



# GOLD STANDARD VERIFICATION REPORT

–4<sup>TH</sup> PERIODIC –

IMPROVED COOKSTOVES FOR SOCIAL IMPACT IN  
UGANDAN COMMUNITIES (FORMERLY “EFFICIENT  
COOKING WITH UGASTOVES”)

GOLD STANDARD REF. No.: GS 447

Monitoring Period: 01-10-2017 to 30-09-2018  
(incl. both days)

**Report No:19/077**

**Date: 24/09/2019**

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	Improved Cookstoves for Social Impact in Ugandan Communities (formerly "Efficient Cooking with Ugastoves")		447	26/03/2009	GS 447
			<b>Verification No.:</b>		
			4 <sup>th</sup> Periodic verification		
<b>Project Participant(s):</b>	<b>Non-Annex 1 country:</b>			<b>Annex 1 country:</b>	
	Uganda			N/A	
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	N/A			Impact Carbon	
<b>Applied methodology/ies:</b>	<b>Title:</b>			<b>No.:</b>	<b>Scope(s) / TA(s)</b>
	Technologies and practices to displace decentralized thermal energy consumption, version 1.0			Ver. 1.0	3.1
<b>Monitoring period and monitoring report</b>	<b>Monitoring period (MP):</b>			<b>Monitoring Report:</b>	
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	Prakash Kumar Mishra – Team Leader/Technical Expert David Lubanga: TM			Kunal Rami	Rami, Kunal
<b>Key dates of verification:</b>	<b>Publication of the workplan:</b>			<b>On-site (from):</b>	<b>On-site (to):</b>
	01/05/2019			27/05/2019	30/05/2019
<b>Summary of Verification opinion</b>	<p>Impact Carbon has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 4th periodic verification of the project: "Improved Cookstoves for Social Impact in Ugandan Communities (formerly "Efficient Cooking with Ugastoves")", with regard to the relevant GS4GG Requirements.</p> <p>As a result of this verification, the verifier confirms that:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> all operations of the project are implemented and installed as planned and described in the validated project design document and Gold Standard additional Annexes to the project design document,</li> <li><input checked="" type="checkbox"/> the monitoring plan is in accordance with the applied approved GS methodology,</li> <li><input checked="" type="checkbox"/> the monitoring plan as set out in the validated project design document and the validated additional Annexes has been followed,</li> <li><input checked="" type="checkbox"/> the project contributes to sustainability development</li> <li><input checked="" type="checkbox"/> the monitoring system is in place and functional. The project has generated GHG emission reductions, and</li> <li><input checked="" type="checkbox"/> the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.</li> </ul> <p>TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:</p>				
<b>Emission reductions: [t CO<sub>2e</sub>]</b>	<b>Verified amount</b>			<b>As per PDD:</b>	
	2017: 194,105 tCO <sub>2e</sub> 2018: 575,430 tCO <sub>2e</sub> Total: 769,535 tCO <sub>2e</sub>			2017: 429,052 tCO <sub>2e</sub> 2018: 1,658,017 tCO <sub>2e</sub> Total: 2,087,069 tCO <sub>2e</sub>	
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## Abbreviations:

<b>CA</b>	<b>Corrective Action / Clarification Action</b>
<b>CAR</b>	<b>Corrective Action Request</b>
<b>CDM</b>	<b>Clean Development Mechanism</b>
<b>CER</b>	<b>Certified Emission Reduction</b>
<b>CL</b>	<b>Clarification Request</b>
<b>CO<sub>2</sub></b>	<b>Carbon dioxide</b>
<b>CO<sub>2</sub>eq</b>	<b>Carbon dioxide equivalent</b>
<b>CP</b>	<b>Crediting Period</b>
<b>CoV</b>	<b>Co-efficient of Variance</b>
<b>ER</b>	<b>Emission Reduction</b>
<b>ERC</b>	<b>Emission Reduction Calculation Spread Sheet</b>
<b>FAR</b>	<b>Forward Action Request</b>
<b>GHG</b>	<b>Greenhouse gas(es)</b>
<b>GS</b>	<b>Gold Standard</b>
<b>GS4GG</b>	<b>Gold Standard for Global Goals</b>
<b>GSP</b>	<b>Gold Standard Passport</b>
<b>GST</b>	<b>GS4GG Toolkit</b>
<b>MP</b>	<b>Monitoring Plan</b>
<b>MR</b>	<b>Monitoring Report</b>
<b>PA</b>	<b>Project Activity</b>
<b>PDD</b>	<b>Project Design Document</b>
<b>PP</b>	<b>Project Participant</b>
<b>QA/QC</b>	<b>Quality Assurance / Quality Control</b>
<b>UNFCCC</b>	<b>United Nations Framework Convention on Climate Change</b>
<b>VVS</b>	<b>Validation and Verification Standard</b>

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## 1. INTRODUCTION

Impact Carbon has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 4th periodic Gold Standard (GS) verification for the project

### **"Improved Cookstoves for Social Impact in Ugandan Communities (formerly "Efficient Cooking with Ugastoves")"**

with regard to the relevant requirements for Gold Standard project activities. The verifiers have reviewed the implementation of the monitoring plan (MP) in the registered Gold Standard project.

GHG data as well as sustainability aspects for the monitoring period were verified in detailed manner applying the set of requirements, audit practices and principles as required under the GS4GG requirements<sup>/GS/</sup> and additional Validation and Verification Standard<sup>/VVS/</sup> of the UNFCCC.

This report summarizes the findings and conclusions of this 4th periodic verification for the above-mentioned registered Gold Standard project activity.

### **Objective**

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

- implementation and operation of the project activity as given in the PDD and GS Passport,
- compliance of the actual monitoring system and procedures with the provisions of the monitoring plan as a part of registered PDD, the GS 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.

### **Scope**

The verification of this GS registered project is based on the validated GS project design document<sup>/PDD/</sup>, the validated Gold Standard Passport<sup>/GSP/</sup>, the carbon monitoring and sustainability monitoring report<sup>/MR/</sup> and corresponding previously issued verification reports, the registered GS validation report<sup>/VAL/</sup>, GS4GG Transition Annex AA<sup>/GS4GG TA/</sup>, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. 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 project activity:

- Article 12 of the Kyoto Protocol<sup>/KP/</sup>,



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- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1<sup>/MA/</sup>, and subsequent decisions made by the Executive Board and COP/MOP,
  - other relevant rules, including the host country legislation,
  - CDM Validation and Verification Standard <sup>/VVS/</sup>,
  - monitoring plan as given in the registered PDD <sup>/PDD/</sup>,
  - Approved GS methodology<sup>/GSM/</sup>
  - Gold Standard for Global Goals (GS4GG) Requirements and Toolkit<sup>/GS/,/GST/</sup>
  - Gold Standard Passport<sup>/GSP/</sup>
  - GS last Issuance Review<sup>/R/</sup>
  - GS4GG Transition Annex AA<sup>/GS4GG TA/</sup>

## 2. GHG PROJECT DESCRIPTION

### Technical Project Description

The project activity aims at dissemination of improved cookstoves (ICS) in host country of Uganda. The ICSs by virtue of improved thermal efficiency significantly reduce biomass fuel consumption and equivalent emission of indoor air pollutants associated with inefficient solid biomass fuel-based cooking, resulting in an improved living environment for recipients. Thus, the project activity reduces consumption of non-renewable biomass fuel consumption and hence equivalent GHG emissions.

In addition to GHG reductions, the ICS benefits the user from high fuel costs and reduced exposure to health-damaging indoor air pollutants. About 95 % of host country cooking is based on solid fuels (charcoal or wood for urban dwellers and wood for rural household). As per baseline study the equivalent cooking needs could have been met by traditional inefficient stoves. Charcoal and wood fuel would have been utilized in less efficient, traditional cooking stoves in the baseline scenario.

Typical key parameters of the ICS are given in Table 2-1:

**Table 2-1:** Typical Technical data of the stoves

Thermal Efficiency of stoves					
Name of stove	Ugastove	Energy Uganda foundation (EUF)	Safe Energy saving stove for Africa (SESSA)	Friends of wealthy environment (FOWE)	African Energy stoves(AES)
Thermal efficiency (%)	27.23	26.89	23.78	27.56	25.33

### Project Location

The details of the project location are given in Table 2-2:

**Table 2-2:** Project Location

Description	Project Location
Host Country	Uganda
Region:	Entire Host country
Latitude/longitude of program provinces:	Applicable for entire host country. 1°00'N 32°00'E.

### Project Verification History

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

**Table 2-3:** Status of previous Monitoring Periods

#	Monitoring Period	Monitoring Dates	Status
1	MP I (CP11)	01/04/2014 to 30/06/2015	Issued
2	MP II (CP11)	01/07/2015 to 31/12/2016	Issued





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#	Monitoring Period	Monitoring Dates	Status
3	MP III (CPII)	01/01/2017 to 30/09/2017	Issued
4	MP IV (CPII)	01/10/2017 to 30/09/2018	Issuance Request

### 3. METHODOLOGY AND VERIFICATION SEQUENCE

#### Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the monitoring report / workplan
- A desk review of the Monitoring Report<sup>/MR/</sup> submitted by the client and additional supporting documents with the use of verification protocol<sup>/CPM/</sup> according to the Validation and Verification Standard<sup>/VVS/</sup> and additional GS4GG requirements<sup>/GS/</sup>,
- 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.

#### 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 and GS accreditation requirements

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

#### 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 <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence <sup>3)</sup>	Technical competence <sup>4)</sup>	Verification competence <sup>5)</sup>	Host country Competence	On-site visit
<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 type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	David Lubanga	TN CERT GmbH	TM	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.	Kunal Rami	TN CERT GmbH	TR/FA <sup>B)</sup>	SA	<input checked="" type="checkbox"/>	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>1)</sup> TL: Team Leader; TM: Team Member<sup>A)</sup>, TR: Technical review<sup>B)</sup>, OT: Observer-Team<sup>B)</sup>, OR: Observer-TR<sup>B)</sup>, FA: Final approval<sup>B)</sup>

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

<sup>B)</sup> No team member: OT, TR, OR, FA

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

<sup>3)</sup> GHG auditor status (at least Assessor)

<sup>4)</sup> Technical Area / TR Subcategory as per S01-VA000-F02 or S01-VA070-F01 (such as 1.1, 1.2, ...)

<sup>5)</sup> In case of verification projects

The team member contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

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

## 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.

**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.</i>  <i>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> - 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 GS 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 organises, details and clarifies the requirements a 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**

<b>Checklist Item</b>	<b>Reference</b>	<b>Verification Team Comments</b>	<b>Draft Conclusion</b>	<b>Final Conclusion</b>
<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 GS 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.

## Desk review

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

- the registered version of the PDD, additional Annexes and further attached documents, including the monitoring plan <sup>/PDD/</sup>,
- the registered GS validation report <sup>/VAL/</sup>,
- the Monitoring/Usage Survey and Report<sup>/SDB2//SDB2//SDB1//SDB1/SDB3/</sup>
- the last revision of the carbon and sustainability monitoring report<sup>/MR/</sup>, including the claimed emission reductions for the project
- documentation of previous verifications<sup>/VER/</sup>
- the emission reduction calculation spreadsheet<sup>/ERC/</sup>.
- Baseline and Project KPT Survey Report<sup>/KPT/</sup>
- Usage Survey report and result<sup>/BUS/</sup>
- GS Passport <sup>/GSP/</sup>
- Last GS Issuance Review Report<sup>/GIR/</sup>
- GS4GG Transition Annex AA<sup>/GS4GG TA/</sup>

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

## 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 PDD. 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. The main tasks covered during the site visit include, but are not limited to:

- The on-site assessment included 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 Usage / Kitchen survey.
- Appropriateness of the data collection, sampling and reliability test for the monitored sampling parameter.
- Possibility of leakage emissions were also checked.

Before and during the on-site visit the verification team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of the Impact Carbon including the operational staff of the project, Monitoring entity, Stove Manufacturers and end users were interviewed. The main topics of the interviews are summarised in Table 3-4.

**Table 3-4:** Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Project Participant & Operations Personnel: Impact Carbon	<ul style="list-style-type: none"><li>• General aspects of the project</li><li>• Technical equipment and operation</li><li>• Changes since validation / previous verification</li><li>• Remaining issues from previous verification</li><li>• Quality management system</li></ul>

Interviewed Persons / Entities	Interview topics
	<ul style="list-style-type: none"> <li>• Involved personnel and responsibilities</li> <li>• Training and practice of the operational personnel</li> <li>• Implementation of the monitoring plan</li> <li>• Monitoring data management</li> <li>• Data uncertainty and residual risks</li> <li>• GHG emission reduction calculation</li> <li>• Procedural aspects of the verification</li> <li>• Maintenance</li> <li>• Environmental aspects</li> <li>• GS4GG Requirements</li> <li>• GS monitoring parameters</li> </ul>
<p>2. Monitoring Agency CIRCODU</p>	<ul style="list-style-type: none"> <li>• Implementation of the monitoring plan</li> <li>• Monitoring data management</li> <li>• Data uncertainty and residual risks</li> <li>• GS monitoring parameters</li> <li>• GS Cookstove Usage rate Guidelines</li> <li>• Monitoring team competency and skills</li> <li>• Training records of monitoring team</li> </ul>
<p>3. Stove Manufacturers AES / EUF</p>	<ul style="list-style-type: none"> <li>• Stoves sales</li> <li>• Sales receipts</li> <li>• Transfer of ownership of VERs to PP</li> <li>• Incentive Mechanisms / Warranty extensions</li> <li>• Quantitative Employment and Income Generation</li> </ul>
<p>4. Stove users</p>	<ul style="list-style-type: none"> <li>• Warranty extensions</li> <li>• Transfer of ownership of credits VERs to PP</li> </ul>

The list of interviewees is included in chapter 7.4.

### Draft verification reporting

On the basis of the desk review, the on-site visit, 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 verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

### 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, refer chapter 4.

## **Final reporting**

Upon successful closure of all raised CARs and CLs the final verification report including a positive verification opinion is 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.

## **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.

## **Final approval**

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

After this step the verification team submits the verification report including the verification opinion to the client via e-mail and to Gold Standard via the GS registry.



