



GOLD STANDARD VERIFICATION REPORT

– 3RD PERIODIC VERIFICATION –

HESTIAN INNOVATION LTD.

INTEGRATED BIOMASS ENERGY CONSERVATION
PROJECT, MALAWI

GS REF. No: GS 613

Monitoring Period: 2011-10-02 to 2012-10-01
(incl. both days)

Report No: 13GS010012

Date: 2013-07-02

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Verification Report:	Report No.	Rev. No.	Date of 1st issue:	Date of this rev.
	13GS010012	0	2013-07-02	2013-07-02
Project:	Title:	Registration date:	GS-No.:	
	Integrated Biomass Energy Conservation Project, Malawi	2010-10-01	GS 613	
	Non Annex 1 Country:	Annex 1 Country:		
	Malawi			
Project Participant(s):	PP from Non-Annex 1 Country:	PP from Non-Annex 1 Country:		
	Hestian Innovation Ltd.			
Applied methodology/ies:	Title:	No.:	Scope:	
	“Technologies and practices to displace decentralised thermal energy consumption”	Version 01	3	
Monitoring:	Monitoring period (MP):	No. of days:	MP No.	
	2011-10-02 to 2012-10-01 - both days included	365	3	
Monitoring report:	Title:	Draft version:	Final version:	
	Integrated Biomass Energy Conservation Project, Malawi	01	05	
Verification team / Technical Review and Final Approval	Verification Team:	Technical review:	Final approval:	
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Summary of Verification Opinion:	Hestian Innovation Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 3rd periodic verification of the project: “Integrated Biomass Energy Conservation Project, Malawi”, with regard to the relevant Gold Standard requirements. 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 and Gold Standard additional Annexes to the project design document, ☒ the monitoring plan is in accordance with the applied methodology GS methodology, ☒ the monitoring plan as set out in the validated project design document and the validated additional Annexes has been followed, ☒ the project contributes to sustainability development ☒ the monitoring system is in place and functional. The project has generated GHG emission reductions, and ☒ the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:			
Emission reductions: [t CO_{2e}]	Verified amount		As per PDD:	
	77,610 t CO _{2e}		77,630 t CO ₂	
Document information:	Filename:		No. of pages:	
	2013-07-02_FValReport_Malawi		113	

Abbreviations:

CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO₂	Carbon dioxide
CO_{2eq}	Carbon dioxide equivalent
CL	Clarification Request
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GS	Gold Standard
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
SD	Suppressed Demand
UNFCCC	United Nations Framework Convention on Climate Change
XLS	Emission Reduction Calculation Spread Sheet
TN CERT	TÜV NORD Certification GmbH
GST	Gold Standard Toolkit (GSv2.1)
GSP	Gold Standard Passport

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1. INTRODUCTION

Hestian Innovation Ltd. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 3rd periodic verification of the project

"Integrated Biomass Energy Conservation Project, Malawi"

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 GS project number GS 613.

GHG data for the monitoring period covering 2011-10-02 to 2012-10-01 was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verification Standard ^{/VVS/} of the UNFCCC as well as the Gold Standard Validation and Verification Manual for Voluntary Offset Projects ^{/GS-VVM/}.

This report summarizes the findings and conclusions of this 3rd periodic verification of the above mentioned GS registered project activity.

1.1. Objective

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

- implementation and operation of the project activity as given in the PDD and GS Passport,
- compliance with applied approved methodology and the provisions of the monitoring plan,
- data given in the monitoring report by checking the monitoring records, the emissions reduction calculation and supporting evidence,
- accuracy of the monitoring equipment,
- quality of evidence,
- significance of reporting risks and risks of material misstatements.

1.2. Scope

The verification of this registered project is based on the validated project design document ^{/PDD/}, the GS approved post-registration design change GS 613 PDD version 6 ^{/PDD06/}, the monitoring report ^{/MR/}, emission reduction calculation spreadsheet ^{/XL-summary/}, the registered GS validation report ^{/VAL/}, 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 ^{/KP/},
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 ^{/MA/}, and subsequent decisions made by the Executive Board and COP/MOP,
- other relevant rules, including the host country legislation,
- CDM Validation and Verification Standard ^{/VVS/},
- Gold Standard Version 2.1 ^{/GS/}
- Monitoring plan as given in the registered GS-VER-PDD ^{/PDD06/},
- Approved Gold standard methodology i.e. *Gold Standard Technologies and Practices to Displace Decentralised Thermal Energy Consumption – 11/04/2011* ^{/METH/}.
- Gold Standard Passport ^{/GSPP/}
-

2. GHG PROJECT DESCRIPTION

2.1. Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data
Project title	Integrated Biomass Energy Conservation Project, Malawi
Project size	☐ Large Scale ☒ Small Scale
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	☐ 1 Energy Industries (renewable- /non-renewable sources)
	☐ 2 Energy distribution
	☒ 3 Energy demand
	☐ 4 Manufacturing industries
	☐ 5 Chemical industry
	☐ 6 Construction
	☐ 7 Transport
	☐ 8 Mining/Mineral production
	☐ 9 Metal production
	☐ 10 Fugitive emissions from fuels (solid, oil and gas)
	☐ 11 Fugitive emissions from production and consumption of halocarbons and hexafluoride
	☐ 12 Solvents use
	☐ 13 Waste handling and disposal
	☐ 14 Afforestation and Reforestation
	☐ 15 Agriculture
Applied Methodology	<i>Technologies and Practices to Displace Decentralised Thermal Energy Consumption – 11/04/2011</i>
Technical Area(s)	3: 3.1
GS registration No.	GS 613
Crediting period	☒ Renewable Crediting Period (7 y) ☐ Fixed Crediting Period (10 y)

2.2. Project Verification History

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

Table 2-2: Project verification history

#	Item	Time	Status
1	Date of registration	2010-10-01	<i>registered</i>
2	Start of crediting period	2008-11-24	As per GS website
3	Retroactive Monitoring period	2008-11-24 to 2010-10-01	issued
4	2 nd Monitoring period	2010-10-02 to 2011-10-01	issued
5	3 rd Monitoring period	2011-10-02 to 2012-10-01	On-going

2.3. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-3).

