable Gold Standard Requirements and Transition Request Documents and information gathered during the already executed remote site visit and interviews under CDM that:</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i>		<input checked="" type="checkbox"/> no significant incidents, deviant operation modes and / or downtimes of the equipment happened during the monitoring period <input type="checkbox"/> the following incidents, deviant operation modes and / or downtimes of the equipment happened during the monitoring period		
<p>B.1.5. Legislation</p> <p>Find out – esp. in the context of methodological requirements - whether relevant legislation with effect on the project activity in the host country has been changed.</p> <p>Assess, in case of changes, whether consequences for the PA with regard to relevant CDM requirements have been accounted for.</p> <p>In case of changes data sources shall be referenced.</p>	/MR/	<p>The verification team has checked the host country legislation and confirms by means of comparison with the implemented project that:</p> <input checked="" type="checkbox"/> No relevant legislation with effect on the project activity in the host country has been changed	OK	OK
<p>B.1.6. Open issues from validation (VVS; § 213)</p> <p><i>Check (esp. in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i></p>	/VAL/	<input checked="" type="checkbox"/> There were no open issues addressed in the validation report <input checked="" type="checkbox"/> All open issues from the validation have been appropriately addressed. <input type="checkbox"/> The following issues related to the validation have not yet been appropriately addressed:	OK	OK
<p>B.1.7. Open issues from previous verification (VVS; §§ 213; 284 h)</p> <p><i>Check in case of further periodic verifications whether there are any open issues indicated in previous</i></p>	/MR/ /VER/	<input checked="" type="checkbox"/> There were no open issues addressed in the previous verification report <input type="checkbox"/> All open issues from the previous verification have been appropriately addressed.	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																		
<i>verification reports (FAR) and take into consideration the guidance as specified in VVS.</i>		<input type="checkbox"/> The following issues related to the previous verification have not yet been appropriately addressed: NA																				
B.2. Post registration changes																						
B.2.1. Post registration changes applicable to the proposed project activity <i>Indicate whether any post registration change already approved or under approval by the GS has been identified.</i>	/MR/ /VPA/	<input checked="" type="checkbox"/> No, by means of remote site visit, document check and interview it could be verified that the project is implemented and operated in line with the registered VPA-DD and the applied methodology. (Please proceed with section C) <input type="checkbox"/> Yes, post registration changes have been identified and are assessed in detail in the subsequent steps. (Please proceed with B.2.2.)	OK	OK																		
B.2.2. Temporary deviations from the registered monitoring plan or applied methodology (TDfrMP; TDfMM) (EB 75, Annex 7, B.2.1; VVS §§ 251 - 256) <i>Indicate whether any temporary deviations have been applied during this monitoring period. In cases where approval has been sought from the EB please provide reference. If applied, provide a description of the deviation(s). This should include the reasons for the deviation(s), how it deviates from the monitoring plan and/or applied methodology(ies), the duration for which the deviation(s) is(are) applicable and justification on the</i>	/MR/ /VPA/	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px;"><input checked="" type="checkbox"/></td> <td colspan="2">No TDfrMP or TDfMM have been submitted to the GS prior to the current monitoring period</td> </tr> <tr> <td><input type="checkbox"/></td> <td colspan="2">The following TDfrMP or TDfMM have been approved or are under approval by the GS</td> </tr> <tr> <td rowspan="4" style="text-align: center; vertical-align: middle;">1</td> <td style="width: 150px;">Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td>Appr. date</td> <td></td> </tr> <tr> <td>Ref. No.</td> <td></td> </tr> <tr> <td rowspan="1" style="text-align: center; vertical-align: middle;">2</td> <td>Title</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/>	No TDfrMP or TDfMM have been submitted to the GS prior to the current monitoring period		<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the GS		1	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr. date		Ref. No.		2	Title		OK	OK
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2	Title																					