## 4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report<sup>/MR/</sup>, the calculation spreadsheet<sup>/ER/</sup>, PDD<sup>/PDD/</sup>, the Validation Report<sup>/VAL/</sup> and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

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	0	0
B – Implementation of project activity	0	0	0
C – Description of Monitoring System	0	0	0
D – Carbon Data and Parameters	03	02	10
E - Calculation of Emission Reductions	00	02	0
F – Sustainability Monitoring Parameters	0	0	0
<b>SUM</b>	<b>03</b>	<b>04</b>	<b>10</b>

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

Finding	D1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Implementation of sampling plan: Section D.3 of MR The results of project KPT, baseline KPT and usage survey are not addressed in the MR. Moreover, Monitoring (Kitchen) Survey frequency is mentioned annually or quarterly and also biennially in the monitoring report. Consistency is required in line with registered monitoring plan.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The baseline KPT and Project KPTs were conducted in MP#3 and the same results have been used in the MP#4 as the monitoring frequency of KPTs is biennial. The results of baseline and project KPTs is now specified in revised MR in section D.3.  Monitoring (Kitchen) Survey frequency has been rectified to annually in section D.3 of the revised MR. Also, the results from the Usage cum kitchen survey have been discussed in revised MR.		
	<input checked="" type="checkbox"/> Changes in MR	Section(s): C	New version No.: 2.0
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:

Finding	D1								
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The Values stated under the section D.3 of the MR are now consistent with the submitted ER worksheet "GS447 Iss4 (CP2) ER Sheet v2.0 10062019", tab: "Assumption"</p> <p>Furthermore, the section D.2 "Data and Parameters" mentions the frequency of Baseline KPT (Commercial) and Baseline KPT (Domestic) as "Biennially". The frequency of the Monitoring (Kitchen) Survey frequency is stated as "Annually" in section C.</p> <p>However, the references of the stated sections of MR needs to be calibrated in line with the MR Template.</p> <p>Finding is KEPT OPEN</p>								
<b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>The numbering of sections in MR has been corrected to be consistent with the GS4GG MR template</p> <table border="1"> <tr> <td><input checked="" type="checkbox"/> Changes in MR</td><td>Section(s):</td><td>New version No.: 3.0</td></tr> <tr> <td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr> </table>			<input checked="" type="checkbox"/> Changes in MR	Section(s):	New version No.: 3.0	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Changes in MR	Section(s):	New version No.: 3.0							
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:							
<b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The revised MR is found in line with the latest version of GS4GG MR template (June 2017 ver 1).</p> <p>CAR has been closed.</p>								
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the next periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>								

Finding	D2								
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR						
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The reported value of parameter <math>P_{p,b,i,y}</math> under section E.4 of MR is inconsistent with submitted ER sheet.</p>								
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>The reported value of parameter <math>P_{p,b,i,y}</math> under section E.4 of MR has been made consistent with submitted ER sheet.</p> <table border="1"> <tr> <td><input checked="" type="checkbox"/> Changes in MR</td><td>Section(s): E.4</td><td>New version No.: 2.0</td></tr> <tr> <td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr> </table>			<input checked="" type="checkbox"/> Changes in MR	Section(s): E.4	New version No.: 2.0	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Changes in MR	Section(s): E.4	New version No.: 2.0							
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:							

Finding	D2
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The value stated under the MR for the parameter "P <sub>p,b,i,y</sub> " is now consistently reported with the submitted ER worksheet. CAR is CLOSED.
<b>Corrective Action #2</b>	
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	D3
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The submitted ER provides value of domestic and commercial cook-stoves as 299 and 38 (% domestic and commercial population are 89% and 11% respectively). However, as per verified records, number of domestic and commercial stoves are 302 and 35 (% domestic and commercial population are 90% and 10% respectively). Appropriate correction is requested.
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The MR and ER Calculator has been revised to be consistent with the monitoring usage survey records.
	<input checked="" type="checkbox"/> Changes in MR Section(s): all New version No.: 2.0
	<input checked="" type="checkbox"/> Changes in XLS Worksheet(s): New version No.: 2.0
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The updated MR and ER (tabs "Usage and KS data") is reviewed. The consistency between the value ER and MR is established. CAR is closed.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

#### CL during the verification:

Finding	D1
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Clarification is requested on omission of parameter "Multi-ICS Usage" in the MR.
	The parameter "Multi-ICS Usage" has been included in the revised Monitoring report in section D.2

Finding	D1		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<input checked="" type="checkbox"/> Changes in MR	Section(s): D.2	New version No.: 2.0
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The parameter "Multi-ICS Usage" is included in submitted MR. The consistency with the ER worksheet under tab: "Usage and KS Data".  Finding is CLOSED.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	D2		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>During site visit it is observed that the End-users could not produce sales receipts to the verification team. Clarification is requested how the below requirements of methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" 11/04/2011 and subsequent provisions of the monitoring plan are addressed. Please refer the assessment under compliance to the methodological requirements under para 1 and 4 summarized as below</p> <ul style="list-style-type: none"> <li>A sales receipt contains a unique number that is entered into the project database. The use on this unique number eliminate the risk of double counting of project stoves in case other similar activity exist in areas covered by the project. (ref: page 6 of Validation Report- RENEWAL OF THE CREDITING PERIOD, BVC/KENYA/VAL/005/2013, REVISION NO.1.1)</li> <li>How it can be evidences that the technology producers and the retailers of the improved technology are communicated of the intention of claiming ownership rights of and selling the emission reductions resulting from the project activity (ref: page 7 of Validation Report- RENEWAL OF THE CREDITING PERIOD, BVC/KENYA/VAL/005/2013, REVISION NO.1.1)</li> </ul>		

Finding	D2		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>1. While the end users are encouraged to maintain sales receipts, it is usual for them to be not able to re-produce them later. Further, it is outside the control of project developer to enforce end users retain the sales receipts with themselves after so many years of purchase.</p> <p>As a control measure, the PP receives a copy of sales receipts from AES and EUF (Stove manufactures) on a monthly basis for the sales under the project. The sales receipts are archived in monthly folders in the Impact Carbon office in Uganda. The unique serial number is mentioned on the sales receipt to ensure that double counting is avoided.</p> <p>Besides, EUF and AES also share the monthly sales figures with PP as a cross-check and to verify the total number of stoves creditable. Thus, the possibility of stoves from another project crediting under GS447 is avoided.</p> <p>Please refer sample sales receipt and statement issued by AES and EUF confirming total monthly sales made under the project during the monitoring period.</p> <p>2. Please refer sample sales receipt being submitted – It clearly mentions that all VERs generated by use of the corresponding stove is owned by Impact Carbon. The sales receipts are printed by the manufacturer directly and are filled by the retailers at the time of sales. This substantiates that technology manufacturer as well as retailers are aware of transfer of ownership of credits to Impact Carbon.</p>		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. As verified during the onsite visit and interview that PP has been maintaining the sales receipts received from AES and EUF on monthly basis. Moreover, the verification team checked sample receipts and observed unique serial number on it. Verification team also verified the total number of stoves installed during the monitoring period with the sales statement issued by AES and EUF/SALES STATEMENT/ dated 24/05/2019 signed by the directors of the corresponding manufacturer of the project stoves. The same was compared with sales databases and found to be in line with each other.</p> <p>2. During onsite audit, verification team verified the sales receipts/RECEIPT/ on sample basis that every receipt confirms that ownership of the carbon credits lies with Impact Carbon. Furthermore, representatives of AES/EUF and end users visited during the audit were also interviewed in this regard and confirmed that they are well aware about the same.</p>		

Finding	D2
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding		E1																				
Classification		<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR																		
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>		Clarification is requested over the difference for the below mentioned parameters from the last issued monitoring report and monitoring report/XL sheet for the current monitoring period. These noted parameters are as follows:  a) Average number of Commercial stoves per user b) Average number of domestic stoves per user c) % Commercial population d) Savings (commercial) e) Savings (domestic) f) Savings (commercial)																				
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>		<p>The variation in the average number of stoves per user (Commercial and domestic) and % commercial population relative to that reported in MP#3, is purely on account of random sampling conducted by the PP (please refer online random number generators used for identifying samples randomly from end-user database). The following results are as achieved from field monitoring and outside the control of project developer.</p> <table><tr><th>Parameters</th><th>Applied value for present MP#4</th><th>Last issued MP#3</th></tr><tr><td>Average number of Commercial stoves per user</td><td>1.188</td><td>2.528</td></tr><tr><td>Average number of Domestic stoves per user</td><td>1.311</td><td>1.656</td></tr><tr><td>% Commercial population</td><td>11%</td><td>34%</td></tr></table> <p>The above variations are usual on account of demographical variations in the population as sample households change in the two monitoring periods. A change in the above three parameters also results in equivalent change in Savings (Commercial), Savings (domestic) and Savings (Commercial).</p> <p>It is worth noting that although the aforesaid parameter values are changing relative to MP#3, the overall biomass savings per stove per week remains un-changed wrt to MP#3. In MP#3 the reported <math>P_{p,b,i,y}</math> value was 0.008222753 tonnes/stove/week which has changed to 0.008681673 tonnes/stove/week in MP#4.</p> <p>Thus, the increase in biomass savings per stove per week reported is ~5%. Lastly, given the results have been established via statistical sampling with 90% confidence, 10% margin of error, a 5% variation in the weighted average final value of saving per stove per week is deemed within the acceptable range of 90/10</p> <p>The fact that the <math>P_{p,b,i,y}</math> remains significantly unchanged, justifies that the consolidated monitored results (savings per stove) are coherent with the previous year's final results established.</p> <table><tr><td><input type="checkbox"/> Changes in MR</td><td>Section(s):</td><td>New version No.:</td></tr><tr><td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr></table>			Parameters	Applied value for present MP#4	Last issued MP#3	Average number of Commercial stoves per user	1.188	2.528	Average number of Domestic stoves per user	1.311	1.656	% Commercial population	11%	34%	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
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<input type="checkbox"/> Changes in MR	Section(s):	New version No.:																				
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:																				



Finding	E1
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Argument provided by the PP with regards to ~5% increase in the amount of biomass savings as compared to last monitoring period is deemed acceptable as this figure has been arrived based on statistical sampling-based results. However, given stoves age over time, the PP shall adjust the biomass savings (hence ERs values) in the next monitoring period (MP 5) if biomass savings reported in the next MP is found to be lower than the value established in the current monitoring period.</p> <p>Moreover, based on GS issuance review feedback, PP has applied the specific fuel savings per stove value established in MP3 instead of the value established in in the current MP (MP4) which is assessed to be a conservative measure.</p> <p>However,, this CL E1 is converted into FAR E01 for the next verification.</p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed

Finding	E2
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Below consolidated clarifications are raised</p> <ul style="list-style-type: none"> <li>The technical life of ICS is 10 years, however as per submitted data under tab "Usage Data" and "Sales Initial analysis for Iss4" Stove for the year 2006 to 2009 are considered eligible and subsequently utilized for calculations of emission reductions.</li> <li>Clarification is requested over the calculation of usage rate (which considers stoves for year 2007 to 2009).</li> <li>clarification is raised over application of value of '505698' in place of '480975' for parameter "Cumulative Stove installed under Project" in the tab "ER Calculation Sheet". Same clarification is also applicable to the parameter "Number of Days".</li> </ul>

Finding	E2
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ul style="list-style-type: none"> <li>Please refer "Sales Initial Analysis for Iss4", column E. In this column an expiry date for each entry has been calculated as 120 months from the date of stove installation (column D), thus ensuring that stoves are credited only for a 10-year lifetime. The number of days (column F) is calculated as the overlapping period between the stove lifetime (from date of installation and date of expiry) and monitoring period (Start and end). Any entry with no overlap between the stove lifetime and monitoring period, the number of days has been calculated as 0 ensuring no credits are claimed for corresponding stoves. This ensures that a stove is not credited for more than 10 year's life-time.</li> <li>Calculation of usage rate considers stoves for year 2007 to 2009 in line with the aforesaid point. As per the methodology, 30 samples must be monitored for usage for each stove vintage. Given some stoves from Vintage 2007-2009 are also crediting in the monitoring period (albeit for limited number of days), the usage rate for vintages 2007-2009 has also been determined. Further their consideration for determining weighted average usage is conservative as the usage rate for vintage 2007-2009 stoves are lowest in comparison to that reported for the later vintage (2010-2018) stoves.</li> <li>"Cumulative Stove installed under Project" in the tab "ER Calculation Sheet" have been specified as 505,698, given the number of days (in column F, Sales Initial Analysis for Iss4, referred above) has already been calculated as 0 for all stoves older than 10 years. Thus, eventually, only stove that are younger than 10 years during the monitoring period are being considered for ER calculations.</li> </ul> <div> <input type="checkbox"/> Changes in MR      Section(s):      New version No.:         </div> <div> <input type="checkbox"/> Changes in XLS      Worksheet(s):      New version No.:         </div>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The Verification Team still asks clarification how the stove sold under 2006 are considered?</p> <p>Please refer the tabs "Sales Analysis for Iss4". After application of the above-mentioned correlation, the column 'F' registers '0' for the 2006 however, still the value of '7984' is considered for the calculation.</p> <p>CL is kept OPEN</p>





Finding	E2						
<p><b>Corrective Action #2</b></p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></p>	<p>Please note the column F in "Sales Analysis for Iss4" calculates the number of days in the monitoring period for which corresponding stoves claim credits.</p> <p>The stoves from 2006 onwards have been included in the ER calculation as a transparent reporting measure. However, number of days for stoves older than 10 years has been taken as 0</p> <p>Please refer cell F2:F22 in column F, the value for all 2006/2007 stoves is 0 substantiating that 2006/2007 stoves that have expired are not claiming credits for the monitoring period.</p> <p>The average number of days (=339) is a weighted average of number of stoves and corresponding number of days it can claim credits (within the monitoring period based on its sale and expiry date). A consideration of 0 days for stoves older than 10 years, therefore, yields 0 VERs as per the calculation algorithm applied.</p> <p>The same approach was adopted in the last MP and has been approved by GS.</p> <table border="1"> <tr> <td><input type="checkbox"/> Changes in MR</td><td>Section(s):</td><td>New version No.:</td></tr> <tr> <td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr> </table>	<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"/> Changes in MR	Section(s):	New version No.:					
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:					
<p><b>DOE Assessment #2</b></p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The PP has considered the expiry date of stove as 10 years (operational lifetime). Accordingly, the number of technology days has been determined considering the stove installation date, stove expiry date and monitoring period start date and end date. Thus, the number of technology days has been considered as 0 for all stoves that have expired.</p> <p>Considering the number of technology days as 0 ensures that no credits are claimed for that stove irrespective of its inclusion in determining total cumulative number of project stoves. Moreover, verification team replicated the ER calculation by excluding expired stoves (stoves older than 10 years) and arrived at the same values of emission reduction as mentioned in the submitted ER sheet by PP.</p> <p>Thus, it can be concluded that calculation approach adopted by PP is not resulting in over estimation of ERs during the current monitoring period.</p> <p>CL E2 is closed out.</p>						
<p><b>Conclusion</b></p> <p><i>Tick the appropriate checkbox</i></p>	<table border="1"> <tr> <td><input type="checkbox"/> To be checked during the next periodic verification</td></tr> <tr> <td><input type="checkbox"/> Additional action should be taken (finding remains open)</td></tr> <tr> <td><input checked="" type="checkbox"/> The finding is closed</td></tr> </table>	<input type="checkbox"/> To be checked during the next periodic verification	<input type="checkbox"/> Additional action should be taken (finding remains open)	<input checked="" type="checkbox"/> The finding is closed			
<input type="checkbox"/> To be checked during the next periodic verification							
<input type="checkbox"/> Additional action should be taken (finding remains open)							
<input checked="" type="checkbox"/> The finding is closed							