Table 2-3: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Malawi	Hestian Innovation Ltd.
Other involved party/ies		

2.4. Project Location

The details of the project location are given in table 2-4:

Table 2-4: Project Location

No.	Project Location
Host Country	Malawi
Region:	Southern, Central and Northern Provinces
Project location address:	Lilongwe, Malawi

2.5. Technical Project Description

The key parameters for the project are given in table 2-5:

Table 2-5: Technical data of the plant

Parameter	Unit	Value
Stove types:	No.	
Fixed Esperanza Stove (FES)		2,386
Institutional cook stove (ICS)		31
Urban cook stove (UCS)		255
Portable ceramic stove (PCS)		14,623
Tobacco curing barn	No.	
Rocket Barn		952
Stove material		Steel and Ceramic Liner
Fuel		Fuel wood

This GS registered project reduces greenhouse emissions from non-renewable biomass fuel by dissemination of improved cook stoves and fuel efficient rocket barns to replace existing inefficient traditional 3 fire stone fireplace cooking and tobacco

curing barns in three regions of Malawi. The project involves the dissemination of four types of improved cook stoves namely:

- a. Portable ceramic stoves (PCS)
- b. Fixed esperanza stoves (FES)
- c. Institutional cook stoves (ICS)
- d. Urban cook stoves (UCS)

The project will also disseminate the rocket barn (RB), the improved tobacco curing barn.

While these stoves and rocket barns significantly reduce greenhouse gas emissions, they simultaneously provide co-benefits to users and families in the form of relief from high fuel costs, reduced exposure to health-damaging airborne pollutants, faster cooking (resulting in time-savings), and increased cleanliness in the kitchen. Finally, they curb deforestation by decreasing demand for fuelwood hence protection of water bodies and biodiversity.

3. METHODOLOGY AND VERIFICATION SEQUENCE

3.1. Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- A desk review of the Monitoring Report^{/MR/} submitted by the client and additional supporting documents
- 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.

The sequence of the verification is given in the table 3.1 below:

Table 3.1: Verification sequence

Topic	Time
Assignment of verification	2013-01-28
On-site visit	2013-02-06 to 2013-02-09
Draft reporting finalised	2013-02-22
Final reporting finalised	2013-07-01
Technical review finalised	2013-07-01

3.2. Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,

- Impartiality issues are clear and in line with the CDM accreditation requirements

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

3.3. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and 2 additional team members, was appointed. Furthermore also the personnel for observation, the technical review and the final approval was determined.

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

Table 3-1: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence	On-site visit
☒ Mr. ☐ Ms.	Walter, Ulrich	TÜV NORD CERT GmbH	TL ^{A)}	SA	☒	3.1	☒	☐	☒
☒ Mr. ☐ Ms.	Kochaniewicz, Grzegorz	TÜV NORD CERT GmbH	TM ^{A)}	LA	☒		☐	☐	☒
☐ Mr. ☒ Ms.	Milenge , Davinah	TÜV NORD CERT GmbH	ETE ^{A)}	TE	☐		☐	☐	☒
☒ Mr. ☐ Ms.	Lubanga, David	TÜV NORD CERT GmbH	OR ^{B)}	A	☒		☐	☐	-
☒ Mr. ☐ Ms.	Winter, Stefan	TÜV NORD CERT GmbH	TR/FA ^{B)}	SA	☒	3.1	☒	☐	-

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

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

³⁾ GHG auditor status (at least Assessor)

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

⁵⁾ In case of verification projects

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

^{B)} No team member

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

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

3.4. Publication of the Monitoring Report

The draft Gold Standard MR^{/MR/}, Monitoring Survey Report and Usage Survey Report^{/KS/}, as received from the project participants, has not been made publicly available in the Gold Standard website, as it is not required to publish the monitoring report under the current GS rules^{/GST/GSR/}.

3.5. 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</i>	<i>Despite the measures implemented in order to reduce the occurrence probability the following residual risks remain and have to be</i>	<i>The additional verification testing performed is described. Testing may include:</i> - Sample cross checking of manual transfers of data - Recalculation - Spreadsheet 'walk	<i>Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties are highlighted.</i>

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>corresponding risks.</i> <i>The following measures are implemented:</i>	<i>addressed in the course of every verification.</i>	<i>thoughts' to check links and equations</i> <i>- Inspection of calibration and maintenance records for key equipment</i> <i>- Check sampling analysis results</i> <i>Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.</i>	

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

Project specific periodic verification checklist

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

- It 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 GS verification is described in table 3-3.

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

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

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

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

3.6. 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 last revision of the PDD including the monitoring plan^{/PDD/}, the additional annexes to the PDD GS including the GS monitoring matrix.
- the last revision of the validation report^{/VAL/},
- the monitoring report, including the claimed emission reductions for the project^{/MR/},
- the emission reduction calculation spreadsheet
- The Verification Report for Monitoring period 2^{/MR2/}.
- The emission reduction calculation for Monitoring period 2^{/XLS2/}.

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

3.7. 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. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. 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 duly calibration of all metering equipment was checked.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data were checked completely.
- The data aggregation trails were checked via spot sample down to the level of the meter recordings.
- Checking for possibility of double counting and/or leakage.

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 Hestian Innovation Ltd including the operational staff of the local entity, Area 55 was 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. Projects & Operations Personnel	- General aspects of the project - Technical equipment and operation - Changes since validation - Monitoring and measurement equipment - Remaining issues from validation - Calibration procedures - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG emission reduction calculation - Procedural aspects of the verification

Interviewed Persons / Entities	Interview topics
	- Maintenance - Environmental aspect - Sustainability indicators - Data management - Traceability and integrity of data - Sampling approach - PFT Studies - ER calculations

3.8. 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 the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

3.9. Resolution of CARs, CLs and FARs

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

Corrective Action Requests (CARs) are issued, if:

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

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

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

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

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

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

3.10. Final reporting

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

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

3.11. Technical review

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

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

3.12. Final approval

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

After this step the verification team will submit 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^{/MR/}, the calculation spreadsheet^{/XLS/}, PDD^{/PDD/}, the Validation Report^{/VAL/} 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
H - Project history	4	0	0
U - Update on Changes and Incidents	1	3	0
R - Monitoring Report – General	1	3	0
P - Monitoring Parameters	4	1	1
C - Emission Reduction Calculation	2	1	0
Q - Quality Management	0	0	1
SDM – Sustainable Development Indicators	2		
SUM	10	12	2

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

Finding:	H1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please clarify how the FAR from previous verification was dealt with. FAR U3: Monitoring of usage rate for stove type UCS which was in its first year of deployment during this monitoring period.		