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<p><i>conservativeness of the approach. Indicate if the deviation will lead to a reduction in the accuracy and if so, which conservative assumptions and discount factors have been applied.</i></p> <p><i>For deviation(s) that require prior approval by the Board, include the date of approval and reference number.</i></p>		<table border="1"> <tr> <td data-bbox="1052 438 1126 486"></td> <td data-bbox="1131 438 1337 486">Status</td> <td data-bbox="1341 438 1841 486"> <input type="checkbox"/> under approval; <input type="checkbox"/> approved </td> </tr> <tr> <td data-bbox="1052 489 1126 537"></td> <td data-bbox="1131 489 1337 537">Appr.date</td> <td data-bbox="1341 489 1841 537"></td> </tr> <tr> <td data-bbox="1052 541 1126 588"></td> <td data-bbox="1131 541 1337 588">Ref.No.</td> <td data-bbox="1341 541 1841 588"></td> </tr> <tr> <td data-bbox="1052 592 1126 722"> <input checked="" type="checkbox"/> </td> <td colspan="2" data-bbox="1131 592 1841 722"> During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA </td> </tr> <tr> <td data-bbox="1052 726 1126 834"> <input type="checkbox"/> </td> <td colspan="2" data-bbox="1131 726 1841 834"> An approval of the following TDfrMP or TDfMM is to be requested from the GS for the current MP as appendix 1 of the project standard does not apply. </td> </tr> <tr> <td data-bbox="1052 837 1126 885">1</td> <td data-bbox="1131 837 1337 885">Issue:</td> <td data-bbox="1341 837 1841 885"></td> </tr> <tr> <td data-bbox="1052 888 1126 936">2</td> <td data-bbox="1131 888 1337 936">Issue:</td> <td data-bbox="1341 888 1841 936"></td> </tr> <tr> <td data-bbox="1052 940 1126 1023"> <input type="checkbox"/> </td> <td colspan="2" data-bbox="1131 940 1841 1023"> The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied: </td> </tr> <tr> <td data-bbox="1052 1026 1126 1074">1</td> <td data-bbox="1131 1026 1337 1074">Issue:</td> <td data-bbox="1341 1026 1841 1074"></td> </tr> <tr> <td data-bbox="1052 1077 1126 1125">2</td> <td data-bbox="1131 1077 1337 1125">Issue:</td> <td data-bbox="1341 1077 1841 1125"></td> </tr> </table> <p>In this context no findings have been identified.</p>		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref.No.		<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be requested from the GS for the current MP as appendix 1 of the project standard does not apply.		1	Issue:		2	Issue:		<input type="checkbox"/>	The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied:		1	Issue:		2	Issue:			
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<p>B.2.3. Corrections (EB 75, Annex 7, B.2.2; VVS; §§ 257 - 259)</p> <p><i>Indicate whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report.</i></p>	/MR/ /NPA/	<table border="1"> <tr> <td data-bbox="1052 1184 1126 1315"> <input checked="" type="checkbox"/> </td> <td colspan="2" data-bbox="1131 1184 1841 1315"> During the verification of the current MP no need for corrections has been identified. </td> </tr> <tr> <td data-bbox="1052 1318 1126 1393"> <input type="checkbox"/> </td> <td colspan="2" data-bbox="1131 1318 1841 1393"> The following corrections have been applied: </td> </tr> </table>	<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.		<input type="checkbox"/>	The following corrections have been applied:		OK	OK																								
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<p><i>In cases where the correction(s) and the revised VPA-DD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised VPA-DD.</i></p> <p><i>Please check and report that the corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.</i></p>		<table border="1" data-bbox="1055 438 1816 550"> <tr> <td style="width: 20px; text-align: center;">1</td> <td style="width: 50px;">Issue:</td> <td style="width: 100px;"></td> </tr> <tr> <td style="text-align: center;">2</td> <td>Issue:</td> <td></td> </tr> </table> <p>In this context no findings have been identified.</p>	1	Issue:		2	Issue:																					
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<p>B.2.4. Permanent changes from the registered monitoring plan or applied methodology (PCfrMP; PCfMM) (EB 75, Annex 7, B.2.3; VVS; §§ 262 - 268)</p> <p><i>Indicate whether any permanent changes from the registered monitoring plan or applied methodologies have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>Assure that modifications or additions of technologies/measures respect to the VPA-DD were already included in the originally registered PoA-DD.</i></p> <p><i>In cases where the change(s) and the revised VPA-DD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the</i></p>	/MR/ /VPA/	<table border="1" data-bbox="1055 845 1816 1380"> <tr> <td style="width: 20px; text-align: center;"><input checked="" type="checkbox"/></td> <td colspan="2">No PCfrMP or PCfMM have been submitted to the GS prior to the current monitoring period</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td colspan="2">The following PCfrMP or PCfMM have been approved or are under approval by the GS</td> </tr> <tr> <td rowspan="4" style="text-align: center; vertical-align: middle;">1</td> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref. No.</td> <td></td> </tr> <tr> <td rowspan="4" style="text-align: center; vertical-align: middle;">2</td> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref.No.</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/>	No PCfrMP or PCfMM have been submitted to the GS prior to the current monitoring period		<input type="checkbox"/>	The following PCfrMP or PCfMM have been approved or are under approval by the GS		1	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref. No.		2	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref.No.		OK	OK