**FARs from last Verification:**

Finding	FAR <sub>GSReviewMPIII</sub> 1		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	PP shall, for the next monitoring period, implement incentive mechanisms to check if they result in discontinuation of use of baseline stoves. The verifying DOE shall provide an opinion on this. The MR lacks information of the steps taken by PP to comply with the raised FAR.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	Incentive Mechanism has been set in place to ensure effective discontinuation of the baseline stoves. As an incentive mechanism, the ICS warranty is extended for additional one year, if the old stove is returned to the dealer / discarded.  During the monitoring period, 16420 warranty activations were done as certified by AES and EUF (Stove manufacturer and distributors) thereby confirming effective implementation of incentive mechanism.		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	During onsite visit and interviews with the representatives of Impact Carbon (PP), the establishment of an incentive mechanism to promote discontinuation of the inefficient baseline stoves was confirmed. The project stove users are provided with additional one-year warranty if the baseline stoves are discarded/returned. The same was confirmed via interviewing the end users visited during on site audit.  Verification team further interviewed AES/EUF representatives on warranty extensions and confirmed the number of baseline stoves discontinued during the monitoring period for AES to be 5,820 and for EUF to be 10,600 and found it to be in line with the warranty activation certificates <sup>/CERTIFICATE/</sup> issued by AES/ EUF dated 14/06/2019.  Based on above, verification team accepts the action taken by PP and hence, FAR "GSReviewMPIII1" is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	FAR <sub>GSReviewMPIII2</sub>		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	For the next monitoring of usage rates, PP shall refer to the GS cook stove usage rate guidelines. Verifying DOE shall provide an opinion on whether the PP has followed these guidelines in determining the usage rate. The MR lacks information of the steps taken by PP to comply with the raised FAR.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The GS cook stove usage rate guidelines have been followed. The achieved monitoring category is "Good Practice Monitoring".  The monitoring visits were done in person by an external competent institution (CIRCODU) using an expert team with extensive prior experience of monitoring cookstove carbon programmes / projects. The monitoring included capturing GPS and photographs as applicable. Besides, Impact Carbon partners (AES and EUF) constantly engage in End user training and awareness.  Please refer the Monitoring survey records, used for determining Usage in MP#4		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The verification team checked the sample Usage survey form templates read with GS cook stove usage rate guidelines and confirmed that relevant requirements of the guidelines were provisioned for in the monitoring survey forms.  Usage survey form design and related questionnaire therein were verified to be in line with "usage and KS data" tab in the ER calculation spreadsheet and also the requirements in the GS Cookstove Usage Rate Guideline.  The PP has outsourced the monitoring activity to an independent third-party expert entity (CIRCODU) with comprehensive experience of monitoring carbon cookstove projects in the host country. The interview with CIRCODU monitoring team confirmed that the surveyors had sufficient knowledge and competency to ensure accurate and correct assessment of usage via physical inspection and end user interviews.  The interviews with AES and EUF staff confirmed their engagement in end user awareness and training for improving stove adoption as well as increasing sales. Additionally, during end users' interview, verification team further confirmed if the end users were trained on this by AES/EUF.  Lastly, the cumulative usage rate established for the applied monitoring period (81.25%) is within the good practices category range stipulated by the GS cookstove Usage Rate Guidelines hence, the FAR FAR <sub>GSReviewMPIII2</sub> is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	FAR <sub>GSReviewMPIII3</sub>		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The PP shall ensure for future surveys/tests that the unique identification numbers are included in the survey/test spreadsheets. However, submitted usage survey does not have unique identification number in the ER.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	Unique identification number have been specified in each survey form and are also reflected in the ER sheet, "Usage Data", column E.		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The usage survey forms and the spreadsheet are found to have the unique identification numbers (refer sample ID in worksheet "Usage and KS data", column E).  The FAR "FAR <sub>GSReviewMPIII3</sub> " is closed		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	FAR <sub>GSReviewMPIII4</sub>		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The PP shall ensure for the next KPTs that measurements are conducted in line with the KPT protocol and HHs are provided with enough fuel so that they can cook for at least the recommended minimum test period of 3 days. The other requirements of KPT protocol such as avoidance of unusual days i.e., weekends, holidays, festivals shall be followed.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	This FAR is applicable for next Monitoring period when KPTs would be conducted. In the current monitoring period, results from KPTs conducted in MP2 are being used. Please refer approval email received from GS on this.		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The verification team based on review of email from GS dated 07 January 2019 confirms this FAR to be applicable in MP#5.  The FAR is being re-issued for subsequent monitoring period		

Finding	FAR <sub>GSReviewMPIII4</sub>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed

Finding	FAR <sub>GSReviewMPIII5</sub>						
<b>Classification</b>	<input type="checkbox"/> CAR <input type="checkbox"/> CL <input checked="" type="checkbox"/> FAR						
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Prior to next issuance, the project stove sales record with information of end-users shall be maintained. In this regard, please refer to the methodology requirements. Clear description on conformance of raised FAR is missing.						
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The End user databased is being submitted.						
	<table border="1"> <tr> <td><input type="checkbox"/> Changes in MR</td><td>Section(s):</td><td>New version No.:</td></tr> <tr> <td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr> </table>	<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"/> Changes in MR	Section(s):	New version No.:					
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:					
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The verification team has verified that PP maintains the end user database during onsite assessment <sup>EUD/</sup> . The entries in the end user database were cross checked via sales receipts on sampling basis and were found to be correct. The monitored samples were also found traceable in the end user database. Thus, the FAR is accepted for the current MP.  The FAR is being re-issued for subsequent monitoring period.						
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed						

Finding	FAR <sub>GSReviewMPIII6</sub>						
<b>Classification</b>	<input type="checkbox"/> CAR <input type="checkbox"/> CL <input checked="" type="checkbox"/> FAR						
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Project KPT results representative of all stove age groups included for crediting shall be submitted at time of next issuance and if KPT results are more conservative than applied for this issuance, PP shall adjust ER from this issuance at the time of next issuance.						
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	This FAR is applicable for next Monitoring period when KPTs would be conducted. In the current monitoring period, results from KPTs conducted in MP2 are being used. Please refer approval email received from GS on this.						
	<table border="1"> <tr> <td><input type="checkbox"/> Changes in MR</td><td>Section(s):</td><td>New version No.:</td></tr> <tr> <td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr> </table>	<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"/> Changes in MR	Section(s):	New version No.:					
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:					

Finding	FAR <sub>GSReviewMPIII6</sub>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The verification team based on review of email from GS dated 07 January 2019 confirms this FAR to be applicable in MP#5.</p> <p>The FAR is being re-issued for subsequent monitoring period</p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed

Finding	FAR <sub>GSReviewMPIII7</sub>
<b>Classification</b>	<input type="checkbox"/> CAR <input type="checkbox"/> CL <input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The DOE shall check a more representative number of employment contracts and/or interview a representative number of employees at the time of next issuance to demonstrate that the salaries are at par or higher than the local average wage level and to confirm on the positive score for the indicator 'Quantitative employment and income generation'. Incomplete data.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>EUF and AES together have 25 employees. The salary declaration of 5 employees is being submitted as evidence. Besides, the DoE had interviewed additional employees during the site audit.</p>
	<input type="checkbox"/> Changes in MR <input type="checkbox"/> Changes in XLS
	Section(s): Worksheet(s):
	New version No.: New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The verification team interviewed 10 staff from AES and EUF (including in person and telephonic during onsite assessment) to confirm the salaries being at par / higher than local average wage level in the host country. The response received during the interviews were found consistent with the salary declarations letter<sup>EMPLOYMENT/</sup> (declaration letters from EUF and AES clearly depicts that the employees are paid over and above minimum wages requirement) submitted by AES and EUF dated 14/06/2019. Furthermore, verification team also confirmed the same with the sampled interviewed employee to confirm if they are paid well.</p> <p>Thus, based on above, the FAR for the current monitoring period is accepted.</p> <p>The FAR is being re-issued for subsequent monitoring period.</p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed



Finding	FAR <sub>II</sub> verif <sup>1</sup>		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Parameter f<sub>NRB</sub> which is a fixed ex-ante parameter in the registered GS PDD was taken from the default value of f<sub>NRB</sub> approved by DNA, Uganda which was valid only till 10 April 2017, however the monitoring period extended till 30 September 2017. It was observed that PP has applied a weighted average value of fixed ex-ante until 10/04/2017 and, the default value given by the standardized baseline was applied to the monitoring period post 10 April 2017. Thus, a time based weighted average f<sub>NRB</sub> was found to be applied for the current monitoring period and deemed acceptable to the verification team.</p> <p>(Please refer closure of CAR D1, issue 5). However, during the subsequent periodic verifications, the PP needs to compare the published values for host country (in case available it is published) and take appropriate adjustments in case the value applied during this verification is over estimated. Demonstration of application of conservative value is missing.</p>		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>As specified above, the ex-ante value of f<sub>NRB</sub> in the registered GS PDD has expired. Post expiry of the DNA approved f<sub>NRB</sub> value, UNFCCC approved a new f<sub>NRB</sub> value under the standardized baseline ASB0002-2017 (<a href="https://cdm.unfccc.int/filestorage/e/x/t/extfile-20171103152130273-EB97_repan02_ASB0002_2017_Charcoal_Uganda.pdf/EB97_repan02_ASB0002_2017_Charcoal_Uganda.pdf?t=Sjd8cHN4eG95fDAHYj6IEKg558JYsLcA1H5e">https://cdm.unfccc.int/filestorage/e/x/t/extfile-20171103152130273-EB97_repan02_ASB0002_2017_Charcoal_Uganda.pdf/EB97_repan02_ASB0002_2017_Charcoal_Uganda.pdf?t=Sjd8cHN4eG95fDAHYj6IEKg558JYsLcA1H5e</a>), valid till 31 Oct 2020.</p> <p>In MP#3 a weighted average (0.86125) of DNA approved f<sub>NRB</sub> value (0.82) and ASB0002 f<sub>NRB</sub> value (0.88) was taken according to their validity during the monitoring period</p> <p>In MP#4, only the f<sub>NRB</sub> value of ASB0002 is deemed applicable as the default value published by DNA Uganda expired before the start of the monitoring period.</p> <p>Also, there is no new value of f<sub>NRB</sub> published. Given, the weighted average value used in MP#3 is lower than the standardized baseline value being applied in MP#4 no adjustments to MP#3 ER values are needed.</p> <p>In future, if a new value is published, the same shall be used for ER calculation in the subsequent monitoring period.</p>		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The verification team confirmed that ASB0002<sup>1</sup>/DEFAULT f<sub>NRB</sub>/ is valid and applicable for the current monitoring period. Further, the verification team via review of UNFCCC website (<a href="https://cdm.unfccc.int/">https://cdm.unfccc.int/</a>) and Uganda DNA website (<a href="http://www.mwe.go.ug">www.mwe.go.ug</a>) confirmed that there is no other approved / endorsed value of f<sub>NRB</sub> for Uganda is available so far. Thus, the FAR for the current monitoring period is closed.</p>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	FAR <sub>II</sub> verif2		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The PP shall demonstrate using objective evidence that the sample number generated randomly for the monitoring in future assessment. Description is pending.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The evidence for random sampling is being submitted. 40 Random samples were selected from each vintage keeping some buffer to allow non-responses and outliers.		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	PP has used online random number generator <sup>/ss/</sup> to identify random samples for each vintage of stoves.  The verification team reviewed the online random generator snapshots <sup>/RANDOM/</sup> submitted by PP for each vintage. The random numbers were generated covering the range of total number of stoves in the end user database for that vintage. Thus, each user listed in the end user database had an equal chance of getting selected for sampling and hence the sampling approach adopted is deemed appropriate. The stoves for a given vintage were arranged chronologically and were assigned a sample serial number. The verification team confirmed that the sample serial number for the stoves monitored for each vintage correspond to the random numbers generated online. Thus, the samples selected are deemed un-biased.  Thus, the FAR for the current monitoring period is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

FAR from this verification:

Finding	E01		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	This FAR is raised with regards to ~5% increase in the amount of biomass savings as compared to previous monitoring period. However, given stoves age over time, the PP shall adjust the biomass savings (hence ERs values) in the next monitoring period (MP 5) if biomass savings reported in the next MP is found to be lower than the value established in the current monitoring period.		





Finding	E01		
<div><b>Corrective Action #1</b></div> <div><i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></div>	The variation in the average number of stoves per user (Commercial and domestic) and % commercial population relative to that reported in MP#3, is purely on account of random sampling conducted by the PP (please refer online random number generators used for identifying samples randomly from end-user database). The following results are as achieved from field monitoring and outside the control of project developer.		
	Parameters	Applied value for present MP#4	Last issued MP#3
	Average number of Commercial stoves per user	1.207	2.528
	Average number of Domestic stoves per user	1.307	1.656
	% Commercial population	11%	34%
	The above variations are usual on account of demographical variations in the population as sample households change in the two monitoring periods. A change in the above three parameters also results in equivalent change in Savings (Commercial), Savings (domestic) and Savings (Commercial).		
	It is worth noting that although the aforesaid parameter values are changing relative to MP#3, the overall biomass savings per stove per week remains un-changed wrt to MP#3. In MP#3 the reported $P_{p,b,i,y}$ value was 0.008222753 tonnes/stove/week which has changed to 0.008681673 tonnes/stove/week in MP#4.		
	Thus, the increase in biomass savings per stove per week reported is ~5%. Lastly, given the results have been established via statistical sampling with 90% confidence, 10% margin of error, a 5% variation in the weighted average final value of saving per stove per week is deemed within the acceptable range of 90/10		
	The fact that the $P_{p,b,i,y}$ remains significantly unchanged, justifies that the consolidated monitored results (savings per stove) are coherent with the previous year's final results established.		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:	



Finding	E01
<p><b>DOE Assessment #1</b></p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Argument provided by the PP with regards to ~5% increase in the amount of biomass savings as compared to last monitoring period is deemed acceptable as this figure has been arrived based on statistical sampling-based results. However, given stoves age over time, the PP shall adjust the biomass savings (hence ERs values) in the next monitoring period (MP 5) if biomass savings reported in the next MP is found to be lower than the value established in the current monitoring period. Hence, this CL E1 is converted into FAR01 for the next verification. The verification team checked and confirmed that the samples covered in MP#4 were different from samples covered in MP#3 and hence are hence bound to have variations wrt to stove usage.</p> <p>2. The fuel savings reported by the PP has been tested for statistical acceptance and has been found ok. The verification on-site visit did not result in any discrepant sample and all users verified confirmed the correctness of information reported in the monitoring surveys. The increase in the savings is therefore deemed acceptable within the applied statistical frame.</p> <p>Moreover, based on GS issuance review feedback, PP has applied the specific fuel savings per stove value established in MP3 (0.008222753 tonnes/stove/week) instead of that established in MP4 is assessed to be a conservative measure.</p> <p>Besides, the verification team has issued a FAR to adjust MP#5 values based on MP#4. Thus, any incidental increase in the MP#4 will get corrected in MP#5</p>
<p><b>Conclusion</b></p> <p><i>Tick the appropriate checkbox</i></p>	<p><input checked="" type="checkbox"/> To be checked during the next periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input type="checkbox"/> The finding is closed</p>

## 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).

### 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	Uganda	Impact Carbon
Annex 1	USA	Impact Carbon

### Implementation of the project

During the verification, an onsite inspection was carried out from 2019-05-27 to 2019-05-30. On the basis of this site visit and the reviewed project documentation it can be confirmed that w.r.t. the realized technology, the project equipment, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the GS registered and revised PDDs, GS Passport and GS4GG Transition Annex. <sup>/PDD/GSP/GS4GG TA/</sup>

This is the 4<sup>th</sup> monitoring period under the second renewable crediting period of the improved cook stove project. The Revised MR now follows the appropriate version of template.