Finding:	H1
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Usage and monitoring surveys were conducted for the UCS in November and December, 2012 for stoves age 0-1, 1-2 and 2-3 to determine how many of the stoves of each age were still in use and to ensure that clusters remain representative. Results show that the stove has underperformed and usage after only 13 months is 67%. As a consequence, the stove will no longer be included with the GS613 technologies and, in the interest of being conservative; no emission reductions are being claimed for the UCS in MR3.
DOE Assessment #1 <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>	As consequence of low acceptance/usage rate of the UCS technology, PP chooses to remove the cook stove from project activity. No emissions reduction is claimed for the UCS cook stove. The FAR is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	H2
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please clarify how the FAR raised from previous verification was addressed. FAR C5: The monitoring arrangements of the replacement stove have to be improved.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Statistical analysis was conducted for a large sample (n=197) based on a survey conducted in February 2013, to determine the average lifespan of the Chitetezo Mbaula (i.e. PCS). The estimated value of average life-span of a PCS of 47 months per stove, based on the mean number of months when 50% of the original stoves are in use, will be used for MR3 and future monitoring reports, replacing the need for tracking of replacement stoves. This estimation, based on the data collected, is conservative as the usage rates are based on those at the lower end of 90% confidence interval. GS613, based on these findings, can conservatively estimate emission reductions during the life of a stove based on the estimated usage rates up to the average life-span of a stove. Once the stove reaches the age of 47 months, emission reductions will no longer be claimed for.

Finding:	H2
DOE Assessment #1 <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 data collected by verification team during onsite visit, suggest a shorter average technical life span of the cook stove than calculated by PP. In visited households estimated 50% of 2 years cook stoves were already replaced. The number on the cook stove was, after certain time of use, not readable. The time of replacement of cook stove was frequently not recorded. The calculation provided by PP is based on statistical survival function. The data was selected from subjective selected "representative" villages. Taking in to consideration the data surveyed by verification team and the model provided by PP a validity of the model based on simply random selection of households seems necessary. FAR Q1 has been raised.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	H3
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	PP shall explain how the FAR from previous verification was dealt with. FAR Q2: Troubleshooting procedures for ER accounting in cases of non-usage.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Annual usage surveys provide a value for the percentage of stoves in use at the time of survey, for stoves of different ages. For simplicity, the ERs claimed are the product of the total ERs generated and the usage percentage (among other variables) as in the equation below: $ER / year / hh (age x) = Usage rate x * (Baseline emission / hh * (1 - Efficiency of the baseline technology / Efficiency of the project technology in year x))$

Finding:	H3
DOE Assessment #1 <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 annual usage survey was conducted in 2013 and found consistent with findings during onsite visit. Annual usage rate applied to surveyed technical lifetime of the cook stoves represent accurate and conservative approach in the ER calculation. The FAR is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	H4
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please explain how the GS FAR from previous verification was dealt with. The PP shall carry out next periodic monitoring completely in line with the guidelines provided in the applied GS methodology 'Technologies and practices to displace decentralized thermal energy consumption'. For instance, the sales records for all the stoves/barns commissioned in the year 2011 were not included in the sales database provided, sample size requirements for usage surveys were not met completely, a single usage parameter that is weighted based on drop off rates of each cookstove age being credited was not established, etc. Hence, the PP shall take into account these shortcomings and ensure that the next periodic monitoring can be as clear and reproducible as possible.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Finding is noted. The omission of the sales data of 2011 from the sales database was a mistake and effort is being made to avoid such omissions in this and future monitoring reports. Sample sizes are being met in accordance with the methodology. Single usage weighted parameters are in place for each stove age-group. It is the intention of the PP to make the process as simple and reproducible as possible.

Finding:	H4
DOE Assessment #1 <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 corrections have been implemented. • The sells data base is consistent • The Sample size complies with the guidelines from applied methodology. • Single usage weighted parameter was calculated and applied in the calculation. • The transparency of the ER calculation was established.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	U1
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Clarify why there are no sales during this monitoring period.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Sales have been included for the PCS up to December 5, 2011 and are sufficient to meet GS613's small scale limit. Sales of FES and UCS, based on user feedback and results from the field, will no longer be included or claimed for in GS613. Zero sales were recorded for RB and UCS during MP3 as these sales will either be grouped into a new project or be included as necessary for MR4, with the understanding that the emission reductions those devices would have generated in monitoring period 3 cannot be claimed in monitoring period 4.
DOE Assessment #1 <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 is planning to start a new project(s) in the project area. New sells of the cook stoves will be included in the new projects. As the ER calculated from wood saving from cook stoves sold until 2011-12-05 are sufficient to reach the SSC limit of the project no cook stoves were added to the project. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	U2
Classification	☐ CAR ☒ CL ☐ FAR

Finding:	U2
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Clarify why no replacement stoves were reported during this monitoring period.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	An average lifespan for the stoves was derived by statistical analysis. This eliminates the need for the recording replacement stoves, please see H2.
DOE Assessment #1 <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 average technical lifetime of the PCS cook stove was calculated. The replacement of the non-functioning cook stoves is covered by this parameter. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	U3
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	During the onsite visit it was discussed the incentive of project owner to start new project in the same area using the same technology and the same production and distribution system. Clarification is sought in regards to: 1. Preventing of double counting, 2. Separation of different projects during data collection and 3. Ensuring unique identification of each project-stove in the field.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Each stove will continue to have a unique serial number and be managed in a central database. For example, if the total stoves produced and sold by all production groups are A, B, C, D, E and F, these will all be recorded in the master database. At the end of the monitoring period, stoves will be selected to meet the upper ceiling of emission reductions for the different projects/VPAs, and be placed into the different project databases. For example, GS613 may require stoves A, B, C and D to meet the upper ceiling so that these go to the GS613 database, and then stoves E and F would go to the new project / VPA database. The relevant project database will then be used for randomly selecting households for monitoring. Therefore, for GS613, stoves A, B, C and D would be randomly sampled for monitoring; while stoves E and F would be randomly sampled for monitoring for the new project.

DOE Assessment #1 <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>	As per PP explanation all cook stoves from different projects will be managed in one database and allocated to different small scale projects according to limit in ER. The project is a stand-alone small-scale project and the verification of the project must not be obligatory related to the verification of another stand-alone projects. The management of the verification of the different projects and the unique identification of the project cook stove in the field was not transparently elaborated. The finding remains open.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	All projects of the PP have individual serial numbers for the devices that are recorded in the project databases, and generate ERs. PP will use a single system to gather data on all of its projects (current and future) - just as the Gold Standard uses a single a database to keep track of over 800 projects. For the purpose of this verification, GS613 is the only project issuing VERs from Malawi, so as things stand there is no double counting issue in Malawi.
DOE Assessment #2 <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 crosschecked accounts by GS, VCS and CDM and concluded that there is no other project in project boundary at present. Therefore as the "Integrated Biomass Energy Conservation Project, Malawi" is the first project in the area no double counting occurs. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	U4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	During onsite visit survey of the cook stoves in the field a frequent problem with reading of serial numbers scratched on cook stove was identified.		

Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The current method of etching serial numbers into the stove body before firing is the most appropriate method for clay stoves and over time the number can fade with aging and continuous use. In the majority of cases, the household keeps their ER contract and this can instead be used to retrieve the serial number of the stove. However, it should be noted that serial numbers are not an explicit requirement of the Gold Standard and GS 613 if anything is under-reporting number of households, and all households reported can be uniquely identified through serial number on stove, serial number on ER contract, and referenced in sales database, and in most cases each household can be traced back to their address.
DOE Assessment #1 <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 GS Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) methodology allows PP to collect limited data in regards to sold devices (see Section III, chapter A). The collection of data for sold devices as well as unique identification of the devices are in line with the methodology. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	R1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Monitoring Report editorial issues: 1. Conflicting values for emission reductions for the monitoring period stated. 2. Information on devices sold (A.1.) contradicts that in verified MP2. 3. Monitoring period 3 is missing in the table in chapter A.1 part II of MR. 4. Monitoring periods of efficiency of aging stoves in table A.1. in part IV of MR seems to be not correct. 5. Monitoring report was based on CDM template but not always completed as per guideline for completeness of MR. 6. The information on party involved wishing to be considered as project participant in chapter 3 is not correct.		

Finding:	R1
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. This has been rectified. 2. Sales are as in the verified MR2V4. 3. This has been rectified. 4. Efficiencies have been adjusted based on statistical analysis. 5. This has been rectified. 6. This has been rectified.
DOE Assessment #1 <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>	1. Emissions reduction of 77,598 was consistently reported in current MP. OK 2. Sales record of cook stoves was corrected and is consistent with previous MP's. OK 3. Table in chapter A.1 in Part II of monitoring report was corrected. The sales in MP 3 were added. OK 4. Efficiencies of cook stoves surveyed via WBT were statistically adjusted and represent likely decrease of efficiency with the age of the cook stoves. OK 5. The monitoring report was corrected. Nevertheless the calculation of emissions reduction with all formulas used in Part IV is missing. The finding remains open. 6. The information of party involved was corrected. The project is GS voluntary and is therefore not hosted or invested in by a party of the Kyoto Protocol
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This has been rectified.

Finding:	R1
DOE Assessment #2 <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>	Not all corrections in the Monitoring Report were incorporated: 1. Template from UNFCCC was not followed, please see chapter IV.1. Data and parameters fixed ex ante or at renewal of crediting period. 2. Numeration of chapters is erroneous, please see chapter IV on page 27-31, 3. Formulas of project emissions calculation were not included, pls see page 27. 4. Clarification requested on value in included 32% of Effp,y. As this is not monitored parameter it remain fixed during crediting period as per Monitoring Plan in PDD.
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The MR has been revised to reflect these 4 comments.
DOE Assessment #3 <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>	1. The template of MR was corrected. 2. Numeration of chapters was corrected as per used template. 3. The formulas to calculate PE were included in the MR. 4. The EFFp,y fixed value was corrected in line with the PDD. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	R2
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Area 55 a Malawian company took over project implementation and external consultants as of July 1, 2012.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please see official document from Area 55 attached.

Finding:	R2
DOE Assessment #1 <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>	Hestian Innovation Ltd. Remains as project participant while Area 55 will implement the project. The information included in the MR version 2 is correct. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	R3
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Training record for new workers was not provided.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please see training report attached.
DOE Assessment #1 <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>	Training record on Fixed Esperanza stove was provided. The Training was carried out between December 2010 and April 2011. The training was conducted before Area 55 took the responsibility for training. The evidences of training described in MR were not provided. The finding remains open.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Producers and stove promoted trained by the project are reflected in the skills development database submitted. These are the people who have been initially trained on production, promotion and monitoring. Please see additional record of trainings for Area 55 officers.
DOE Assessment #2 <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 list ^{/Tmanual/} of trainings conducted by staff employed by external consultant Area 55 was provided. The information is consistent with information collected during onsite interviews. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	R4
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Finding:	R4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The information on geographical cluster random sample in the MR3 V2 seems not correct.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This has been corrected.		
DOE Assessment #1 <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 information was revised in the MR v. 3. Nevertheless as per provided Usage Survey Report for PCS dated March 2013 an "Initially a representative sample of five geographic jurisdictions, locally called Group Village Headman (GVH), were selected as being representative of the entire population, and then this sub-set was stratified in age groups of stoves as per the database of sales..." PP is to clarify the used sampling method and the description in revised MR.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	MR amended appropriately in Section IV.3.		
DOE Assessment #2 <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 Report was amended and the information provided is in line with Usage Survey Report 2012. Statistician from University of Malawi carried out the analysis of data. The procedure is consistent with guidelines applied methodology. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding:	P1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Evidences for leakage (survey questionnaires) assessment was not provided.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Question regarding uses for the stoves in monitoring survey addresses this, e.g. no users indicated if stoves used additionally for space heating.		

Finding:	P1
DOE Assessment #1 <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>	Leakage was not explicitly addressed in the usage survey report. Even if from the provided questionnaire it might be concluded that no leakage occurs in the project activity the possibility of leakage was not addressed properly. Additional FAR P4 was raised.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	P2
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The monitoring frequency of P_{PFES} as well as $P_{B, RB}$ are not as per registered MP.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	In the approved application of suppressed demand in GS613, the project level of service (PLS) is calculated for the least efficient of the three domestic stoves in the project, the portable ceramic stoves (PCS) others include the fixed esperanza stoves and urban cook stoves. The application of the approach to all stoves in the project using figures from the PCS is therefore conservative. For this reason the project level of service is based on P_{PPCS}, which substitutes P_{PFES}.
DOE Assessment #1 <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 calculation approved in the revised PDD version 6 allows PP the application of Suppressed Demand and therefore the inclusion of not monitored parameter in the monitoring is not required and transparent. No revision of parameters and values in line with the approved revised Monitoring Plan as per PDD v. 6 (eg. Application of suppressed demand) was carried out.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	P_{PFES} and P_{PUCS} have been omitted from the monitoring report as per the revised PDD version 6. Fuel tests for $P_{PCS, 2013}$ and $P_{PCS, 2015}$ as per the approved monitoring plan on PDD version 6 are to be conducted in 2013 and 2015, respectively. These tests are to calculate the project level of service, which given current trends will increase over time and would by extension increase the ER per household over time. The PP proposes the approach of using the average of $P_{PCS, 2011}$ and $P_{PCS, 2009}$ as a conservative project level of service for the rest of this crediting period.