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<p><i>version number and the completion date of the revised VPA-DD.</i></p>		<table border="1"> <tr> <td data-bbox="1055 438 1126 580"><input checked="" type="checkbox"/></td> <td data-bbox="1131 438 1843 580">During the verification of the current MP no need for a PCfrMP or PCfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA</td> </tr> <tr> <td data-bbox="1055 584 1126 687"><input type="checkbox"/></td> <td data-bbox="1131 584 1843 687">An approval of the following PCfrMP or PCfMM is to be requested from the GS for the current MP as appendix 1 of the project standard does not apply.</td> </tr> <tr> <td data-bbox="1131 691 1182 743">1</td> <td data-bbox="1184 691 1843 743">Issue:</td> </tr> <tr> <td data-bbox="1131 746 1182 799">2</td> <td data-bbox="1184 746 1843 799">Issue:</td> </tr> <tr> <td data-bbox="1055 802 1126 879"><input type="checkbox"/></td> <td data-bbox="1131 802 1843 879">The following PCfrMP or PCfMM for which appendix 1 of the PS is applicable have been applied:</td> </tr> <tr> <td data-bbox="1131 882 1182 935">1</td> <td data-bbox="1184 882 1843 935">Issue:</td> </tr> <tr> <td data-bbox="1131 938 1182 991">2</td> <td data-bbox="1184 938 1843 991">Issue:</td> </tr> </table> <p>In this context no findings have been identified.</p>	<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP or PCfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA	<input type="checkbox"/>	An approval of the following PCfrMP or PCfMM is to be requested from the GS for the current MP as appendix 1 of the project standard does not apply.	1	Issue:	2	Issue:	<input type="checkbox"/>	The following PCfrMP or PCfMM for which appendix 1 of the PS is applicable have been applied:	1	Issue:	2	Issue:		
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<p>B.2.5. Changes to the project design of the registered PoA / VPA (CoPD) <i>(EB 75, Annex 7, B.2.4; VVS; §§ 269 - 282)</i></p> <p><i>Indicate whether any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>Assure that modifications or additions of technologies/measures respect to the VPA-DD were already included in the originally registered PoA-DD</i></p>	<p>/MR/ /VPA/</p>	<table border="1"> <tr> <td data-bbox="1055 1037 1126 1161"><input checked="" type="checkbox"/></td> <td data-bbox="1131 1037 1843 1161">No CoPD has been submitted to the GS prior to the current monitoring period</td> </tr> <tr> <td data-bbox="1055 1165 1126 1241"><input type="checkbox"/></td> <td data-bbox="1131 1165 1843 1241">The following CoPD has been approved or are under approval by the GS</td> </tr> <tr> <td data-bbox="1131 1244 1182 1297">1</td> <td data-bbox="1184 1244 1843 1297">Title</td> </tr> <tr> <td data-bbox="1184 1300 1335 1353"></td> <td data-bbox="1339 1300 1843 1353">Status <input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1184 1356 1335 1378"></td> <td data-bbox="1339 1356 1843 1378">Appr.date</td> </tr> </table>	<input checked="" type="checkbox"/>	No CoPD has been submitted to the GS prior to the current monitoring period	<input type="checkbox"/>	The following CoPD has been approved or are under approval by the GS	1	Title		Status <input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date	<p>OK</p>	<p>OK</p>				
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<p><i>In cases where the change(s) and the revised VPA-DD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised VPA-DD.</i></p>		<table border="1"> <tr> <td></td> <td>Ref. No.</td> <td></td> </tr> <tr> <td rowspan="4">2</td> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref.No.</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td colspan="2">During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA</td> </tr> <tr> <td><input type="checkbox"/></td> <td colspan="2">An approval of the following CoPD.is to be requested from the GS for the current MP as appendix 1 of the project standard does not apply.</td> </tr> <tr> <td>1</td> <td>Issue:</td> <td></td> </tr> <tr> <td>2</td> <td>Issue:</td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td colspan="2">The following CoPD for which appendix 1 of the PS is applicable have been applied:</td> </tr> <tr> <td>1</td> <td>Issue:</td> <td></td> </tr> <tr> <td>2</td> <td>Issue:</td> <td></td> </tr> </table> <p>In this context no findings have been identified.</p>		Ref. No.		2	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref.No.		<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		<input type="checkbox"/>	An approval of the following CoPD.is to be requested from the GS for the current MP as appendix 1 of the project standard does not apply.		1	Issue:		2	Issue:		<input type="checkbox"/>	The following CoPD for which appendix 1 of the PS is applicable have been applied:		1	Issue:		2	Issue:			
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<p>C. Description of monitoring system</p>																																					