During this monitoring period, the project has disseminated 494,537 stove units from 2006. Considering the fact improved cook stoves are credited for 10 years, the number of units eligible for crediting in this monitoring period is 486,577 is derived from the sales analysis report. <sup>/DATA/SUR/</sup>

### Project history

In the 3<sup>rd</sup> monitoring period, 9 FARs were raised. FAR<sub>GSreviewMPIII1</sub>, FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII4</sub>, FAR<sub>GSreviewMPIII5</sub>, FAR<sub>GSreviewMPIII6</sub>, FAR<sub>GSreviewMPIII7</sub>, FAR<sub>IIIverif1</sub> and FAR<sub>IIIverif2</sub>. which were assessed during present verification.

The verification team has reviewed the responses and could confirm that they have been addressed appropriately. Please refer to section 4 (Verification findings).

FAR<sub>GSreviewMPIII4</sub>, FAR<sub>GSreviewMPIII5</sub>, FAR<sub>GSreviewMPIII6</sub>, FAR<sub>GSreviewMPIII7</sub> although being closed for this verification have been re-issued for subsequent verifications to ensure repeated / continuous cross-check during the crediting period.

## Compliance with the monitoring plan

Section B.2 of the revised PDD dated 2014-03-03 was reviewed and cross-checked on the system to confirm the implementation of the revised monitoring system as described in the updated PDD. Evidences were available to the verification team to check the compliance of the revised monitoring system

All relevant data is stored for the whole monitoring period, including the date generated during CPI (first crediting period) and traceable to the computer server located at the PP office.

Refer CAR D1, CAR D2, CAR D3, CL D1, CL D2, FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII4</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>GSreviewMPIII6</sub> are raised and corrections were requested. All CARS and CL were addressed successfully during the course of verification.

## Compliance with the SDG Impact monitoring plan:

The SDG indicators as per the GS matrix are monitored and reported appropriately and cross-verified by means of desk review of supporting documents, interviews with the PP and selected households. The monitoring system and all applied procedures are in compliance to the SDG Impact monitoring plan in the GS4GG Transition Annex<sup>/GS4GG TA/</sup> and the GS4GG principles. During the site visit, the verification team has randomly selected 21 ICS including domestic/commercial users to conduct verification assessment and interviews. The questions asked, where applicable, were based on requirements of the Annex I, Rules and Toolkit to the GS4GG<sup>/GS/,/GST/</sup> and GS4GG Transition Annex AA<sup>/GS4GG TA/</sup>. The main topics included, but not limited to the followings:

- Air quality in project households/institutions
- Households/Institutions having access to affordable, reliable and modern project ICS
- Quantitative employment and income generation
- Access to basic services to households / institutions

A summary of interviewed questions and feedback received as presented in the below table for **SDG Impact Assessment (additional to SDG 13):**

SD indicator	Questions for households/masons/technicians during site interviews	Verification team assessment
ABS <sub>HH</sub> – access to basic service to household/institutions	1. How much money you are saving each month after using the ICS? 1. = 0 UGX 2. = 0 to 5000 UGX 3. = 5,000 to 10,000 UGX 4. = 10,000 to 15,000 UGX 5. = 15,000 to 20,000 UGX	The ICS are much cleaner than the normal stoves.  Majority of respondents (91%) confirmed that savings are accrued due to adoption of the ICS. This is confirmed from the submitted "Project Survey" and further verified during onsite visit and interview with the ICS users by the verification team.

SD indicator	Questions for households/masons/technicians during site interviews	Verification team assessment
	6. How much if it is more than 20,000 UGX	
AQ <sub>HH</sub> – Air Quality in project household / Institutions (questions for Project Survey)	<p>1. After using ICS, do you think smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes has decreased?</p> <p>1. Yes</p> <p>2. No</p>	The Project Survey worksheet is assessed which clearly confirms that cases of perceived smoke have decreased. No respondents confirmed increase in smoke levels, incidence of coughing, respiratory illness or itchy eyes. Verification team during onsite visit and interview compared these results and found to be deemed comparable.
QEIG - Quantitative Employment and Income Generation	The Verification Team undertook the review of employment records, interacted with the employees and employers.	<p>The database was reviewed to cross-checked on the number of direct jobs created by the project activity which is found to be 25.</p> <p>During onsite visit, verification team interviewed the sales and marketing team including key personnel to verify the local job creation and could understand that cook stove project has created the job locally and also due to involvement of local partners of the CME, local jobs in terms of retailer ship, distribution etc.is also created as informed by the PP.</p> <p>Sample employment records were verified in addition to the employment statement submitted pertaining to the reimbursement levels at par with industrial standards.</p> <p>Additionally, verification team reviewed declaration from the personnel employed (AES and EUF employee, which are the stove manufacturing partner for the project) to further investigate if they are receiving wages at par as with the average market standard/local regulation. As per declaration received by employee of AES and EUF and interview conducted, verification team can conclude that wages received by the personnel is as per the local regulation.</p>
AAACS <sub>HH</sub> – number of household and institutions having access to affordable, reliable and modern project ICS	The Verification Team undertook the review of Usage Survey records, frequency of cooking, and end user interviews during on-site assessment for checking usage	494,537 ICS have been distributed under the project so far. The ICS have a lifetime of 10 years and were found to be in use in 81.25% of the samples monitored.

For further details concerning the SDG Impact indicators please refer to Annex 2.

However, during course of verification CAR D1, CAR D2, CAR D3, CL D1 and CL E1, FAR<sub>GSreviewMPIII</sub> 1 and FAR<sub>GSreviewMPIII</sub> 7 are raised correction is requested.

### **Compliance with the monitoring methodology:**

The monitoring system is in compliance with the applied monitoring methodology "Technologies and practices to displace decentralized thermal energy consumption", version 1.0.

### **Carbon data and parameters:**

During the verification all relevant monitoring parameters as listed in the GS revised and registered PDDs 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.

After appropriate corrections were carried out 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.

### **Data and parameters monitored:**

Parameter	Value	Verification opinion
f <sub>nrb,i,y</sub> : Fractional non-renewability	88.0%	<p>UNFCCC Approved Standardized baseline ASB0002-2017</p> <p>The ex-ante value of fNRB specified in registered GS-PDD was sourced from Uganda DNA endorsed default value of fNRB and was valid only till 10 April 2017.</p> <p>Subsequently, the UN approved standardized baseline ASB0002/DEFAULT fNRB/ giving updated default value of fNRB for Uganda as 88%.</p> <p>The verification team confirmed that ASB0002 is valid and applicable for the current monitoring period. Further, the verification team via review of UNFCCC website (<a href="http://www.unfccc.int">www.unfccc.int</a>) and Uganda DNA website (<a href="http://www.mwe.go.ug">www.mwe.go.ug</a>) confirmed that there is no other approved / endorsed value of fNRB for Uganda is available so far.</p>

Parameter	Value			Verification opinion
$P_{b,y}$ : Quantity of fuel (Charcoal) that is consumed in baseline scenario b during year y: Quantity of fuel that is consumed in the baseline scenario 1 in year y	<b>Description</b>	<b>Value</b>	<b>Unit</b>	The values established in MP#3 have been used in this monitoring period.
	Baseline KPT (Commercial)	0.1980	kg/person /meal	
	Baseline KPT (Domestic)	0.2015		
$P_{p,y}$ : Quantity of fuel that is consumed in project scenario b during year y	<b>Description</b>	<b>Value</b>	<b>Unit</b>	The values established in MP#3 have been used in this monitoring period.
	Project KPT (Commercial)	0.1093	kg/person /meal	
	Project KPT (Domestic)	0.0997		
$U_{p,y}$ : Cumulative Usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by the usage surveys.	81.25%			<p>Usage Survey report was assessed in this regard and value of <math>U_{py}</math> is found to be correctly applied. The verification team checked the sample Usage survey form templates read with GS cook stove usage rate guidelines and confirmed that relevant requirements of the guidelines were provisioned for in the monitoring survey forms.</p> <p>Usage survey form design and related questionnaire therein were verified to be in line with “usage and KS data” tab in the ER calculation spreadsheet and also the requirements in the GS Cookstove Usage Rate Guideline.</p> <p>The PP has outsourced the monitoring activity to an independent third-party expert entity (CIRCODU) with comprehensive experience of monitoring carbon cookstove projects in the host country. The interview with CIRCODU monitoring team confirmed that the surveyors had sufficient knowledge and competency to ensure accurate and correct assessment of usage via physical inspection and end user interviews.</p> <p>The interviews with AES and EUF staff confirmed their engagement in end user awareness and training for improving stove adoption as well as increasing sales. Additionally, during</p>





Parameter	Value	Verification opinion
		<p>end users' interview, verification team further confirmed if the end users were trained on this by AES/EUF.</p> <p>Lastly, the cumulative usage rate established for the applied monitoring period (81.25%) is within the good practices category range stipulated by the GS cookstove Usage Rate Guidelines</p>
N <sub>p,y</sub> : Technologies in the project database for project scenario p through monitoring period	<p>2017: 42,505,098</p> <p>2018: 126,007,540</p>	<p>Total Sales Records/Database was verified, and value taken is deemed as appropriate.</p> <p>The PP has considered the expiry date of stove as 10 years (operational lifetime). Accordingly, the number of technology days has been determined considering the stove installation date, stove expiry date and monitoring period start date and end date. Thus, the number of technology days has been considered as 0 for all stoves that have expired.</p> <p>Considering the number of technology days as 0 ensures that no credits are claimed for that stove irrespective of its inclusion in determining total cumulative number of project stoves. Moreover, verification team replicated the ER calculation by excluding expired stoves (stoves older than 10 years) and arrived at the same values of emission reduction as mentioned in the submitted ER sheet by PP.</p> <p>Thus, it can be concluded that calculation approach adopted by PP is not resulting in over estimation of ERs during the current monitoring period.</p>
LE <sub>p,y</sub>	0	N/A no leakage applicable
Implementation of baseline stove disposal incentive or education campaign	1.00	<p>Disclaimer on Warranty cards</p> <p>During onsite visit and interviews with the representatives of Impact Carbon (PP), the establishment of an incentive mechanism to promote discontinuation of the inefficient</p>





Parameter	Value		Verification opinion
			<p>baseline stoves was confirmed. The project stove users are provided with additional one-year warranty if the baseline stoves are discarded/returned. The same was confirmed via interviewing the end users visited during on site audit.</p> <p>Verification team further interviewed AES/EUF representatives on warranty extensions and confirmed the number of baseline stoves discontinued during the monitoring period for AES to be 5,820 and for EUF to be 10,600 and found it to be in line with the warranty activation certificates<sup>/CERTIFICATE/</sup> issued by AES/ EUF dated 14/06/2019.</p>
meals/HH/week	commercial 16.16	domestic 18.06	The value from MP3 has been applied as a conservative measure
Multi-ICS Usage	Average number of Commercial stoves per user 2.528	Average number of domestic stove per user 1.656	The value from MP3 has been applied as a conservative measure

#### Data and parameters not monitored:

Parameter	Value	Verification opinion / Data source
EF <sub>b,CO2</sub> : CO <sub>2</sub> emission factor arising from use of fuels (wood or wood equivalents) in baseline scenario	173.085 kgCO <sub>2</sub> /TJ	Deemed valid by applied GS VER Methodology and 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and project scenario specific calculations
EF <sub>b,nonCO2</sub> : Non-CO <sub>2</sub> emission factor arising from use of fuels (wood and wood equivalents) in baseline scenario	9.88 kgCO <sub>2</sub> e/TJ	IPCC 2006 Guidelines for National Greenhouse Gas Inventories IPCC 2007 4 <sup>th</sup> Assessment report
EF <sub>p,CO2</sub> : CO <sub>2</sub> emission factor arising from use of fuels (wood and wood equivalents) in project scenario	173.085 kgCO <sub>2</sub> /TJ	IPCC 2006 Guidelines for National Greenhouse gas Inventories
EF <sub>p,nonCO2</sub> : Non-CO <sub>2</sub> emission factor arising from use of fuels (wood and wood equivalents) in project scenario	9.88 kgCO <sub>2</sub> e/TJ	IPCC 2006 Guidelines for National Greenhouse gas Inventories IPCC 2007 4 <sup>th</sup> Assessment report

Parameter	Value	Verification opinion / Data source
NCV <sub>b</sub> : Net calorific value of the fuel (wood and wood equivalents) used in the baseline	29.5 TJ/Gg	2006 IPCC Guidelines for National Greenhouse Gas Inventories
NCV <sub>p</sub> : Net calorific value of the fuel (wood and wood equivalents) used in the project	29.5 TJ/Gg	2006 IPCC Guidelines for National Greenhouse Gas Inventories
f <sub>nrb,i,y</sub> : Non-renewability status of woody biomass fuel in scenario i during year y	0.88	ASB0002-2017

Refer findings CAR D1, CAR D2, CAR D3, CL D1, CL D2, CL E1 and CL E2, FAR<sub>GSreviewMPIII</sub>1, FAR<sub>GSreviewMPIII</sub>2, FAR<sub>GSreviewMPIII</sub>3, FAR<sub>GSreviewMPIII</sub>4, FAR<sub>GSreviewMPIII</sub>5 and FAR<sub>GSreviewMPIII</sub>6, FAR<sub>GSreviewMPIII</sub>7 raised and correction requested in section 4. The verification team has reviewed the responses and could confirm that they have been addressed appropriately. Please refer to section 4 (Verification findings).

### Contribution to SDG:

During the verification, the SDG Impact indicators were verified with regards to the appropriateness that will contribute to SDGs.

It was evidenced that the project contributes to SDGs in host country of Uganda.

For details assessment of SDG Impact indicators, refer to section 5 above.

### Monitoring report:

A Gold Standard Monitoring Report along with relevant supporting documents were 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 and revised PDDs, GS Passport and relevant GS requirements.

Refer CAR D1 is raised and closed out successfully.

### Sampling:

#### Implementation of the sampling plan:

The PP's sampling plan for determining various monitoring parameters is based on the requirements in the applied methodology TPDDTEC version 01.0 and Guideline for sampling and survey which prescribes the desired level of confidence / precision (90/10 for single sample tests) for ex-post monitoring. The sample size for monitoring parameters were appropriately calculated as described below:

PP has monitored the parameters of interest under the project activity through a Random Sample Group (RSG). The size of the sample group was selected to ensure

the parameters measured satisfy 90/30 precision (90% confidence interval and 30% margin of error), adhering to the requirements under the applied methodology (p.13).

Project has large number of technologies units, huge distribution area and many number of years coupled with the project. Along with data captured in Sales Record, further contact details are compiled for a subset of stove customers in a Customer Sampling Record. The Customer Sampling Record is used for customer follow-up and sampling for monitoring surveys.

### Monitoring Usage cum Kitchen Survey

The Gold Standard Methodology 'Technologies and Practices to Displace Decentralized Thermal Energy Consumption V.01' states that monitoring surveys should be carried out annually, beginning one year after project registration. The monitoring survey has the same sample size requirements as the baseline survey;

For determining the usage rate of the project technology (ies) via usage surveys, PP followed the sampling size requirements as given by the methodology on page 10<sup>1</sup>.