Finding:	P2
DOE Assessment #2 <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 emissions reduction is based on fixed baseline applying SD for PCS, UCS and FES stove. Further the ER is calculated by applying usage and efficiency rates surveyed as per frequency defined in MP of PDD. It is not clear what purpose would have an inclusion of not monitored parameters in the chapter "Data and parameters monitored". Further amendment of MR deems necessary.
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The MR section D has been amended to avoid inclusion of non-monitored parameters in the chapter "Data and parameters monitored".
DOE Assessment #3 <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 MR section D was revised accordingly. Only monitored parameters are included. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	P3
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Report for Usage and Monitoring survey of PCS conducted in December 2012 as given in MR 3 version 2 was not provided.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please find report attached.
DOE Assessment #1 <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 respective reports were provided and checked. The reports are consistent with findings from onsite visit.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	P4
Classification	☐ CAR ☐ CL ☒ FAR

Finding:	P4
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Leakage was not explicitly addressed in the usage survey report. Improvement of monitoring of leakage will be checked during subsequent monitoring period.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	
DOE Assessment #1 <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>	
Conclusion <i>Tick the appropriate checkbox</i>	☒ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☐ The finding is closed

Finding:	P5
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please clarify the reason for higher efficiency value of older PCS and FES cook- stoves.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Statistical analysis conducted based on efficiency values obtained from series of Water Boiling Tests. New values applied for ER calculations.
DOE Assessment #1 <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 calculation was provided. The values applied in the ER calculation were statistically adjusted and shows a continuous decrease in efficiency with the age of the stove. Nevertheless it is not clear how the aging test comply with rules described in chapter C, 7 of the applied methodology.

Finding:	P5
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	As per section C.7 on page 12 of the methodology, the baseline and project performance field tests (PFT) or fuel tests measure real, observed technology performance in the field. The methodology does not specify how often this must be conducted or explicitly state that it must be used to show changes in technology efficiency over time. The fuel tests in the field are affected by various factors including suppressed demand and changes in fuel efficiency, (which is affected by user-practices and aging technologies). User practices tend to have a positive relationship with ERs over time (i.e. as time goes by people get better at using the stove, and become more economical with wood use), while technology efficiency has a negative relationship (i.e. as time goes by the stove performance drops due to wear and tear). As per the approved revised monitoring plan for GS 613 in V.6 of the PDD, an Age Test (such as the WBT) may be conducted instead of the PFT in cases where the project technologies remain materially the same year after year. This test is conducted to explicitly test for the influence of aging technologies, which reduces emission reductions over time and contributes to conservativeness.
DOE Assessment #2 <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 explanation for variation in stove efficiencies was transparently provided.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	P6
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	During onsite visit a significant number of non-used FES was found in randomly selected locations. From visited 14th households only 2 were using the cook stove at the time of onsite visit. Correction of emissions reduction accounting for non-usage of the cook stove is deemed necessary.

Finding:	P6
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Further to onsite visit, it was decided to only claim for 50% of FES in MR3, less the stoves that are past their average lifespan, and then to cease actively promoting and claiming for the FES in future monitoring reports. During 2011-2012 a further 1000 stoves were disseminated in other areas with higher success rates due to better training and after sales service. These stoves will not be claimed for in future monitoring reports, therefore the 50% claim for current stoves is conservative. Please see attached official memo from Area 55.
DOE Assessment #1 <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 applied a 50% discount on the ER for stoves distributed until monitoring period 2. No emission reduction for stove distributed during MP 3 was claimed. This was checked and found conservative. The finding is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	C1
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Units applied in the ER calculation for parameter $P_{B,PCS,0}$; $P_{B,FES,0}$; $P_{B,UCS,0}$ is not correct.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please see revised MR3V3.
DOE Assessment #1 <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 approved as suppressed demand was applied in the ER calculation of $P_{B,PCS,0}$; $P_{B,FES,0}$; $P_{B,UCS,0}$. OK
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	C2
Classification	☒ CAR ☐ CL ☐ FAR

Finding:	C2
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Values applied in the ER calculation were not conservatively rounded up/down.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Exogenous values such as usage rates and efficiencies now rounded down as necessary. PCS usage rate for stoves age 2—3 years was not conservatively rounded down in assumptions. 66% usage rate now replaced by actual usage of 65.8% based on statistical analysis. Also, baseline efficiency for ICS rounded down from 3.605 to 3.604 tonnes of wood per 10,000 meals per year (actual value 3.6046). Calculated values such as baseline emissions and daily emission reductions based on these exogenous values are conservative.
DOE Assessment #1 <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 values were rounded down. Nevertheless inconsistency were found in the ER excel sheet: 1. Values of sold devices in previous (closed) monitoring periods are inconsistent. 2. Calculation or emissions from previous (closed) monitoring periods are inconsistent. 3. Application of 32% efficiency of project technology is not correct and not conservative. The value was fixed in the PDD. 4. The "single usage parameter that is weighted based on drop off rates of each cookstove age being credited" as per applied methodology was not applied. Pls consult also GS FAR from previous monitoring period (CL H4) Clean, traceable and consistent excel sheet is requested for assessment.

Finding:	C2
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. This is the case for the ICS as the number of 10,000 meals could vary from year to year based on the capacity and needs of the institutions, such that number of feeding days and number of meals per day can change over monitoring periods to allow for more precise estimations in VERs. These factors are out of the PP's control. The PP therefore requests to change the reporting format such that the summary presentation will simply reflect the number of ICS disseminated year on year, instead of the current display of number of 10,000 meals which is the value used for calculating ERs. This would mean that the ICS sold in 2009-2010 will be 1 unit (as currently reflected), but for 2010-2011 would be changed to 30 unit, and not be presented in 10,000 meals as was the case previously. 2. This is rectified. 3. This has been amended. 4. This has been noted. It should be noted that based on changes applied to values used for ER calculations based on this C4 and H4, MR3 values reflected in MR3V5 are therefore not the same as those in MR3V3.
DOE Assessment #2 <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>	1. PP was constructed ICS stove in 2010 and 2011. No construction of new stoves was reported in MP 3. The calculation therefore is based on 31 ICS stove fully operational during the whole MP3. The calculation is based on sum of adjusted meals as per customer database. Data was updated as per MP in the registered PDD. In the ER calculation PP applies the monitored number of eaters in the institutions. The quantity of fuel consumed in the project scenario from project FT 2011 was used. The calculation was found correct. The finding is closed. 2. Consistency between calculation of ER for MP2 and MP3 was established. 3. Efficiency of project technology for PCS was corrected and is not in line with value in registered PDD. 4. A single usage parameter was calculated and used in the ER calculation. The finding is closed.