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<p>C.1. Monitoring Plan – VPA-DD Compliance (VVS, §§ 233-236)</p> <p><i>Check if the monitoring plan is in accordance with the monitoring plan contained in the registered VPA-DD (or any accepted revised MP).</i></p> <p><i>Please check esp. if:</i></p> <ul style="list-style-type: none"> - <i>all parameters stated in the MP of the registered VPA-DD have been monitored and updated as applicable</i> - <i>the monitoring equipment has been controlled and calibrated as per the MP</i> - <i>the monitoring results are consistently recorded as per the approved frequency</i> - <i>QA/QC procedures have been applied in accordance with the MP</i> 	/MR/ /VPA/ /S1/ /S2/	<p>By means of comparison of the MR with the registered VPA-DD (or any revisions thereof) the verification team has checked whether the MP is in compliance with the registered VPA-DD. The outcome is as follows:</p> <table border="1" data-bbox="1055 579 1816 659"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>The MP is completely in accordance with the last registered/approved version of the VPA-DD / MP.</td> </tr> </table> <p>In this context no findings have been identified.</p>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the last registered/approved version of the VPA-DD / MP.	OK	OK
<input checked="" type="checkbox"/>	The MP is completely in accordance with the last registered/approved version of the VPA-DD / MP.					
<p>C.2. Monitoring Plan – Meth Compliance (VVS, §§ 229-232)</p> <p><i>Check if the monitoring plan is in accordance with the applied methodology.</i></p> <p><i>In case the methodology references applicable tools it has to be ensured that the MP is also compliant with those tools.</i></p> <p><i>Also please specify if monitoring aspects have been identified that are not specified in the methodology but</i></p>	/MR/ /VPA/ /GSM/	<p>By means of comparison of the MR with the applied GS methodology and related tools the verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology. The outcome is as follows:</p> <table border="1" data-bbox="1055 1190 1816 1302"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>The MP is completely in accordance with the approved methodology applied by the GS project (last registered/approved version of the VPA-DD)</td> </tr> </table>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the GS project (last registered/approved version of the VPA-DD)	OK	OK
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<p><i>may enhance the level of accuracy and completeness of the monitoring plan – this esp. applies for SSC VPAs.</i></p>		<table border="1"> <tr> <td data-bbox="1055 438 1122 549" style="text-align: center;"> <input type="checkbox"/> </td> <td colspan="2" data-bbox="1126 438 1816 549"> The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows: </td> </tr> <tr> <td data-bbox="1055 552 1122 639" style="text-align: center;">1</td> <td data-bbox="1126 552 1429 596">Title (of the tool)</td> <td data-bbox="1433 552 1816 596"></td> </tr> <tr> <td data-bbox="1055 600 1122 644"></td> <td data-bbox="1126 600 1429 644">Version</td> <td data-bbox="1433 600 1816 644"></td> </tr> <tr> <td data-bbox="1055 647 1122 794"></td> <td data-bbox="1126 647 1429 794">MP compliance</td> <td data-bbox="1433 647 1816 794"> <input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP) </td> </tr> <tr> <td data-bbox="1055 798 1122 885" style="text-align: center;">2</td> <td data-bbox="1126 798 1429 842">Title (of the tool)</td> <td data-bbox="1433 798 1816 842"></td> </tr> <tr> <td data-bbox="1055 845 1122 890"></td> <td data-bbox="1126 845 1429 890">Version</td> <td data-bbox="1433 845 1816 890"></td> </tr> <tr> <td data-bbox="1055 893 1122 1040"></td> <td data-bbox="1126 893 1429 1040">MP compliance</td> <td data-bbox="1433 893 1816 1040"> <input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP) </td> </tr> <tr> <td data-bbox="1055 1043 1122 1131" style="text-align: center;">3</td> <td data-bbox="1126 1043 1429 1088">Title (of the tool)</td> <td data-bbox="1433 1043 1816 1088"></td> </tr> <tr> <td data-bbox="1055 1091 1122 1136"></td> <td data-bbox="1126 1091 1429 1136">Version</td> <td data-bbox="1433 1091 1816 1136"></td> </tr> <tr> <td data-bbox="1055 1139 1122 1286"></td> <td data-bbox="1126 1139 1429 1286">MP compliance</td> <td data-bbox="1433 1139 1816 1286"> <input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP) </td> </tr> </table> <p>In this context no findings have been identified.</p>	<input type="checkbox"/>	The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:		1	Title (of the tool)			Version			MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)	2	Title (of the tool)			Version			MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)	3	Title (of the tool)			Version			MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)		
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<p>C.3. Management System</p>	<p>/MR/</p>	<p>Description:</p>	<p>CL-01</p>	<p>OK</p>																														