The sample size for usage survey were determined, applying the following approach;

- Group size < 300: Minimum size 30 or population size, whichever smaller
- Group size 300-1000: Minimum sample size 10% of group size
- Group size > 1000: Minimum sample size 100

Besides, as required by the methodology (page 24) the PP ensured that minimum 30 samples for each age category are covered for monitoring. If there is any shortfall from the minimum number of samples for any age category (30 samples), the shortfall sample gap has been considered as non-operational for that category as a conservative measure. This approach is deemed acceptable as conservative. The reliability assessment of the survey results shows that the precision attained is within the required level of 10% and is deemed statistically acceptable.

Monitoring results and Reliability Check – Usage	
Usage measured	0.8125
Standard Error of Usage	0.019
relative precision	3.10%
Result	Ok passed

Usage cum Kitchen survey respondents were selected as mentioned above. All the interviews were conducted face-to-face in the respondent's home. Responses were then analyzed based on averages, allowing population trends to be established and reported on. A total of 309 surveys (covering 428 stoves as some samples use multiple stoves) were conducted and have been used for the results.

### Kitchen Performance Test- Project Stove

For Project KPT, values established in MP#4 have been used in MP#4 as follows.

<sup>1</sup>The project monitoring survey has the same sample size requirements as given for the baseline survey in the methodology.

<b>Kg/person/meal assessment</b>	<b>Commercial stoves</b>	<b>Domestic Stoves</b>
<b>Project KPT (Commercial)</b>	0.1093	kg/person/meal
<b>Project KPT (Domestic)</b>	0.0997	kg/person/meal

### **Kitchen Performance Test- Baseline Stove**

For Baseline KPT, values established in MP#4 have been used in MP#4 as follows.

<b>Kg/person/meal assessment</b>	<b>Commercial stoves</b>	<b>Domestic Stoves</b>
<b>Baseline KPT (Commercial)</b>	0.1980	kg/person/meal
<b>Baseline KPT (Domestic)</b>	0.2015	kg/person/meal

### **Usage Survey**

As stipulated in the Methodology a Usage Survey needs to be conducted on a minimum sample size of 100, with at least 30 samples for project technologies of each age being credited. 30 stoves from each age (2007-2018) were included in the survey and then the cumulative (resulting) usage parameter is weighted based on the proportion of technologies in the total sales records of each age.

Usage Survey was conducted on a total of 428 stoves covering each age groups of stoves under crediting. The total population under the survey is 486,577 and achieved usage rate for the monitoring period is 81.25% as verified from the Usage survey data spreadsheet (Annex-2). The detailed calculation is presented in Usage Survey spreadsheet (Annex-2) which was assessed to be appropriate by the verification team. Furthermore, the reliability test conducted for the parameters monitored and were assessed to be appropriately conducted and found to be complying with the precision requirement (90/10) and in accordance with applied methodology and Guidelines for sampling and survey version 04.0.

Based on above and sectoral and local expertise, verification team could confirm that the sampling conducted by the PP is in accordance with the requirements of §21(b) of Standard for sampling and surveys for CDM PA and PoAs version 07 and "Guidelines for sampling and surveys for CDM project activities and programme of activities (version 04.0)". Furthermore, based on review of the ex-post monitoring survey records verification team confirms that the sampling surveys appropriately covered end users of improved cook stoves technologies in households and commercial purposes in the host country of Uganda. Thus, the survey design covers the regional distribution of the population (within the geographical boundary) and is representative of actual population for improved cookstoves technologies in household and commercial user groups.

### **Sampling approaches during verification:**

The verification team followed a simple random sampling approach to verify sampling and monitoring of GS monitoring parameters for this GS project activity. Sampling was conducted across on random basis from the PP samples. As per the applied GS methodology (TPDDTEC) and Guideline for sampling and Survey<sup>/GUID/</sup> the DOE required 08 random samples to be visited in order to meet the sampling requirements (Sampling and surveys for CDM project activities and programmes of activities, version 07, § 33 c). During verification site visit verification team selected 21 randomly sampled

ICS (11 households/institutions) users from the project. The number of installed units, eligible for crediting during the current monitoring period is 488,491.

The details of the sampled domestic and commercial users (usage cum kitchen survey) visited to confirm the project implementation and other monitoring aspects are presented in table 7-4 of this report.

PP has provided the DOE a list of total cookstove installation database<sup>/DATA/</sup> in excel format, as well as data for simple random group they sampled and based on the review of the data sheet, the DOE has selected random samples from the PP's list of monitored samples. The verification team conducted physical visit to the project technologies users, performed interview, during onsite audit. A total of 21 ICS (11 households/commercial users under usage survey) were assessed. Samples have been visited and verified with project sales database. The technology's details including, date of installation, type of products, name of user and address were also verified and found to be consistent with the ones reported in the database and ER sheet.

No inconsistency was observed for any of the samples with respect to the observations in the field, document review and that reported in the installation database, survey / test data. This assessment of the selected samples was done to ascertain the implementation status of the project activity w.r.t the types, serial number, location etc. of technologies are in line with registered GS project activity.

The baseline survey was also cross-checked by DOE through the household visits and interviews with the users of cookstoves. Verification team confirms that the monitoring and surveys meets the requirements for baseline survey representativeness, sample size and data collected.

During the on-site assessment, TÜV NORD selected the following approach:

- a) 21 ICSs (11 households/institutions, please refer list of users interviewed Table 7-4 of this report)
- b) AQL (Acceptable Quality Level): 0.5%
- c) UQL (Unacceptable Quality Level): 20%.
- d) Producer risk: 10% & Consumer risk: 10%

The aforesaid is based on para 33(c) of the Standard: Sampling and surveys for CDM project activities and programmes of activities Version 07.0, which allows the DoE to use its own professional judgement to determined sample size, based on parameters values other than that specified in para 29-30 of the standard.

From the observations / results from 21 verified ICS, the following could be confirmed:

- 1. The usage rate of cook stoves technologies in households (domestic and commercial use);
- 2. Living conditions with improved stoves over conventional unimproved stoves;
- 3. Reduce usage of wood/charcoal;
- 4. SD aspect as per the registered GS project Passport;

## 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 and CLs could be closed out.

$$ER_y = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,i,y} * NCV_{b,fuel} * (f_{NRB,b,y} * EF_{fuel,CO_2} + EF_{fuel,nonCO_2})) - \sum LE_{p,y}$$

$$= 168,512,638 * 81.25 * 0.001175 * 0.0295 * (0.88 * 173.08 + 9.88) - 0$$

$$= 769,535 \text{ tCO}_2\text{eq}$$

Therefore, the emission reductions achieved for this monitoring period are **769,535 tCO<sub>2</sub>e**.

The ER spread sheet was reviewed and could confirmed is overall correct.

However, during course of verification findings were raised. The verification team has reviewed the responses and could confirm that they have been addressed appropriately. Please refer to section 4 (Verification findings).

## 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 project activity have been defined. The procedures defined can be assessed as appropriate for the purpose. No significant deviations thereof have been observed during the verification.

## 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 PDD.

Ex-Ante ERs for this monitoring period (365 days): 2,087,269 tCO<sub>2</sub>e

Ex-Post ERs for this monitoring period (365 days): 769,535 tCO<sub>2</sub>e

Difference: -1,317,734 tCO<sub>2</sub>e

The ex-post value is found to be far lower than the ex-ante determined value. The revised PDD in this regards and corresponding validation opinion on the corrections applied are being submitted separately. The verification team critically examined the applied corrections to registered PDD ex-ante values and its impact on the project implementation and finally concluded that this increase is not on account of the project design change.

## 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 households which are relevant for the project performance and the monitoring activities.

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 or any other scheme the monitoring is referring to.

**Hints for next periodic Verification:**

05 FARs need to be considered during the next monitoring period.



## 6. VERIFICATION AND CERTIFICATION STATEMENT

Impact Carbon has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 4th periodic verification of CPI for the project: *"Improved Cookstoves for Social Impact in Ugandan Communities (formerly "Efficient Cooking with Ugastoves")"*, with regard to the relevant requirements for GS project activities. The project reduces GHG emissions due to displacement of non-renewable cooking fuel by efficient improved cook stoves. This verification covers the period from 01/10/2017 – 30/09/2018 (including both days).

In the course of the verification, 03 Corrective Action Requests (CAR) and 04 Clarification Requests (CL) were raised and successfully closed. 10 FAR were raised in total including the FARs from last GS issuance review, last issuance report. Forward Action Request (FAR) raised during last verification CLOSED during this verification. 01 FAR need to be considered during the next monitoring period. The verification is based on the draft monitoring report, revised monitoring report, and the monitoring plan as set out in the registered PDD, the validation report, emission reduction calculation worksheet 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, i.e., Technologies and practices to displace decentralized thermal energy consumption, version 1.0.
- 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.

As the result of the 4<sup>th</sup> periodic verification of first renewable crediting period, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. The emission reductions are calculated in compliance with the monitoring plan and Gold Standard conservativeness principle. Furthermore, all parameters listed in the Sustainability monitoring plan are duly monitored and verified. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above-mentioned reporting period as follows:

Emission reductions: **769,535 tCO<sub>2</sub>e**

Delhi, 24/09/2019



Prakash Mishra

TÜV NORD JI/CDM Certification Program

Verification Team Leader

Essen, 24/09/2019



Rami, Kunal

TÜV NORD JI/CDM Certification Program

Final Approval

## 7. REFERENCES

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

Reference	Document
<b>Monitoring Report</b>	
<b>/MR/</b>	Monitoring report version 1.0 dated 04/15/2019 Monitoring report version 2.0 dated 06/10/2019 Monitoring report version 3.0 dated 06/25/2019 Monitoring report version 4.0 dated 09/03/2019 Monitoring report version 5.0 dated 23/03/2019
<b>ER spreadsheet</b>	
<b>/ER/</b>	MPIV ER spreadsheet version 1.0 dated 4/15/2019 MPIV ER spreadsheet version 2.0 dated 06/10/2019 MPIV ER spreadsheet version 3.0 dated 06/25/2019 MPIV ER spreadsheet version 3.0 dated 09/03/2019 MPIV ER spreadsheet version 4.0 dated 23/03/2019
<b>Surveys</b>	
<b>/SUR/</b>	Usage cum kitchen Survey along with sampling demonstration conducted in February, 2019
<b>/SALES REC/</b>	<ul style="list-style-type: none"> <li>Total Sales record of the improved cook stoves for the entire monitoring period 01/10/2017 to 30/09/2018</li> <li>Complete Sales database upto MP3</li> </ul>
<b>/SALES STATEMENT/</b>	Sales Statement issued by AES (dated 24 May 2019) and by EUF (dated 24 May 2019) confirming monthly sales during the monitoring period
<b>/RECEIPT/</b>	Sales receipts with unique ID number on it and confirming transfer of ownership of credits
<b>/CERTIFICATE/</b>	Warranty activation certificate by AES (dated 14 June 2019) and by EUF (dated 14 June 2019) against incentive mechanism
<b>/EUD/</b>	End user database
<b>/RANDOM/</b>	Online Random number snapshots for each vintage
<b>/GS MAIL/</b>	Email Clarification from GS dated 07 January 2019 regarding FARs (4 & 6) raised by GS related to KPT
<b>SDG Impact Indicators</b>	
<b>/ Air quality /</b>	Project Usage Survey

Reference	Document
<b>/Livelihood for poor/</b>	Project Usage Survey
<b>/Employment /</b>	<ul style="list-style-type: none"> <li>• Employment Records</li> <li>• Declaration on employment by AES (dated 14 June 2019) and by EUF (dated 14 June 2019) on number of employees</li> <li>• Salary Declaration letter by AES (dated 14 June 2019) and by EUF (dated 14 June 2019)</li> </ul>
<b>/Access to affordable and clean energy services/</b>	Project Usage Survey

**Table 7-2:** Background investigation and assessment documents

Reference	Document
<b>/CPM/</b>	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
<b>/DEFAULT fNRB/</b>	Approved Standardized Baseline ASB0002-2017
<b>/GS4GG TA/</b>	GS4GG Transition Annex AA
<b>/GSGWP/</b>	The Application of Global Warming Potentials for Gold Standard Project Activities
<b>/GS/</b>	GS4GG Requirements and Rules
<b>/GSM/</b>	Technologies and practices to displace decentralized thermal energy consumption, version 1.0 (TPDDTEC)
<b>/GSP/</b>	Gold Standard Passport Version 3.1 dated 2013-10-02
<b>/GIR/</b>	GS MPIII Issuance Review dated 10/07/2018
<b>/GSS/</b>	Guidelines for Sampling and Surveys for CDM Project Activities and Programme Of Activities, EB 69, Annex 5
<b>/GST/</b>	GS4GG Toolkit
<b>/IPCC/</b>	Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories: <ol style="list-style-type: none"> <li>1. Non-CO<sub>2</sub> Stationery Combustion</li> <li>2. Emissions from Livestock and Manure Management (Chapter 10)</li> </ol>

Reference	Document
	3. IPCC Second Assessment Report – Climate Change 1995: A Report of the Intergovernmental Panel on Climate Change
/PDD/	GS Revised Project Design Document dated 2014-03-03
/PS/	Project Standard Version 02
/SSS/	Standard for Sampling and Surveys for CDM Project Activities and Programme Of Activities, EB 69, Annex 4
/VAL/	Validation Report on Renewal of crediting period by Bureau Veritas, Version 1.1 dated 2014-03-02 (Report No. 01 997 9105066812-GS)
/VER/	<ul style="list-style-type: none"> <li>• Verification Report, Monitoring Report and ER spreadsheets for MPI under CPII</li> <li>• Verification Report, Monitoring Report and ER spreadsheets for MPII under CPII</li> </ul>
/VVS/	CDM Validation and Verification Standard (Version 02)

**Table 7-3:** Websites used

Reference	Link	Organisation
/dna-HP/	<a href="http://www.mwe.go.ug/">http://www.mwe.go.ug/</a>	DNA of Uganda
/dna-SP/	<a href="http://www.government.nl/ministries/ienm/organisation">http://www.government.nl/ministries/ienm/organisation</a>	DNA of Netherlands
/gs/	<a href="http://www.goldstandard.org/">http://www.goldstandard.org/</a>	Gold Standard
/unfccc/	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	UNFCCC
/ipcc/	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	IPCC publications
/ss/	<a href="http://www.raosoft.com/samplesize.html">http://www.raosoft.com/samplesize.html</a>	Raosoft

**Table 7-4:** List of interviewed persons

Reference	Mol1		Name	Organisation / Function
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Julie Brown	Country Uganda Director



/IM01/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Evan Haigler	CEO, Impact Carbon
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Katrina Kalcic	Country Office Advisor
//IM02/	T,E	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Rohit Lohia	Consultant (Climate Secure Services)
//IM02/	T,E	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Nihar	Associate Consultant (Climate Secure Services)
/IM03/	T	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Naiga	AES Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Nalunga Jaliah L	AES Employee
/IM03/	T	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Zuliaka	AES Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Alex	AES Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Shatilc	AES Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Namuga Zaam	EUf Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Klsawuh John	EUf Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Lule Denis	EUf Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Lugondamagi Benito	EUf Employee
/IM03/	T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Agaba Yusuf	EUf Employee
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Patrick Waweyo	CIRCODU Monitoring Team Member
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Michael Kanamura	CIRCODU Monitoring Team Member
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Janet Akello	CIRCODU Monitoring Team Member
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Busulwa Abdu	EUf Director
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Wamala Isma	AES Director (Operations)