Finding:	C2
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	C3
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Information of "Assumptions" value of usage rate in ER calculation seems not correct.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This has been corrected. Please refer to Monitoring Excel and Usage Report for PCS for statistical analysis.
DOE Assessment #1 <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 information was erroneous and was removed from ER excel sheet. OK
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	Q1
Classification	☐ CAR ☐ CL ☒ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Taking in to consideration the discrepancies in the average technical lifetime of the PCS cook stove surveyed by validation team during 2 consecutive onsite visits and the calculated by PP based on statistical model, a validity of the model based on simply random selection of households is necessary. The updated survey and calculation of the average technical lifetime of the PCS cook stove has to be provided for next periodic verification.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	

Finding:	Q1
DOE Assessment #1 <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>	
Conclusion <i>Tick the appropriate checkbox</i>	☒ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☐ The finding is closed

Finding:	SDM1
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Monitoring of Sustainable Development indicators is not completed as per MP.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please see revised table in the monitoring report.
DOE Assessment #1 <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>	Monitoring of Sustainable Development indicators was revised in line with MP.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	SDM2
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Annex 1 table in MR in regards to SD indicators doesn't provide complete information.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please see revised table in monitoring report.
DOE Assessment #1 <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 information in the Annex 1 was updated. The frequency of monitoring on SD indicators is clarified.



Conclusion

Tick the appropriate checkbox

- | | |
|-------------------------------------|--|
| ☐ | To be checked during the next periodic verification |
| ☐ | Additional action should be taken (finding remains open) |
| ☒ | The finding is closed |

5. SUMMARY OF VERIFICATION ASSESSMENTS

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

5.1. Involved Parties and Project Participants

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

Table 5-1: Project Parties and project participants

Characteristic	Party	Project Participant
Non-Annex 1	Malawi	Hestian Innovation Ltd

5.2. Implementation of the project

During the verification a site visit was carried out from 2013-02-06-2013-02-09. 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 registered PDD and the GS Passport. Following details of distribution of technologies were reported:

	24/11/2008 to 01/10/2009	2/10/2009 to 01/10/2010	02/10/2010 to 01/10/2011	02/10/2011 to 01/10/2012	Total
PCS	1,767	5,308	5,839	1,709	14,623
FES	0	1,524	862	0	2,386
RB	153	588	211	0	952
ICS	0	1	30	0	31
UCS	0	51	204	0	255

Project Participant included only new distributed PCS stove in the monitoring period 3. The verification team conducted crosscheck of the data entry from original sales record to the computer database. No material errors were identified. The verification

team can thus confirm the correctness of the stated values in the emission reduction calculations.

5.3. Project history

During the 2nd periodic verification the DOE as well as GS raised issues that could not be closed or resolved during the verification. For this purpose 4 CLs had been raised. PP as consequence of low performance of UCS stove PP decided to remove the stove type from the project activity (CL H1). Statistical analysis was conducted to establish the average technical life span of the PSC stove. With the application of average life span of the cook stove the monitoring of replacement will be not necessary (CL H2). Usage rate was monitored in 2013 and found consistent with findings during onsite visit. The application of usage rate and the average life-time of the stoves was deemed accurate and conservative approach in the ER calculation (CL H3). The request from GS review to improve monitoring of data was met (CL H4).

The verification team has established that the monitoring was conducted as per the revised monitoring plan and all hints from previous verification were closed. Hence, no material irregularities were noted that would impact the accuracy of the ER data collected.

5.4. Compliance with the monitoring plan

The monitoring system and all applied procedures are in compliance to the registered monitoring plan. Evidence^{/GSP//MR//PDD/} were available to the verification team to check the compliance of the monitoring plan and GS sustainability (SD) monitoring matrix.

The reporting procedures reflect the requirements of the monitoring plan. All relevant data is stored during the whole monitoring period.

The SD indicators as per the validated monitoring plan are monitored and reported appropriately and cross-verified by means of desk review of supporting documents, interviews with the PP, staff and relevant stakeholders. The monitoring system and all applied procedures are completely in compliance to the registered monitoring plan.

5.5. Compliance with the sustainability monitoring plan

The SD indicators as per the validated monitoring plan are monitored and reported appropriately and cross-verified by means of desk review of supporting documents, interviews with the PP, staff and relevant stakeholders. The monitoring system and all applied procedures are in compliance to the registered monitoring plan and the Gold Standard conservativeness principles.

5.6. 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 (11/04/2011)."

5.7. Monitoring parameters

The monitoring parameters as per the GS monitoring plan

During the verification all relevant monitoring parameters (as listed in the PDD version 06) 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, monitoring frequency, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist.

Parameter fraction of Non Renewable Biomass (fNRB)

The value of 81% fNRB approved by CDM – SSC WG for Malawi was applied. DNA, the Environmental Affairs Department of Malawi accepted on 15 June 2012 the default value of non-renewable biomass (fNRB) for the Republic of Malawi.

Quantity of fuel consumed in the project scenario for rocket barn ($P_{P, RB}$)

The values from 2011, the least biannual monitoring are used in calculation of project emissions. This value is still applicable as per the frequency defined in MP.

Quantity of fuel consumed in the project scenario for institutional cookstove ($P_{P, ICS}$)

The values from 2011, the least biannual monitoring are used in calculation of project emissions. This value is still applicable as per the frequency defined in MP.

Cumulative usage rate of technologies in project scenario (parameters $U_{p, PCS}$; $U_{p, FES}$; $U_{p, UCS}$; $U_{p, ISC}$; $U_{p, RB}$)

PP calculated 69.46% cumulative usage rate for PCS stove for age 0-4, 70% for FES stove age 0-3, 32.20 % for UCS stove aged 0-3, 100% for ICS stove and 82.62% for RB aged 0-4. The usage rates were calculated as single weighted average as per requirements of the methodology. Verification team conducted onsite inspection to assess the correctness of the values applied.