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>(VVS, § 217 (a) (iii))</p> <p><i>Check if the GHG data monitoring system can be assessed as appropriate.</i></p> <p><i>In case reference is made to a (certified) company quality management system, check if all GS related monitoring procedures have been fully integrated in the project participant's quality management system.</i></p> <p><i>In case of a stand-alone system, check how the GHG management system has been implemented and effectiveness is ensured.</i></p>	<p>/DB1</p> <p>/S1/</p> <p>/IM01/</p>	<p>The staff collects necessary data at the time of sale / installation from the customer. This unique data helps to avoid double counting and enables tracking of the units for monitoring purposes. The section D of MR is transparently stating this data. The footnote 1 in the MR in Table 1 clearly states that the credits have been issued in CDM already. The CDM registry data has been verified and the VVB confirms that the volume of credits available in the registry are more than being requested for labelling from GS. During the interviews, the CME confirmed that upon the labelling of credits, the CME shall transfer them to GS Swiss registry to ensure any double counting concerns are rendered void.</p> <p><i>Verifier's action:</i></p> <p>The project database, survey reports and forms have been requested by the verification team.</p> <p><i>Conclusion:</i></p> <p>Refer closure to CL 01.</p>		
<p>C.4. Roles and Responsibilities (EB 75, Annex 7, Section C.; PS §196)</p> <p><i>Check if all roles and positions of each person in the GHG data management process are clearly defined and implemented as stated in the monitoring plan. Please consider the complete data trail from raw data generation to submission of the final data.</i></p> <p><i>Identify, if relevant personnel w.r.t. monitoring has been exchanged?</i></p>	<p>/MR/</p> <p>/DB1/</p> <p>/S1/</p>	<p><i>Description:</i></p> <p>Please refer above assessment.</p> <p><i>Verifier's action:</i></p> <p>The project database, survey report and forms have been requested by the verification team.</p> <p><i>Conclusion:</i></p> <p>No CARs have been raised.</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>If so, have appropriate training measures been carried out.</i></p> <p><i>In case of changes, assure that the implemented monitoring procedures have not been affected.</i></p>				
<p>C.5. Emergency procedures for the monitoring system (EB 75, Annex 7, C; PS §196)</p> <p><i>Check, as appropriate, whether relevant emergency procedures for the monitoring system have been included in the MR and assess whether these procedures have been implemented, when required</i></p>	/MR/ /QA1/ /IM01/ /IM03/	<p><i>Description:</i></p> <p>The computer server in the office has the primary back-up data stored and an external back-up at external media which will be used in the event of an emergency.</p> <p><i>Verifier’s action:</i></p> <p>During the remote on-site visit, the verification team has checked the server to confirm the primary data and records stored are the most recent for the MR.</p> <p>The stored data are password protected and only authorized person could access.</p> <p>The database officer was interviewed to confirm how the data is applied in emergency case.</p> <p><i>Conclusion:</i></p> <p>By means of remote onsite assessment and checking the stored data, it can be concluded emergency respond plan is in place.</p>	OK	OK
<p>C.6. Data archive and data protection (PS §56 b)</p> <p>Check whether all records of monitoring parameters are archived according to the monitoring plan.</p>	/MR/ /VPA/ /IM01/ /IM03/	<p><i>Description:</i></p> <p>Chapter D.2 of the monitoring report also described how the data is archived and backed up.</p> <p><i>Verifier’s action:</i></p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
Assess further whether appropriate measures have been taken in order to avoid unintended or intended manipulation or loss of the measured data.		<p>The data was kept in a project database at SZ Consultancy Services Ltd. (SZCSL). The data was backed up periodically onto hard disk media.</p> <p>During the remote on-site visit, the verification team has conducted interview and reviewed the records archiving method and procedures for the monitored parameters stated in MR and VPA-DD.</p> <p>Furthermore, the data stored at the server is password protected and only authorized personnel can access.</p> <p><i>Conclusion:</i></p> <p>By means of remote onsite assessment and checking the stored data, it can be concluded data archiving and protection is in place and has been properly implemented.</p>		
D. Data and parameters				
D.1. Data and Parameters fixed ex ante				
<p>a) Compliance with registered VPA-DD (EB 75, Annex 7; D1)</p> <p><i>Check whether the value applied is in compliance with the registered VPA-DD.</i></p>	/MR/ /GSPoA-DD/ /VPA/	<p>By means of comparison of the MR with the registered PDD (or any revisions thereof) the verification team confirms that:</p> <p><input checked="" type="checkbox"/> all ex ante data and parameters are in compliance with the registered PoA-PDD, VPA-DD and the applied methodology or any other tool.</p> <p>In this context no findings have been identified.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>b) Compliance with the applied methodology (EB 75, Annex 7; D1)</p> <p><i>Check whether the value applied is in compliance with the applied methodology or any other tool.</i></p>	/MR/ /GSM/	<p>By means of comparison of the MR with the methodology the verification team confirms that:</p> <p><input checked="" type="checkbox"/> all ex post and parameters are in compliance with the applied methodology and any other tool.</p> <p>In this context no findings have been identified.</p>	OK	OK
D.2. Data and Parameters monitored				
D.2.1. η_{new}				
<p>a) Measurement / Determination method (VVS, §§ 233, 236)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and the applied methodology.</i></p>	/GSPoA-DD/ /GSVPA/ /SSP/ /SSS/ /MR/ /ER/ /DB1/ /DB2/ /S1/ /IM01/	<p><i>Description:</i></p> <p>The efficiency of ICS for each category (domestic / non-domestic) was determined by conducting water boiling tests (WBT), in line with applied version of AMS II.G and the registered monitoring plan. The PP employed newly purchased instruments (which are factory calibrated at the time of purchase) for the tests. The instruments include Digital Thermometer, Digital Weighing Scale and Digital Moisture Meter.</p> <p><i>Verifier's action:</i></p> <p>The key personnel of WBTs were interviewed on procedures, recording calculation and analysis of result and associated training. The WBT records have been analyzed.</p> <p><i>Conclusion:</i></p> <p>The technical specification of the equipment was duly verified by the Verification Team and deemed accurate and acceptable.</p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	/GSPoA-DD/ /GSVPA/ /SSP/ /SSS/ /MR/ /ER/ /DB1/ /DB2/ /S1/ /IM01/	<p><i>Description:</i></p> <p>Values applied in ER calculator and WBT calculator are comparable to the values available in the WBT records. The WBT was carried out by SZCSL using Global Alliance for clean cooking, Water Boiling Test' protocol version 4.2.3. SZCSL has followed annual monitoring frequency consistent to the frequency specified in monitoring plan. The sample size included all ICS divided under two categories (domestic and non-domestic ICS) and were randomly sampled from the randomly selected ICS for monitoring SOF for a given category separately.</p> <p><i>Verifier's action:</i></p> <p>The calculations of sample sizes and measurement procedures have largely followed the GACC (Global Alliance for Clean Cooking) WBT protocol and followed the excel calculation sheet.</p> <p><i>Conclusion:</i></p> <p>Additional QA/ QC measures are not required.</p>	OK	OK