/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Namusaba Annet (2 stoves, all in operation, all domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ssedijja Ruth (3 stove, 2 in operation, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Christine Wopukhula (1 stove, in operation, commercial)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Namilo Marriam (2 stove, 1 in operation, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ruth Nyirakindo (3 stove, in operation, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nabikolo Aida (1 stove, in operation, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Maukwa Alice (2 stoves, 1 in operation, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nabugo Zaitunni (1 stove, in operation, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ruyonga/Muhammad mutebi (4, all in use, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Hilda kabuye (1 stove, in use, domestic)	Cookstove end users
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Isa Sekiti (1 stove, in use domestic)	Cookstove end users

<sup>1)</sup> Means of Interview: (Telephone, **E**-Mail, **V**isit)

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

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

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"> <li>• Usage of standard software solutions (Spreadsheets)</li> <li>• Limited access to IT systems</li> <li>• Data protection procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Unintended change of spread sheet programming or data base entries</li> <li>• Problems caused by updating/upgrading or change of applied software</li> </ul>	<ul style="list-style-type: none"> <li>• Check of application of Management system procedures</li> </ul>	
<b>Other calculation parameters</b>				
<ul style="list-style-type: none"> <li>• Emission factors, oxidation factors, coefficients</li> </ul>	<ul style="list-style-type: none"> <li>• The values and data sources applied are defined in the PDD and monitoring plan</li> </ul>	<ul style="list-style-type: none"> <li>• Unintended or intended Modification of calculation parameters</li> <li>• Wrong application of values</li> <li>• Misinterpretations of the applied methodology and/ or the PDD</li> <li>• Missing update of applicable regulatory framework (e.g. IPCC values)</li> </ul>	<ul style="list-style-type: none"> <li>• Update-check of regulatory framework</li> <li>• Countercheck of the applied MP in the MR against the methodology and the PDD</li> </ul>	<ul style="list-style-type: none"> <li>• <b>See Table A-2</b></li> </ul>
<b>Calculation Methods</b>				

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"> <li>Applied formulae</li> <li>Miscalculation</li> <li>Mistakes in spread-sheet calculation</li> </ul>	<ul style="list-style-type: none"> <li>Advanced calculation and reporting tools</li> <li>A CDM coordinator is in charge of the CDM related calculations</li> <li>Usage of tested / counterchecked Excel spreadsheets</li> <li>Involvement of external consultants</li> </ul>	<ul style="list-style-type: none"> <li>The danger of miscalculation can only be minimized.</li> </ul>	<ul style="list-style-type: none"> <li>Countercheck on the basis of own calculation.</li> <li>Spread sheet walk-trough.</li> <li>Plausibility checks</li> <li>Check of plots</li> </ul>	<ul style="list-style-type: none"> <li><b>See Table A-2</b></li> </ul>
<b>Monitoring reporting</b>				
<ul style="list-style-type: none"> <li>Data transfer to the author of the monitoring report</li> <li>Data transfer to the monitoring report</li> <li>Unintended use of outdated versions</li> </ul>	<ul style="list-style-type: none"> <li>An experienced CDM consultant is responsible for monitoring reporting.</li> <li>CDM QMS procedures are defined</li> </ul>	<ul style="list-style-type: none"> <li>The danger of data transfer mistakes can only be minimized</li> <li>Inappropriate application of QMS procedures</li> </ul>	<ul style="list-style-type: none"> <li>Counter check with evidences provided.</li> <li>Audit of procedure application</li> </ul>	<ul style="list-style-type: none"> <li><b>See Table A-2</b></li> </ul>

**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.
<b>A. Description of the project activity</b>				
<b>A.1. Purpose and general description of the project activity</b> <i>Check if the MR includes the following:</i> <ul style="list-style-type: none"> <li>- Purpose of the PA and the measures taken to reduce GHG emissions</li> <li>- Brief description of the installed technology and equipment</li> <li>- Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc.)</li> <li>- Total emission reductions achieved in this monitoring period</li> </ul>	/PDD/ /MR/	<p>The verification team has checked section the MR and confirms that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Purpose of the PA and the measures taken to reduce GHG emissions</li> <li><input checked="" type="checkbox"/> Brief description of the installed technology and equipment</li> <li><input checked="" type="checkbox"/> Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc)</li> <li><input checked="" type="checkbox"/> Total emission reductions achieved in this monitoring period</li> </ul> <p>In this context no findings have been identified:</p>	OK	OK
<b>A.2. Location of project activity</b> <i>Check if the MR reflects correctly the following:</i> <ul style="list-style-type: none"> <li>- Host Party(ies)</li> <li>- Region / State / Province etc.</li> <li>- City / Town / Community etc.</li> </ul>	/MR/ /PDD/ /IM01/ /IM02/	<p>The verification team has checked the MR and confirms by means of comparison with the information given in the PDD and information gathered during the site visit that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Host Party(ies)</li> <li><input checked="" type="checkbox"/> Region / State / Province</li> <li><input checked="" type="checkbox"/> City / Town / Community</li> <li><input checked="" type="checkbox"/> Physical / Geographical location</li> </ul>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
- <i>Physical / geographical location (e.g. Latitude and Longitude)</i>		In this context no findings have been identified:		
<b>A.3. Parties and Project Participants</b> <i>Check if the MR includes all PPs:</i> <ul style="list-style-type: none"> <li>- <i>All PPs as displayed on the GS website</i></li> </ul>	/MR/ /gs/ /IM01/ /IM02/	The verification team has checked the MR as well as the GS website and confirms that: <input checked="" type="checkbox"/> all PPs as displayed on the project related GS website are correctly listed In this context no findings have been identified:	OK	OK
<b>A.4. Reference of applied methodology</b> <i>Check if the MR correctly describes / includes the following:</i> <ul style="list-style-type: none"> <li>- <i>Reference to the applicable version of the methodology</i></li> <li>- <i>Reference to the applicable version(s) of relevant methodological tools</i></li> </ul>	/MR/ /PDD/ /gs/	The verification team has checked the MR and confirms by means of comparison with the information given in the PDD and displayed on the UNFCCC/ GS website that the information provided is complete and correct with regards to the following: <input checked="" type="checkbox"/> Number, title and version of the applicable GSF Methodology <input checked="" type="checkbox"/> Name and version of applicable GSF methodological tools In this context no findings have been identified:	OK	OK
<b>A.5. Crediting period of project activity</b> <i>Check if the MR correctly includes the following:</i> <ul style="list-style-type: none"> <li>- <i>Start date of the crediting period.</i></li> <li>- <i>Length and type of the crediting period</i></li> </ul>	/PDD/ /MR/ /gs/	The verification team has checked the MR 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: <input checked="" type="checkbox"/> Start date of the crediting period. <input checked="" type="checkbox"/> Type and length of the crediting period In this context no findings have been identified:	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>A.6. Publication of the Verification Work Plan and monitoring report</b>	/gs/	The verification workplan has been uploaded to the GS Registry in before the site visit.	OK	OK
<b>B. Implementation of project activity</b>				
<b>B.1. Description of implemented registered project activity</b>  <i>Check if the MR correctly describes / includes the following:</i> <ul style="list-style-type: none"> <li>- Implementation status of the PA</li> <li>- Detailed description of installed technology(ies) / technical processes and equipment applied</li> </ul>	/MR/ /PDD/ /GSP/ /IM01/	<p>The verification team has checked the MR and confirms by means of comparison with the information given in the PDD and the GS Passport<sup>/GSP/</sup>, the project standard and information gathered during the site visit that:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> the description of the implementation status of the PA is in line with the applicable provisions of the GS4GG Requirements and Toolkit</li> <li><input type="checkbox"/> an appropriate description of the installed technology(ies), technical process and equipment has been included</li> </ul> <p>In this context following finding has been identified: Refer CARB1 raised.</p>	CAR.B4	OK
<b>B.1.1. Initial project implementation</b>  <i>Assess whether the project has been implemented and operated as per the registered PDD and are all physical features of the project in place?</i>  <i>Further focus on the potential phase wise implementation and check the reporting on the corresponding status and starting dates accordingly.</i>  <i>Check if the project is still in compliance with the applicability conditions of the methodology.</i>	/MR/ /PDD/ /IM01/	<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 PDD, the applicable GS4GG Requirements and Toolkit and information gathered during the site visit that:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> the project has been implemented and operated as per the registered PDD and the GS Passport and all physical features of the project are in place</li> <li><input checked="" type="checkbox"/> the project has been implemented phase wise and corresponding evidence has been provided</li> </ul>	OK	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"/> the project is still in compliance with the applied methodology In this context no findings have been identified:		
<b>B.1.2. Technical equipment changes</b> <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 PDD, MR and calculation spreadsheet are applied.</i> <i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i> <i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i>	/MR/ /PDD/ /GSP/ /GST/ /IM01/ /IM02/	The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the PDD, the applicable GS4GG Requirements and Toolkit and information gathered during the site visit and interviews that: <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 In this context no findings have been identified:	OK	OK
<b>B.1.3. Operation of the project activity</b> <i>Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.</i> <i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i> <i>In case of changes, check whether the project is still in line with the registered PDD and assure that these</i>	/MR/ /GSP/ /GST/ /PDD/	The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the PDD, the applicable GS4GG Requirements and Toolkit and information gathered during the site visit and interviews that: <input checked="" type="checkbox"/> no relevant operation modes of the project activity have been exchanged or modified during the monitoring period <input type="checkbox"/> the following changes have been adopted during the monitoring period, however the project is still in line with the registered PDD:	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>changes have been considered in the monitoring report and the emission reduction calculation.</i>				
<b>B.1.4. Incidents</b> <i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?</i> <i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i>	/MR/ /IM01/ IM02/	The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the PDD, the applicable GS4GG Requirements and Toolkit and information gathered during the site visit and interviews that: <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:	OK	OK
<b>B.1.5. Legislation</b> 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. Assess, in case of changes, whether consequences for the PA with regard to relevant GS requirements have been accounted for. In case of changes data sources shall be referenced.	/MR/ /IM01/ IM02/	The verification team has checked the host country legislation and confirms by means of comparison with the implemented project that: <input checked="" type="checkbox"/> no relevant legislation with effect on the project activity in the host country has been changed In this context no findings have been identified.	OK	OK
<b>B.1.6. Open issues from GS validation</b>	/PDD/ /GSP/ /VAL/	<input 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.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Check (esp. in case of 1<sup>st</sup> periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i>		<input type="checkbox"/> The following issues related to the validation have not yet been appropriately addressed:		
<b>B.1.7. Open issues from previous verification</b>  <i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification reports (FAR).</i>	/VER/ /GSR/	<input 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. <input checked="" type="checkbox"/> The following issues related to the previous verification have not yet been appropriately addressed:  Refer closure of FAR <sub>GSreviewMPIII</sub> 1, FAR <sub>GSreviewMPIII</sub> 2, FAR <sub>GSreviewMPIII</sub> 3, FAR <sub>GSreviewMPIII</sub> 4, FAR <sub>GSreviewMPIII</sub> 5 and FAR <sub>GSreviewMPIII</sub> 6, FAR <sub>GSreviewMPIII</sub> 7, FAR <sub>IIlverif</sub> 1 to FAR <sub>IIlverif</sub> 2.	FAR <sub>GSreviewMPIII</sub> 1 to FAR <sub>GSreviewMPIII</sub> 7, FAR <sub>IIlverif</sub> 1 to FAR <sub>IIlverif</sub> 2	OK
<b>C. Description of monitoring system</b>				
<b>C.1. Monitoring Plan – PDD and GS Passport Compliance</b>  <i>Check if the monitoring plan is in accordance with the monitoring plan contained in the registered GS PDD (or any accepted revised MP).</i>  <i>Please check esp. if</i> <ul style="list-style-type: none"> <li>- all parameters stated in the MP of the registered PDD have been monitored and updated as applicable</li> <li>- the monitoring equipment has been controlled and calibrated as per the MP</li> </ul>	/MR/ /PDD/ /PDD/ /GSP/	By means of comparison of the MR with the registered / revised GS PDD (or any revisions thereof) the verification team has checked whether the MP is in compliance with the registered GS PDD and GS Passport. The outcome is as follows:  <input type="checkbox"/> The MP is completely in accordance with the last registered/ revised version of the PDD / MP / GS Passport.  In this context the below finding has been identified:  Refer CAR D1, CAR D2, CAR D3, CL E1, FAR <sub>GSreviewMPIII</sub> 1, FAR <sub>GSreviewMPIII</sub> 2, FAR <sub>GSreviewMPIII</sub> 3, FAR <sub>GSreviewMPIII</sub> 4, FAR <sub>GSreviewMPIII</sub> 5 and FAR <sub>GSreviewMPIII</sub> 6, FAR <sub>GSreviewMPIII</sub> 7.	CAR-D1, CAR-D2, CAR-D3, CL-E1, FAR <sub>GSreviewMPIII</sub> 1 to FAR <sub>GSreviewMPIII</sub> 7.	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.												
<div><div>- the monitoring results are consistently recorded as per the approved frequency</div><div>- QA/QC procedures have been applied in accordance with the MP</div></div>																
<div><div><b>C.2. Monitoring Plan – Meth Compliance</b></div><div>Check if the monitoring plan is in accordance with the applied methodology.</div><div>In case the methodology references applicable tools it has to be ensured that the MP is also compliant with those tools.</div><div>Also please specify if monitoring aspects have been identified that are not specified in the methodology but may enhance the level of accuracy and completeness of the monitoring plan – this esp. applies for SSC PAs.</div></div>	<div>/MR/ /VER/ /PDD/ /GST/ /AT/</div>	<div>By means of comparison of the MR with the applied Gold Standard 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:</div> <div><div><input checked="" type="checkbox"/> The MP is completely in accordance with the applied methodology by the GS project (last registered/ revised version of the GS PDD)</div><div><input checked="" 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:</div></div> <table><tr><td rowspan="2">1</td><td>Title (of the tool)</td><td>GS4GG Requirements and Toolkit</td></tr><tr><td>MP compliance</td><td><div><input checked="" type="checkbox"/>full compliance</div><div><input type="checkbox"/>findings have been raised</div><div><input type="checkbox"/>N/A (for MP)</div></td></tr><tr><td rowspan="3">2</td><td>Title (of the tool)</td><td>Tool for the demonstration and assessment of additionality</td></tr><tr><td>Version</td><td>6.1</td></tr><tr><td>MP compliance</td><td><div><input type="checkbox"/>full compliance</div></td></tr></table>	1	Title (of the tool)	GS4GG Requirements and Toolkit	MP compliance	<div><input checked="" type="checkbox"/>full compliance</div> <div><input type="checkbox"/>findings have been raised</div> <div><input type="checkbox"/>N/A (for MP)</div>	2	Title (of the tool)	Tool for the demonstration and assessment of additionality	Version	6.1	MP compliance	<div><input type="checkbox"/>full compliance</div>	OK	OK
1	Title (of the tool)	GS4GG Requirements and Toolkit														
	MP compliance	<div><input checked="" type="checkbox"/>full compliance</div> <div><input type="checkbox"/>findings have been raised</div> <div><input type="checkbox"/>N/A (for MP)</div>														
2	Title (of the tool)	Tool for the demonstration and assessment of additionality														
	Version	6.1														
	MP compliance	<div><input type="checkbox"/>full compliance</div>														