High acceptance and usage of PCS cook stove was confirmed. In contrary in the surveyed villages a significant number of non-used FES was found. CAR P6 was raised on this matter. PP resolved the CAR by conservatively claiming only 50% of the emissions reduction and applying an average technical lifespan for older stoves. Very low acceptance of UCS technology was confirmed (refer to CL H1). As consequence of low acceptance/usage rate of the UCS technology, PP has chosen

to remove the cook stove from project activity. All ICS were found operational. High usage rate of RB was found consistent with findings during onsite visit.

Verification team confirms correctness and conservativeness of the reported usage rates. Cumulative weighted usage rate value was calculated and applied.

Number of technology days per stove ($N_{PCS,y}$, $N_{FES,y}$, $N_{UCS,y}$, $N_{RB,y}$, $N_{ICS,y}$)

1,709 new PCS stove were distributed in the monitoring period 3. The value of Number of Technology Days was calculated using sales record. The counting starts conservatively a day after stove sale. No new FES, UCS, ICS and RB were reported. The reported number of constructed stoves is plausible with the capacity of the reported production groups. Verification team cross-checked the data collection and entries in sales record. Additionally, a sample of 6 randomly chosen stoves were selected from the database. All relevant original records from artisans^{/LPA/} (liners delivery from production group), installers^{/LDF/} and end user confirmation^{/PSA/} were crosschecked with the computer database. The following activities were performed:

- Crosschecking the data collection and entries in sales record^{/XLS/}.
- Sampling of randomly chosen stoves from the database.
- Checking all relevant forms from production groups, owners and comparing with the computer database.
- Visual inspection and interviews of randomly selected homesteads^{/IM04/}.
- Verifying the sampling effort in the monitoring/usage survey^{/KS/} and calculations^{/XLS/}.
- A review of the QA/QC procedures to ensure correctness and data integrity

No errors in data collection and data entrance were detected. In further steps the verification team randomly selected 21 stoves from the sales database and conducted direct onsite interviews. The households contacted represented the entire region and age groups. All reported cook stoves were found in place and still operational. Nevertheless, some of the numbers on cook stoves could not be identified due temporary character of numbering. Moreover parts of the original cook stoves reported in the database already replaced by entrepreneurs. Nevertheless, all selected households were in possession of PCS and therefore the verification team was able to confirm the accuracy of the reported number of stove in the monitoring report.

Efficiency of aging stoves (parameters $Eff_{P,PCS}$, $Eff_{P,FES}$, $Eff_{P,UCS}$)

To accounts for the changes of the project scenario over time an Age Test was conducted in line with the applied methodology. Water boiling test as per version from the University of California Berkley (UCB) Shell Foundation for PCS, FES and UCS was performed. The results of the test are applicable for the 3rd Monitoring

period to PCS and FES. Verification team conducted onsite interview with appointed enumerator and checked functionality of applied instrument and procedures. All instruments were functioning correctly. No inconsistencies in the applied procedure were found. Nevertheless the clarification CL P5 was raised and successfully closed. The verification team confirms the correctness of applied values.

Tonnes of dry biomass used in the project for technology and fuel combination (parameter $B_{py,y}$)

The baseline fuel wood use is measured as per methodology and calculated as average. The value used is still applicable as per the monitoring frequency defined in MP.

Leakage ($LE_{p,MR2}$)

The value was assessed for the first monitoring period. The value is still valid as per monitoring frequency.

Six types of Leakage were identified in the registered PDD. All types of leakage were assuming to be 0. Project participant collected leakage data related to space heating and transfer of old technology to be reused outside the project boundary. No leakage was found due to any of the identified leakage sources.

1. Displacement and further use of the old less efficient technology- the common technology used prior the project activity was three stone open fire. There is no need to transfer any open fires from the project activity, as the technology represents no economical value. Most of the interviewed households during the onsite visit confirmed very rare use of old technology in case of additional visitors like family or church meetings.

2. Compensation of space heating lost due to the project activity- Most of the kitchens are separated from the living areas. The tropical climate in the project area does not require additional heating pre or post project scenario. Displacement and further use of the old less efficient technology- the common technology used prior the project activity was three stone open fire. There is no need to transfer any open fires from the project activity, as the technology represents no economical value. Most of the interviewed households during the onsite visit confirmed very rare use of old technology in case of additional visitors like family or church meetings.

Nevertheless CAR P1 was raised and successfully closed.

Verification team has crosschecked the data collected during the monitoring survey^{/KS/} and conducted interviews with surveyors^{/IM03/} and households^{/IM04/}.

5.8. Contribution to sustainable development

During the verification, the SD indicators were verified with regards to the appropriateness that will contribute to sustainable development.

It was evidenced that the project positively contributes to improvement of:

1. Air quality
2. Water quality and quantity
3. Soil condition, biodiversity
4. Quality of employment
5. Livelihood of the poor
6. Access to affordable and clean energy services
7. Human and institutional capacity
8. Quantitative employment and Income generation
9. Balance of payments and investment
10. Technology transfer and technological reliance

The project will also lead to lower GHG emissions. The measurement of these indicators are listed in the MR and excel file^{/SD/}. The frequency and monitoring arrangement is in line with registered GS613 PDD. All the improved conditions especially kitchen conditions and livelihoods including the human and institutional capacity, quantitative employment and income generation were observed during onsite visit and confirmed in interviews^{/IM02/}.

It can be confirmed that all GS Sustainable Indicators have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

For further details concerning the sustainability indicators please refer to Annex A-1.

5.9. Monitoring report

The project participants submitted a Gold Standard Monitoring Report along with relevant supporting documents to the verification team. These documents form the basis for the verification opinion of TÜV NORD.

During the verification, mistakes and needs for clarification were identified. CAR R1, CL R2, CL R3, CL R4 were raised and successfully closed. 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 PDD, the GS Passport and relevant GS requirements.

5.10. Sampling

5.10.1. Implementation of the sampling plan

During the monitoring data on project technology usage rates, sustainability indicators and leakage were collected.

- PCS stoves from eligible age groups were selected randomly from 5 representative village groups. The sample size was 197 households.
- 120 FES stove were randomly selected by simply random sampling.
- 76 end-users from eligible population of 120 UCS were interviewed. The selection was based on availability of end-users.
- Simply random sampling of 125 rocket barns (RB) users was conducted.
- 19 from total of 21 institutions using ICS were monitored.

Statisticians from Faculty of Environmental Sciences, University of Malawi, conducted the statistical analysis. Where applicable the mean (+/- 90% confidence interval) was met. The sample size, and the sampling procedure was conducted as per requirements.

Water boiling tests were conducted to determine the efficiency of aging stoves. PCS stoves of various ages were randomly selected from one village. The water-boiling test followed the Water Boiling Test protocol 4.1.2.