<p>c) Correctness (VVS, §§ 233, 236)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p>	/GSPoA-DD/ /GSVPA/ /SSP/ /SSS/ /MR/ /ER/ /DB1/	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The Verification Team cross checked the values and deemed accurate and acceptable.</p> <p><i>Conclusion:</i></p> <p>Applied value is appropriate.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/DB2/ /S1/ /IM01/			
D.2.2. Nall		Total number of stoves installed		
<p>a) Measurement / Determination method (VVS, §§ 233, 236)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and the applied methodology.</i></p>	/GSPoA-DD/ /GSVPA/ /SSP/ /SSS/ /MR/ /DB5/ /ER/	<p><i>Description:</i> The parameter is monitored to determine the baseline emissions. The number of ICS installed is tracked through ICS Installation Database and recorded appropriately by SZCSL. The monitoring (at time of installation) involves the recording ICS type, ICS unique serial number, Date of installation, End user details, address, location etc. The CPA implementer excludes the subsequent ICS from the ER calculations, in case an existing Bondhu Chulha is found at the household, thus ensuring that only one project device is credited per household.</p> <p><i>Verifier's action:</i></p> <p>For the applied monitoring period no ICS were eliminated from the ER calculation on account of this. This is verified by the Assessment Team. The verification team remotely pulled random end user agreement records and compared the details with the information in the provided ICS installation database.</p> <p><i>Conclusion:</i></p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>	OK	OK
b) Accuracy and QA/QC Procedure	/GSPoA-DD/	<i>Description:</i>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>(VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	/GSVPA/ /SSP/ /SSS/ /MR/ /DB5/ /ER/	<p>The team randomly selected households from the database to compare the information in the database with the actual stoves being used. The way of recording all stoves data (including end user detail) complies with the registered monitoring plan.</p> <p><i>Verifier's action:</i></p> <p>The verification team remotely pulled random end user agreement records and compared the details with the information in the provided ICS installation database. The monitoring (at time of installation) involves the recording ICS type, ICS unique serial number, Date of installation, End user details, address, location etc.</p> <p><i>Conclusion:</i></p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>		
<p>c) Correctness (VVS, §§ 233, 236)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/GSPoA-DD/ /GSVPA/ /SSP/ /SSS/ /MR/ /DB5/ /ER/	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value is applied correctly.</p> <p><i>Verifier's action:</i></p> <p>The CPA implementer excludes the subsequent ICS from the ER calculations, in case an existing Bondhu Chulha is found at the household, thus ensuring that only one project device is credited per household.</p> <p><i>Conclusion:</i></p> <p>Applied value is correct.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
D.2.3. SOF		ICS Operation Fraction - To determine only ICS that are still operating, measured ex-post through		
<p>a) Measurement / Determination method (VVS, §§ 233, 236)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and the applied methodology.</i></p>	/MR/ /ER/ /DB1/ /DB2/ /S1/ /IM01/	<p><i>Description:</i></p> <p>The parameter is applied to determine stoves that are still operating. The parameter is measured ex- post through survey user feedback. The determination is based on survey of samples for each ICS category (domestic and nondomestic). The sampling frame for the surveys included all ICS installed under two categories i.e., domestic and non-domestic ICS. Simple random sampling was applied to each category separately. The ICS were randomly sampled from a list of all the participating ICS for each category.</p> <p><i>Verifier’s action:</i></p> <p>The survey forms were verified by the Verification Team and deemed as complete and relevant with respect to the monitoring requirements.</p> <p><i>Conclusion:</i></p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>	OK	OK
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most</i></p>	/MR/ /ER/ /DB1/ /DB2/ /S1/ /IM01/	<p><i>Description:</i></p> <p>Data was collected using survey questionnaire forms to enable surveyors to collect applicable and necessary information during monitoring visit to the sampled user. Procedures for sampling have been duly articulated in the monitoring report, and a sample of survey questionnaires furnished to DOE.</p> <p><i>Verifier’s action:</i></p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>		<p>The survey forms were verified by the Verification Team and deemed as complete and relevant with respect to the monitoring requirements.</p> <p><i>Conclusion:</i></p> <p>Refer Final Verification Report for MP#3 under CDM, section Appendix 5. Monitored Parameters.</p>		
<p>c) Correctness (VVS, §§ 233, 236)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /ER/ /DB1/ /DB2/ /S1/ /IM01/	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>Procedures for sampling have been duly articulated in the monitoring report, and a sample of survey questionnaires furnished to DOE.</p> <p><i>Conclusion:</i></p> <p>Applied value is correct.</p>	OK	OK
D.3. SD Indicators Monitored				
D.3.1. GS 01: SDG 1	No Poverty	BSA_{Project} (Access to Basic Services (Number of ICS distributed under the project))		
<p>a) Measurement / Determination method VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the</i></p>	/GSPoA-DD/ /GSVPA/ /SSP/	<p><i>Description:</i></p> <p>This is being monitored through ICS sales record.</p> <p><i>Verifier's action:</i></p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>	/SSS/ /MR/ /S1/ /SD1/ /DB1/ /DB2/ /LHH/	<p>During the remote assessments, the VVB interviewed to cross-check if the end users have access to the ICS. The VVB confirmed that the distribution of ICS ensures access of basic cooking services to the end user</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS / VPA Transition Request Documents.</p>		
<p>b) Correctness and Scoring</p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /S1/ /SD1/ /DB1/ /DB2/ /LHH/	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of the data in the monitoring report was based on number of ICS distributed</p> <p><i>Verifier's action:</i></p> <p>The VVB confirmed that the distribution of ICS ensures access of basic cooking services to the end user, thus the contribution to SDG 1 - Access to Basic Services is confirmed and were found acceptable.</p> <p><i>Conclusion:</i></p> <p>The data of the survey is correct.</p>	OK	OK
D.3.2. GS 02: SDG 1	No Poverty	HHS_{Project} (% Users reporting money saving due to reduced fuel consumption in project)		