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.										
		<table><tr><td></td><td></td><td><input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP),</td></tr><tr><td rowspan="3">3</td><td>Title (of the tool)</td><td>NA</td></tr><tr><td>Version</td><td>-</td></tr><tr><td>MP compliance</td><td><input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)</td></tr></table> <p>In this context no findings have been identified:</p>			<input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP),	3	Title (of the tool)	NA	Version	-	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)		
		<input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP),												
3	Title (of the tool)	NA												
	Version	-												
	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)												
<b>C.3. Management System</b>  <i>Check if the GHG data monitoring system can be assessed as appropriate.</i>  <i>In case reference is made to a (certified) company quality management system, check if all GHG related monitoring procedures have been fully integrated in the project participant's quality management system.</i>  <i>In case of a stand-alone system, check how the GHG management system has been implemented and effectiveness is ensured.</i>	<div>/MR/ /GSP/ /PDD/ /VER/</div>	<p><i>Description:</i></p> <p>The monitoring system is described in Section C of the MR including monitoring and survey methods applied.</p> <div>1. Inconsistency in the reporting of survey report. 2. CAR D3, FAR<sup>GSreviewMPIII3</sup> and FAR<sup>GSreviewMPIII5</sup> are raised. FARs from last verification FAR<sup>IIverif2</sup>.</div> <p>A project database which is established and managed by the project management unit office in Hanoi.</p> <p><i>Verifier's action:</i></p> <p>The project database, survey procedures and forms have been reviewed by the verification team.</p> <p>The verification team as interviewed enumerators, to confirm the quality control and monitoring procedures are implemented appropriately.</p>	<div>CAR D3, FAR<sup>GSreviewMPIII3</sup>, wMPIII3, FAR<sup>GSreviewMPIII5</sup> and wMPIII5 and FAR<sup>IIverif2</sup>.</div>	<div>OK OK</div>										

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p><i>Conclusion:</i></p> <p>The management system was set up as a stand-alone system to monitor the biomass cookstoves program.</p> <p>Refer CAR D3, FAR<sub>GSreviewMPIII</sub>3 and FAR<sub>GSreviewMPIII</sub>5 are raised</p>		
<p><b>C.4. Roles and Responsibilities</b></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>In case of changes, assure that the implemented monitoring procedures have not been affected.</i></p>	<p>/MR/ /PDD/</p>	<p><i>Description:</i></p> <p>Section C described the monitoring system which includes monitoring methods applied for:</p> <ol style="list-style-type: none"> <li>1. Quality control measures</li> <li>2. Carbon monitoring survey</li> <li>3. Usage survey</li> </ol> <p><i>Verifier's action:</i></p> <p>Section C of MR was reviewed and the roles and responsibilities are not defined.</p> <p><i>Conclusion:</i></p> <p>No inconsistencies found.</p>	OK	OK
<p><b>C.5. Emergency procedures for the monitoring system</b></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>	<p>/MR/ /PDD/ /IM01/ /IM02/</p>	<p><i>Description:</i></p> <p>Emergency procedures are included in the MR.</p> <p><i>Verifier's action:</i></p> <p>The verification team has interviewed the representatives of Impact Carbon on how the emergency procedures are implemented for the program.</p> <p>Emergency procedures are implemented.</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>Conclusion:</i></p> <p>No inconsistencies found</p>		
<p><b>C.6. Data archive and data protection</b></p> <p><i>Check whether all records of monitoring parameters are archived according to the monitoring plan.</i></p> <p><i>Assess further whether appropriate measures have been taken in order to avoid unintended or intended manipulation or loss of the measured data.</i></p>	<p>/MR/ /PDD/ /IM01/ /IM02/</p>	<p><i>Description:</i></p> <p>Data archiving and data protection included in the MR.</p> <p><i>Verifier's action:</i></p> <p>Review of MR and cross-checked in server for data archiving and data protection.</p> <p><i>Conclusion:</i></p> <p>No inconsistencies found.</p>	OK	OK
<b>D. Data and parameters</b>				
<b>D.1. Data and Parameters fixed ex ante and ex post</b>				
<p><b>D.1.1. Compliance with registered PDD and the applied methodology (ex-ante)</b></p> <p><i>Check whether the value applied is in compliance with the registered PDD and the applied methodology or any other tool.</i></p>	<p>/MR/ /PDD/</p>	<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 PDD and the applied methodology or any other tool.</p> <p>In this context no findings have been identified.</p>	<p>FAP-1 Fullverif-1</p>	OK
<p><b>D.1.2. Compliance with registered PDD and the applied methodology (ex post)</b></p>	<p>/MR/ /PDD/</p>	<p>By means of comparison of the MR with the registered PDD (and the revision) the verification team confirms that:</p> <p><input checked="" type="checkbox"/> all ex post and parameters are in compliance with the registered PDD and the applied methodology or any other tool.</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>Check whether the value applied is in compliance with the registered PDD and the applied methodology or any other tool.</i>		In this context no findings have been identified:		
<b>D.2. Data and Parameters monitored for ER</b>				
<b>D.2.1. <math>P_{b,y}</math></b>		<b>Quantity of fuel (Charcoal) that is consumed in baseline scenario b during year y</b>		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</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 and the applied methodology.</i></p>	<p>/MR/ /PDD/ /ER/ /GSR/</p>	<p><i>Description:</i></p> <p>The data is applied to calculate the portion of biomass fuel consumption in the baseline scenario. The data is updated every two years based on the Baseline Field Tests. The applied value for the monitoring period is derived from the MP#3 Baseline KPT.</p> <p><i>Verifier's action:</i></p> <p>no action required</p> <p><i>Conclusion:</i></p> <p>Ok.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure</b></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>/MR/ /PDD/ /ER/ /GSR/ /IM01/ /IM02/</p>	<p><i>Description:</i></p> <p>The parameter is derived from the baseline study for MP#3.</p> <p>No instruments used to measure the data</p> <p><i>Verifier's action:</i></p> <p>no action required.</p> <p><i>Conclusion:</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.
<i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out by competent personnel.</i>		Ok.		
<b>c) Correctness</b> <i>Determine whether the 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 MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/MR/ /ER/ /PDD/ /GSR/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) <i>Description:</i> MP#3 data has been verified and approved in previous verification <i>Verifier's action:</i> no action required <i>Conclusion:</i> Parameter is monitored appropriately.	OK	OK
<b>D.2.2. P<sub>p,y</sub></b>		<b>Quantity of fuel that is consumed in project scenario b during year y</b>		
<b>a) Measurement / Determination method</b> <i>Describe how the monitoring parameter was measured / determined.</i> <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>	/MR/ /PDD/ /ER/ /GSR/	<i>Description:</i> The data is applied to calculate the biomass fuel consumption in the project scenario. The data is updated every two years based on the Project Field Tests. The applied value for the monitoring period is derived from the MP#3 Project KPT. <i>Verifier's action:</i> no action required <i>Conclusion:</i>	CAR D2	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 and the applied methodology.</i>		Ok..		
<b>b) Accuracy and QA/QC Procedure</b> <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> <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /PDD/ /ER/ /IM01/ /IM02/	<i>Description:</i> The parameter is derived from the Project study for MP#3. <i>Verifier's action:</i> no action required <i>Conclusion:</i> Ok.	OK	OK
<b>c) Correctness</b> <i>Determine whether the 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 MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/MR/ /ER/ /PDD/ /GSR/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) <i>Description:</i> MP#3 data has been verified and approved in previous verification <i>Verifier's action:</i> no action required <i>Conclusion:</i> Ok.	CARD2	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>D.2.3.</b> $U_{p,y}$		<b>Cumulative Usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by the usage surveys</b>		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</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 and the applied methodology.</i></p>	<p>/MR/ /PDD/ /ER/</p>	<p><i>Description:</i></p> <p>The data is updated every year based on the Usage Survey. The enumerators were interviewed during site visit to assess their understanding and competency for undertaking survey.</p> <p>The submitted MR does not demonstrate transparent application of below requirement.</p> <p>FAR<sub>GSreviewMPIII2</sub>- compliance to the GS cookstove usage rate guidelines</p> <p>FAR<sub>GSreviewMPIII3</sub>- inclusion of the unique identification number in submitted sheet.</p> <p>FAR<sub>GSreviewMPIII5</sub>- end user information as per methodology requirements.</p> <p>FAR<sub>IIIverif2</sub>- inclusion of randomly generated sample numbers.</p> <p><i>Verifier's action:</i></p> <p>The onsite interviews, review of data base and Usage Survey was undertaken.</p> <p><i>Conclusion:</i></p> <p>It is not established that the parameter is monitored in accordance to the GS registered PDD.</p> <p>Please refer FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>IIIverif2</sub>.</p>	<p>FAR<sub>GSreviewMPIII2</sub>, wMPIII2, FAR<sub>GSreviewMPIII3</sub>, wMPIII3, FAR<sub>GSreviewMPIII5</sub> and wMPIII5 and FAR<sub>IIIverif2</sub></p>	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><b>b) Accuracy and QA/QC Procedure</b></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 by competent personnel.</i></p>	<p>/MR/ /PDD/ /ER/ /IM01/ /IM02/</p>	<p><i>Description:</i></p> <p>The parameter is derived from the Usage Survey. So the findings applicable to usage survey needs to be compiled.</p> <p><i>Verifier's action:</i></p> <p>The value applied will be cross-checked with GS registered PDD and ER calculation when Usage Survey is received.</p> <p>QA/QC procedure is implemented. Project personnel and consultants were interviewed.</p> <p><i>Conclusion:</i></p> <p>Please refer FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>IIlverif2</sub></p>	<p>FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>IIlverif2</sub></p>	OK
<p><b>c) Correctness</b></p> <p><i>Determine whether the 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 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>	<p>/MR/ /ER/ /PDD/</p>	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>Please refer already raised FARS- FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>IIlverif2</sub></p> <p><i>Verifier's action:</i></p> <p>The data applied in ER calculations has cross-checked with credible references as well as the requirement of the FARS raised during last verification.</p> <p><i>Conclusion:</i></p> <p>Please refer FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>IIlverif2</sub>.</p>	<p>FAR<sub>GSreviewMPIII2</sub>, FAR<sub>GSreviewMPIII3</sub>, FAR<sub>GSreviewMPIII5</sub> and FAR<sub>IIlverif2</sub></p>	OK
<b>D.2.4. N<sub>p,y</sub></b>		<b>Technologies in the project database for project scenario p through monitoring period</b>		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</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 and the applied methodology.</i></p>	<p>/MR/ /PDD/ /ER/</p>	<p><i>Description:</i></p> <p>The data is updated continuously. Inconsistency was identified between the value reported. CAR E1 has been raised by the Verification Team.</p> <p><i>Verifier's action:</i></p> <p>The onsite interviews, review of data base and Total Sales Records was requested.</p> <p><i>Conclusion:</i></p> <p>It is not established that the parameter is monitored in accordance to the GS registered PDD. CAR E1 has been raised.</p>	CAR E1	OK
<p><b>b) Accuracy and QA/QC Procedure</b></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 by competent personnel.</i></p>	<p>/MR/ /PDD/ /ER/ /IM01/ /IM02/</p>	<p><i>Description:</i></p> <p>The parameter is derived from the Total Sales Records.</p> <p><i>Verifier's action:</i></p> <p>The value applied will be cross-checked with GS registered PDD and ER calculation when Total Sales Records is received.</p> <p>QA/QC procedure is implemented. Project personnel and consultants were interviewed.</p> <p><i>Conclusion:</i></p> <p>The data applied could not be verified with the Total Sales Records as the same is not submitted.</p>	OK	OK
<p><b>c) Correctness</b></p>	<p>/MR/ /ER/</p>	<p><input type="checkbox"/> Correct      <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p>	CAR E1	OK

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 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 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>	/PDD/	<p>The value applied cannot be traced, thus correctness cannot be confirmed.</p> <p><i>Verifier's action:</i></p> <p>The data applied in ER calculations cannot be cross-checked with credible references</p> <p><i>Conclusion:</i></p> <p>Please refer CAR E1.</p>		
<b>D.2.5. LE<sub>p,y</sub></b>		<b>Leakage in project scenario p during year y</b>		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</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 and the applied methodology.</i></p>	<p>/MR/</p> <p>/PDD/</p> <p>/ER/</p>	<p><i>Description:</i></p> <p>As per the Assessment of Verification Team, no leakage emissions are applicable.</p> <p><i>Verifier's action:</i></p> <p>Further actions are not necessary as leakage emissions are not applicable.</p> <p><i>Conclusion:</i></p> <p>No leakage emissions are applicable.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure</b></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</i></p>	<p>/MR/</p> <p>/PDD/</p> <p>/ER/</p>	NA. Please refer above assessments.	NA	NA