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>a) Measurement / Determination method VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes.</i></p>	/MR/ /S1/ /SD2/ /DB1/ /T1/ /IM01/ /IM06/	<p><i>Description:</i></p> <p>This is being monitored through ICS sales record. However, the reported MS2 values for parameters under section D.2 needs revision.</p> <p><i>Verifier’s action:</i></p> <p>The end users also confirmed that the ICS helps in saving the fuel. Thus, the contribution to SDG 1 – “% HH reporting time/money saving due to reduced fuel consumption in baseline” is confirmed and found acceptable.</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS / VPA Transition Request Documents. CAR is raised for consistent reporting of the parameter.</p>	CAR-5	OK
<p>b) Correctness and Scoring</p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /SD2/ /IM01/ /IM06/	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of the data in the monitoring report was based on ICS sales record.</p> <p><i>Verifier’s action:</i></p> <p>The survey report was reviewed and compared with the results of the remote onsite inspection and telephone interviews conducted by the verification team</p> <p><i>Conclusion:</i></p> <p>The data of the survey is correct, subjected to closure of CAR 5.</p>	CAR-5	OK



Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
D.3.3. GS 03: SDG 3	Good Health and Well Being		SPM_{HHProject} (% Users reporting reduction in smoke/PM emissions while cooking on improved stove in Project)		
<p>a) Measurement / Determination method VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i> <i>Furthermore, verify the frequency of measurements as per the requirements.</i> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes .</i></p>		/MR/ /S1/ /ER/ /SD3/ /LHH/	<p><i>Description:</i> The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed that majority of end user reported reduction in smoke levels which in turn confirms good health and wellbeing. However, the reported MS2 values for parameters under section D.2 needs revision.</p> <p><i>Verifier's action:</i> The VVB also confirms this fact during its interview with randomly selected end-user. All end user confirmed reduction in smoke level while cooking on the ICS.</p> <p><i>Conclusion:</i> The monitoring of the indicator is consistent with the GS / VPA Transition Request Documents , subjected to closure of CAR 5..</p>	CAR-5	OK
<p>b) Correctness and Scoring <i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the</i></p>		/MR/ /S1/ /ER/ /SD3/ /LHH/	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> Supportive documents are assessed during remote assessments.</p> <p><i>Verifier's action:</i> The supportive documents are assessed.</p> <p><i>Conclusion:</i></p>	CAR-5	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>		<p>The database was verified and found data correct, subjected to closure of CAR 5.</p>		
D.3.4. GS 04: SDG 5	Gender Equality	HHT_{Project} (% Users reporting time saving due to reduced collected fuel consumption / cooking time in project)		
<p>a) Measurement / Determination method</p> <p>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>	<p>/MR/ /DB1/ /S1/ /SD4/ /IM02/</p>	<p><i>Description:</i></p> <p>During the survey, the PP has enquired about reduction in time saving due to reduced collected fuel consumption / cooking time in project while cooking on improved stove. The majority of the end users have confirmed that there was certain decrease in the fuel consumption, and hence corresponding decrease in the time required to collect the fuel. Please refer CAR 03 and CAR 05</p> <p><i>Verifier's action:</i></p> <p>The VVB has verified the parameter by comparing the requirements of monitoring under GS transition request.</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS / VPA Transition Request Documents, however please refer raised CAR 03 and CAR 05</p>	<p>CAR 03, CAR 05</p>	<p>OK</p>
<p>b) Correctness and Scoring</p>	<p>/MR/ /DB1/ /S1/</p>	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p>	<p>CAR 03, CAR 05</p>	<p>OK</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/SD4/	<p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed reduction in the fuel requirement to cook food which in turn saves the time for women for the collection fuel.</p> <p><i>Verifier's action:</i></p> <p>The database was verified and found data correct, however please refer raised CAR 03 and CAR 05</p> <p><i>Conclusion:</i></p> <p>The data was verified and found correct, however please refer raised CAR 03 and CAR 05</p>		
D.3.5. GS 05: SDG 7	Affordable and Clean Energy	ACS_{Project} (Access to affordable and clean energy (% of operating ICS units under Project))		