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>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 by competent personnel.</i></p>	<p>/IM01/ /IM02/</p>			
<p><b>c) Correctness</b></p> <p><i>Determine whether the 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 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>	<p>/MR/ /ER/ /PDD/</p>	<p>NA. Please refer above assessments.</p>	<p>NA</p>	<p>NA</p>
<p><b>D.2.6. Implementation of baseline stove disposal incentive or education campaign</b></p>		<p><b>Proportion of project end users that are reached through the incentive mechanism or education campaign to discourage old stove disposal</b></p>		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</i></p>	<p>/MR/ /PDD/ /ER/</p>	<p><i>Description:</i></p> <p>The parameter is not traceable in the “Project Monitoring Survey”. CAR D1, FAR<sub>GSreviewMPIII</sub>1, FAR<sub>GSreviewMPIII</sub>4 and FAR<sub>GSreviewMPIII</sub>6. has been raised.</p>	<p>CAR-D1, FAR<sub>GSreviewMPIII</sub>1, FAR<sub>GSreviewMPIII</sub>4 and FAR<sub>GSreviewMPIII</sub>6</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>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 and the applied methodology.</i></p>		<p><i>Verifier's action:</i></p> <p>The onsite interviews, review of data base and Project monitoring survey were requested.</p> <p><i>Conclusion:</i></p> <p>It is not established that the parameter is monitored in accordance to the GS registered PDD. CAR D1, FAR<sub>GSreview</sub>MP<sub>III</sub>1, FAR<sub>GSreview</sub>MP<sub>III</sub>4 and FAR<sub>GSreview</sub>MP<sub>III</sub>6. has been raised.</p>	FAR <sub>GSreview</sub> MP <sub>III</sub> 6	
<p><b>b) Accuracy and QA/QC Procedure</b></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 by competent personnel.</i></p>	<p>/MR/</p> <p>/PDD/</p> <p>/ER/</p> <p>/IM01/</p> <p>/IM02/</p>	<p><i>Description:</i></p> <p>The parameter is derived from the Project Monitoring Survey.</p> <p><i>Verifier's action:</i></p> <p>The value applied will be cross-checked with GS registered PDD and ER calculation when Project Monitoring Survey is received.</p> <p>QA/QC procedure is implemented. Project personnel and consultants were interviewed.</p> <p><i>Conclusion:</i></p> <p>The data applied could not be verified with the Project Monitoring Survey as the same is not submitted.</p>	OK	OK
<p><b>c) Correctness</b></p> <p><i>Determine whether the 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 MP detailed assessment</i></p>	<p>/MR/</p> <p>/ER/</p> <p>/PDD/</p>	<p><input type="checkbox"/> Correct      <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value applied cannot be traced, thus correctness cannot be confirmed.</p> <p><i>Verifier's action:</i></p>	CAR D1, FAR <sub>GSreview</sub> MP <sub>III</sub> 1, FAR <sub>GSreview</sub> MP <sub>III</sub> 4 and FAR <sub>GSreview</sub> MP <sub>III</sub> 6	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>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>		<p>The data applied in ER calculations cannot be cross-checked with credible references</p> <p><i>Conclusion:</i></p> <p>Please refer CAR D1, FAR<sub>GSreviewMPIII</sub>1, FAR<sub>GSreviewMPIII</sub>4 and FAR<sub>GSreviewMPIII</sub>6.</p>		
<b>D.2.7. Person-meals/HH-day</b>		<b>Average number of person meal in a single household in one day</b>		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</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 and the applied methodology.</i></p>	<p>/MR/</p> <p>/PDD/</p> <p>/ER/</p>	<p><i>Description:</i></p> <p>The data is updated once in two years based on the Project FT. The value reported in MR and the ER worksheet is based on data established in MP#3</p> <p><i>Verifier's action:</i></p> <p>no action required</p> <p><i>Conclusion:</i></p> <p>Ok.</p>	Ok	OK
<p><b>b) Accuracy and QA/QC Procedure</b></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>	<p>/MR/</p> <p>/PDD/</p> <p>/ER/</p> <p>/IM01/</p> <p>/IM02/</p>	<p><i>Description:</i></p> <p>The parameter is derived from the Project FT Records in MP#3.</p> <p><i>Verifier's action:</i></p> <p>no action required</p> <p><i>Conclusion:</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 by competent personnel.</i></p>		Ok.		
<p><b>c) Correctness</b></p> <p><i>Determine whether the 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 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>	<p>/MR/ /ER/ /PDD/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value applied has been verified and approved in previous MP.</p> <p><i>Verifier's action:</i></p> <p>no action required</p> <p><i>Conclusion:</i></p> <p>Ok.</p>	Ok	OK
<b>D.2.8. Multi-ICS Usage</b>		<b>Number of stoves per user</b>		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</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>/MR/ /PDD/ /ER/</p>	<p><i>Description:</i></p> <p>The data is updated once a year based on the Usage Survey. The value reported in MR and the ER worksheet was not backed by credible reference (Usage Survey) was requested by the Verification Team. CAR D3, CAR E1 and CL D1 has been raised by the Verification Team.</p> <p><i>Verifier's action:</i></p>	CAR D3, CAR E1 and CL D1	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 and the applied methodology.</i>		<p>The onsite interviews, review of data base and Usage Survey was requested.</p> <p><i>Conclusion:</i></p> <p>It is not established that the parameter is monitored in accordance to the GS registered PDD. CAR D3, CAR E1 and CL D1 has been raised.</p>		
<p><b>b) Accuracy and QA/QC Procedure</b></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 by competent personnel.</i></p>	<p>/MR/ /PDD/ /ER/ /IM01/ /IM02/</p>	<p><i>Description:</i></p> <p>The parameter is derived from the Usage Survey.</p> <p><i>Verifier's action:</i></p> <p>The value applied will be cross-checked with GS registered PDD and ER calculation when Usage Survey is received.</p> <p>QA/QC procedure is implemented. Project personnel and consultants were interviewed.</p> <p><i>Conclusion:</i></p> <p>The data applied could not be verified with the Usage Survey as the same is not submitted.</p>	CAR-D3, CAR-E4 and CL-D4	OK
<p><b>c) Correctness</b></p> <p><i>Determine whether the 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 MP detailed assessment</i></p>	<p>/MR/ /ER/ /PDD/</p>	<p><input type="checkbox"/> Correct      <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value applied cannot be traced, thus correctness cannot be confirmed.</p> <p><i>Verifier's action:</i></p> <p>The data applied in ER calculations cannot be cross-checked with credible references</p>	CAR-D3, CAR-E4, CL-D4	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		<i>Conclusion:</i> Please refer CAR D3, CAR E1 and CL D1.		
<b>D.3. Parameters monitored for Sustainability Development</b>				
<b>D.3.1. No.1</b>		AQ <sub>HH</sub> - Air Quality in project households/institutions		
<b>a) Measurement / Determination method</b> <i>Describe how the monitoring parameter was measured / determined.</i> <i>Assess whether the measurement / determination method is in line with the registered passport, applied toolkit and PDD.</i>	/MR/ /PDD/ /AIR QUALITY /	<i>Description:</i> The chosen parameter for this indicator is the reduction of fuel consumption using firewood and agricultural residues and also smoke. The data was based on the Project survey results conducted. <i>Verifier's action:</i> The verification team has checked the survey data and cross-checked with data applied in ER spreadsheet <i>Conclusion:</i> The monitoring of this SD indicator is in accordance with the GS Passport.	OK	OK
<b>b) Correctness and Scoring</b> <i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i>	/MR/ /PDD/ /AIR QUALITY /	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) <i>Description:</i> No supportive document is submitted, assessment is pending. <i>Verifier's action:</i>	CAR D4	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 conservative approaches used in lieu of the monitoring as per registered passport 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>		<p>The supportive documents are requested</p> <p><i>Conclusion:</i></p> <p>The data of the survey is requested. Refer CAR D1.</p>		
<b>D.3.2. No. 2</b>		ABS <sub>HH</sub> - Access to basic service to households/institutions		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered passport, applied toolkit and PDD. .</i></p>	<p>/MR/ /PDD/ / Livelihood for poor /</p>	<p><i>Description:</i></p> <p>The data was based on the Project survey results conducted. However the project survey is not submitted to the Verification Team.</p> <p><i>Verifier's action:</i></p> <p>The verification team has checked the survey data and cross-checked with data applied in ER spreadsheet</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS Passport.</p>	CAR D1	OK
<p><b>b) Correctness and Scoring</b></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 passport detailed</i></p>	<p>/MR/ /PDD/ / Livelihood for poor</p>	<p><input type="checkbox"/> Correct      <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>No supportive document is submitted, assessment is pending.</p> <p><i>Verifier's action:</i></p> <p>The supportive documents are requested</p>	CAR D1	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>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>	/	<p><i>Conclusion:</i></p> <p>The data of the survey is requested. Refer CAR D1.</p>		
<b>D.3.3. No. 3</b>		QE IG - Quantitative Employment and income generation		
<p><b>a) Measurement / Determination method</b></p> <p><i>Describe how the monitoring parameter was measured / determined.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered passport, applied toolkit and PDD. .</i></p>	<p>/MR/ /PDD/ / Employment /</p>	<p><i>Description:</i></p> <p>The data was based on the employment records and site visit interviews. The Verification Team also assessed the Undertaking on the Employment Declaration.</p> <p><i>Verifier's action:</i></p> <p>The verification team has checked the employment records, undertook interviews,</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS Passport.</p>	OK	OK
<p><b>b) Correctness and Scoring</b></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 passport detailed assessment of the conservativeness of the approach used should be given.</i></p>	<p>/MR/ /PDD/ / Employment /</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>Necessary supportive documents are submitted, which confirm improvement in the employment. The remuneration standards are in line with the industry.</p> <p><i>Verifier's action:</i></p> <p>The supportive documents are reviewed</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
Score in accordance to Toolkit Annex I  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.		Conclusion:  The monitoring of this SD indicator is in accordance with the GS Passport and the impact is evaluated as positive.  The score for this parameter for the current monitoring period is positive (+).		
<b>D.3.4. No. 4 -</b>		AACS <sub>HH</sub> - Number of households and institutions having access to affordable, reliable and modern project ICS.		
<b>a) Measurement / Determination method</b>  Describe how the monitoring parameter was measured / determined.  Assess whether the measurement / determination method is in line with the registered passport, applied toolkit and PDD. .	/MR/  /PDD/  / Access to affordable and clean energy services /	Description:  The data was based on the Project survey results conducted.  Verifier's action:  The verification team has checked the survey data and cross-checked with data applied in ER spreadsheet  Conclusion:  The monitoring of this SD indicator is in accordance with the GS Passport.	OK	OK
<b>b) Correctness and Scoring</b>  Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.  In case of conservative approaches used in lieu of the monitoring as per registered passport detailed	/MR/  /PDD/  / Access to affordable and clean	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)  Description:  Supportive documents are assessed onsite.  Verifier's action:  The supportive documents are assessed.	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>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>	energy services /	<p><i>Conclusion:</i></p> <p>The data of the survey is verified. Please refer above assessment.</p>		
<b>D.4. Sampling</b>				
<p><b>a) Implementation of sampling plan</b></p> <p><i>Check whether the PP has applied a sampling approach to determine the monitored values (as per section D.2 above).</i></p> <p><i>If this is the case, please provide an assessment whether the PPs have correctly and sufficiently described the implemented sampling plan including</i></p> <ul style="list-style-type: none"> <li><i>- Description of the implemented sampling design</i></li> <li><i>- Collected data</i></li> <li><i>- Analysis of collected data</i></li> <li><i>- Demonstration on whether the required confidence/precision has been met.</i></li> </ul>	<p>/MR/ /GSP/ /PDD/ /BUS/ /SSS/ /GSS/</p>	<p><input checked="" type="checkbox"/> A sampling approach has been taken by the PP due to large number of implemented cookstoves/ICS.</p> <p><i>Description:</i></p> <p>The PP has conducted sampling, but its substantiation and appropriate application is not established. Please refer CAR D2</p> <p><i>Verifier's action:</i></p> <p>The survey records are not submitted, thus FAR<sub>Illverif2</sub> has been raised.</p> <p><i>Conclusion:</i></p> <p>CAR D2 has been raised by the Verification Team.</p>	FAR <sub>Illverif2</sub>	OK
<p><b>b) Sampling during verification</b></p> <p><i>In case the VT has applied a sampling approach in the course of the verification the approach shall be described for each parameter.</i></p>	<p>/MR/ /GSP/ /PDD/</p>	<p><input checked="" type="checkbox"/> A sampling approach has been applied by the VT for selected the household for the field inspection and interview.</p> <p><i>Description:</i></p>	GL-D2	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>According to GS recommendation, the sampling plan of 90/30 a sample size of 308 households is sufficient to ensure the number of households interviewed is representative.</p> <p>However, in absence of submitted survey and test results, the same will be undertaken upon submission of Data. Please refer CL D2.</p>		
<b>E. Calculation of Emission reductions</b>				
<b>E.1. Traceability</b> <i>Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spreadsheet shall be used. All applied formulae must be visible.</i>	/MR/ /ER/	<p>The verification team has checked the emission reduction calculation and confirms that:</p> <p><input checked="" type="checkbox"/> the calculation is fully traceable</p> <p><input type="checkbox"/> all applied formulae are visible</p>	OK	OK
<b>E.2. Parameter consistency</b> <i>Assess whether all internal and external parameters and data used for calculation are applied consistently in the monitoring report and the calculation spreadsheet?</i>  <i>Consider only the correct data exchange between the monitoring report and the calculation spreadsheet (if any). Further ensure the consistency of notations for all parameters in the PDD, MR and calculation spreadsheet.</i>	/MR/ /ER/	<p>The verification team has checked the emission reduction calculation and the MR and confirms that:</p> <p><input type="checkbox"/> all parameter notations are consistent in the project documentation</p> <p><input checked="" type="checkbox"/> all internal and external parameters and data used for calculation are consistently applied</p> <p>In this context no findings have been identified:</p> <p>CAR D1, CAR D2, CL 1 and CL2 is raised as parameter “Implementation of baseline stove disposal incentive or education campaign”</p>	CL D1, CL D2	OK
<b>E.3. Correctness of calculation</b> <i>Check if the applied formulae and methods for calculating baseline emissions, project emissions and</i>	/MR/ /PDD/	<p>The verification team has checked the emission reduction calculation and the MR and confirms that:</p>	CAR D1, CAR D2, CL E1.	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>leakage are in accordance with the monitoring plan and / or the approved methodology.</i></p> <p><i>Assess whether the provided calculations are complete and reflect all requirements of the monitoring plan.</i></p> <p><i>Check especially that no standard or old values have been used for calculation where calculations based on up-to-date data is required.</i></p>	/ER/	<p><input checked="" type="checkbox"/> all applied formulae for calculating baseline emissions, project emissions and leakage are in accordance with the monitoring plan</p> <p><input type="checkbox"/> the provided calculations are complete</p> <p>In this context the following findings have been identified: Refer CAR D1, CAR D2, CL E1 raised.</p>		
<p><b>E.4. Emission reductions table</b></p> <p><i>Check if the MR includes a summary table of the emission reductions calculation specifying separately</i></p> <ul style="list-style-type: none"> <li>- Total baseline emissions</li> <li>- Total project emissions:</li> <li>- Total leakage</li> <li>- Total emission reductions.</li> </ul> <p><i>Assess whether the values are correct or need to be revised as a consequence of issues identified above.</i></p>	/MR/ /ER/	<p><input checked="" type="checkbox"/> The MR includes a summary table of the emission reductions calculation.</p> <p><input checked="" type="checkbox"/> The summary table specified the total baseline, project and leakage emissions as well as the total emission reductions separately.</p> <p><input checked="" type="checkbox"/> The values as specified in the ER summary table are correct; no issues have been identified during the verification which require changes in the ER calculation.</p> <p><input checked="" type="checkbox"/> During the verification issues with impact on the ER calculation have been identified. Thus subject to the closure of above listed findings the summary needs to be revised.</p> <p>In this context no additional findings have been identified:</p>	OK	OK
<p><b>E.5. Comparison with ex-ante determined emission reductions</b></p> <p><i>Check if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered PDD.</i></p>	/MR/ /ER/ /PDD/	<p>The verification team has checked the MR and confirms that:</p> <p><input checked="" type="checkbox"/> the MR includes a comparison of actual emission reductions with the estimations of the registered PDD</p> <p><input type="checkbox"/> the increase has been appropriately explained</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>Check further whether in case of an increase an appropriate explanation is included in the MR.</i> <i>Assess in case of a significant increase whether this is due to technical or organisational changes within or outside the control of the PP which might require a notification / approval of changes.</i>		In this context the following additional findings have been identified:		

## 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

**Mr. Prakash Kumar Mishra**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2020-12-17
	Technical Reviewer	
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2020-12-17

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand

146 - Rev. 6, Date: 2018-11-21

146\_001-VA000-F20\_2018-11-21\_rev6.doc

001-VA000-F20 rev3 / 2019-10-25



### 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)	2021-10-20
	Technical Reviewer	
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2021-10-20

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 7, Date: 2018-10-19

251\_001-VA000-F20\_2018-10-19\_rev7.doc

001-VA000-F20 rev3 / 2019-10-25



### Statement of Competence

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

**Mr. Kunal Rami**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2020-03-26
	Technical Reviewer	
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2020-03-26

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
6.1	Construction
13.1	Solid waste and wastewater

224 - Rev. 6, Date: 2017-03-27

224\_001-VA000-F20\_2017-03-27\_rev6.doc

001-VA000-F20 rev3 / 2019-10-25