<p>a) Measurement / Determination method</p> <p>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p>	/MR/ /DB1/ /S1/ /SD4/ /IM02/	<p><i>Description:</i></p> <p>The data is derived from the monitoring survey. The MS2 and MS3 regimes were verified during the CDM Verification.</p> <p><i>Verifier's action:</i></p> <p>Majority of the end user confirmed that ICS promotes Affordable and clean energy services.</p> <p><i>Conclusion:</i></p> <p>The monitoring of the indicator is consistent with the GS / VPA Transition Request Documents.</p>	CAR-04	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i>		Refer CAR 01.		
<p>b) Correctness and Scoring</p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /DB1/ /S1/ /SD4/	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>During remote assessments the monitoring survey results confirms that the ICS promotes Affordable and clean energy services.</p> <p><i>Verifier’s action:</i></p> <p>The supportive documents are assessed.</p> <p><i>Conclusion:</i></p> <p>The database was verified and found data correct.</p>	OK	OK
D.3.6. GS 06: SDG 8	Decent Work and Economic Growth	EQ IG _{Project} (Quantitative Employment and income generation (Number of person (male and female) hired under Project))		
<p>a) Measurement / Determination method</p> <p>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request</i></p>	/MR/ /DB1/ /S1/ /SD4/ /IM02/	<p><i>Description:</i></p> <p>The employment database was reviewed to cross-checked on the number of direct jobs created by the project activity</p> <p><i>Verifier’s action:</i></p> <p>The verification team has assessed the employment record</p>	GAR-04	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>		<p><i>Conclusion:</i></p> <p>The monitoring of the indicator is consistent with the GS / VPA Transition Request Documents.</p> <p>Refer CAR 01.</p>		
<p>b) Correctness and Scoring</p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /DB1/ /S1/ /SD4/	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The data is monitored with the employment record.</p> <p><i>Verifier's action:</i></p> <p>The database was verified and found data correct.</p> <p><i>Conclusion:</i></p> <p>The data was verified and found correct</p>	OK	OK
<p>D.3.7. GS 07: SDG 12 And SDG 15: Life on Land</p>	<p>Responsible consumption and production</p>	<p>FC_{Project} (Average fuel consumption per HH in Project)</p>		
<p>a) Measurement / Determination method</p>	/MR/ /DB1/	<p><i>Description:</i></p>	CAR-05	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>	<p>/S1/ /SD4/ /IM02/</p>	<p>The parameter is monitored based on the monitoring survey. The average fuel consumption per HH in project is calculated for the domestic and non-domestic cases. Separate surveys and the corresponding calculations for the MS2 and MS3 were verified by the VVB and deemed them as accurate. The VVB has verified the submitted survey records and confirms the reported values are accurate. Please refer CAR 05 as description and units are not correct.</p> <p><i>Verifier's action:</i></p> <p>The VVB has verified the submitted survey records and confirms the reported value as accurate.</p> <p><i>Conclusion:</i></p> <p>The monitoring of the indicator is consistent with the GS / VPA Transition Request Documents, however Please refer CAR 05.</p>		
<p>b) Correctness and Scoring</p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p>	<p>/MR/ /DB1/ /S1/ /SD4/</p>	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The VVB has verified the submitted survey records and confirms the reported value as accurate.</p> <p><i>Verifier's action:</i></p> <p>The database was verified and found data correct.</p> <p><i>Conclusion:</i></p> <p>The data was verified and found correct, subjected to closure of CAR 05.</p>	<p>CAR-05</p>	<p>OK</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>				



ANNEX 2: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Ms. Christina Stöhr

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2025-05-31
VCS / ISO 14004-2	Senior Assessor Technical Reviewer	2023-05-05

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
5.1	Thermal energy generation
5.2	Renewables
13.1	Solid waste and wastewater

200 - Rev. 3, Date: 2021-09-29

DNL001-0005420221-0018124-0-000 001-0005420221-0018124-0-000

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2025-12-31
VCS / ISO 14004-2	Senior Assessor Technical Reviewer	2023-12-31

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Marine

251 - Rev. 3, Date: 2021-10-19

001_0010406420221-0-10_000 001-0006420221-0-10-000

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2022-06-31
VCS / ISO 14004-2	Senior Assessor Technical Reviewer	2022-06-31

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Marine

261 - Rev. 3, Date: 2022-01-20

001_00104064202201-00_000 001-00064202201-000-000