5.10.2. Sampling approaches during verification

The verification team crosschecked the correctness of data collection and entry in sales record by sampling. Sample of 6 randomly chosen stoves were selected from the database. All relevant original records from artisans^{/LPA/} (liners delivery from production group), installers^{/LDF/} and end user confirmation^{/PSA/} were crosschecked with the computer database. In further steps the verification team randomly selected 21 PCE stoves from the sales database and conducted personal onsite interviews in the households. The households contacted represented the entire region and age groups. In case of PCS stove no significant discrepancies between data collected during onsite visit and data reported by PP were found. The sampling of FES stove was conducted in one randomly selected location where 14 households were visited. Only 2 FES stove were found in use. CAR C3 was raised and successfully closed.

5.11. ER Calculation

The ER calculation is based on the formulae:

$$ER_y = \sum BE_{b,y} - \sum PE_{p,y} - \sum LE_{p,y}$$

- $BE_{b,y} = B_{b,y} * (f_{NRB,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,nonCO2} * NCV_{b,fuel}$ since both baseline fuel is the same as project fuel (i.e.fuelwood).
- $PE_{p,y} = B_{p,y} * ((f_{NRB,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}$
- $LE_{p,y} = 0$

For this monitoring period:

Baseline emission for all project stove types for the monitoring period 3 was calculated as 115.812 tCO₂ and Project emissions as 38.202 tCO₂. During the current monitoring period from 02/10/2011 to 01/10/2012 project activity reduced the emissions by 77.610 tCO₂.

During the verification mistakes in the ER calculation were identified. Corresponding findings CAR C1, C2 and CL C3 related to minor inconsistencies were raised and successfully closed. A revised ER calculation was prepared by the PP and presented to the verification team. The emission reductions of 77 610 tCO₂e can thus be deemed as correct and devoid of material errors.

5.12. Quality Management

Quality assurance and quality control measures outlined in the final MR include: roles and responsibilities of project staff, trainings, involvement of third parties to conduct surveys and for statistical analysis, internal audits and control measures with regard to data entry, troubleshooting procedures were defined in the framework of this GS/CDM project activity. Therefore it evident that project stoves are traceable physically and through the database. However an updated survey and calculation of the average technical lifetime of the PCS cook stove has to be conducted and the results have to be provided for next periodic verification, hence FAR Q1 was raised.

5.13. Comparison with ex-ante estimated emission reductions

The MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered PDD. The emissions reduction in the monitoring period 3 is comparable to the ex-ante calculated in the PDD ver. 6 of 77,630 tCO₂. The small-scale project activity reached its limit of emissions reduction.

5.14. Overall Aspects of the Verification

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

Access was granted to all installations of the project activity, 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 not compliant with the GS criteria and relevant guidance provided by the GS and the secretariat ^{/GS approval/}.

5.15. Hints for next periodic Verification

To simplify the monitoring and calculation of emissions reduction, PP surveyed the average technical lifetime of the PCS and FES cook stoves. This approach is in line with FAR raised by GS during review process for the 2nd periodic verification to improve reproducibility and transparency of the emissions reduction calculation.

Verification team found discrepancies in the average technical lifetime of the PCS cook stove surveyed by verification team during 2 consecutive onsite visits and the calculated by PP based on statistical model. It was found during onsite visit, that entrepreneurs without respective data updates had already replaced a significant number of broken PCS cook stoves. As this matter does not affect overall calculation of emissions reductions, it indicates a short average lifetime of the PCS technology. Therefore, a check of validity of the PP model, based on simple random selection of households is considered necessary. The updated survey and calculation of the average technical lifetime of the PCS cook stove has to be provided for the next periodic verification. FAR Q1 was raised.

To improve data collection and monitoring of Leakage FAR P4 was also raised.

6. VERIFICATION OPINION

Hestian Innovation Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 3th periodic verification of the project: "Integrated Biomass Energy Conservation Project, Malawi", with regard to the relevant requirements for GA project activities. The project reduces GHG emissions due to distribution of efficient cooking and tabaco curing technologies. This verification covers the period from 2011-10-02 to 2012-10-01 (including both days).

In the course of the verification 10 Corrective Action Requests (CAR) and 12 Clarification Requests (CL) were raised and successfully closed. Furthermore 2 FARs was raised to improve the monitoring system in the future. The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the registered PDD, the validation report, emission reduction calculation spread sheet 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.,
- 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 3rd periodic verification, 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: 77, 610 t CO_{2e}

Essen, 2013-07-02



Ulrich Walter

TÜV NORD JI/CDM Certification Program

Verification Team Leader

Essen, 2013-07-02



Stefan Winter

TÜV NORD JI/CDM Certification Program

Final Approval

7. REFERENCES

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

Reference	Document
/KS/	Institutional Cookstoves (ICS): - Monitoring Survey 16-22 Nov 2012 and January 29- February 4, 2013 - Usage Survey 16-22 Nov 2012 and January 29- February 4, 2013 Rocket Barn (RB): - Monitoring Survey - Usage Survey April 30 and May 18, 2012, Portable Cookstoves (PCS): - Usage Survey 8-10 May 2012 Fixed Esperanza Stoves (FES): - Monitoring Survey April 30 and May 18, 2012 Urban Cookstoves (UCS): - Usage Survey between November and December 2012
/SD XLS/	- Air Quality Excel - Clay monitoring excel - Livelihood of the Poor excel - Employment and Skills development excel
WBT	GS613 Water Boiling Test, : PCS, 2010: test dates 31/01/2013; 01/02/2013
/MR/	Monitoring Report, "Integrated Biomass Energy Conservation Project, Malawi" (GS 613) for the monitoring period 02-10-2011 to 01-10-2012, version 01, dated 2012-11-16 Monitoring Report, "Integrated Biomass Energy Conservation Project, Malawi" (GS 613) for the monitoring period 02-10-2011 to 01-10-2012, version 02, dated 2013-02-05 Monitoring Report, "Integrated Biomass Energy Conservation Project, Malawi" (GS 613) for the monitoring period 02-10-2011 to 01-10-2012, version 03, dated 2013-03-15 Monitoring Report, "Integrated Biomass Energy Conservation Project, Malawi" (GS 613) for the monitoring period 02-10-2011 to 01-10-2012, version 04, dated 2013-04-22

Reference	Document
	Monitoring Report, "Integrated Biomass Energy Conservation Project, Malawi" (GS 613) for the monitoring period 02-10-2011 to 01-10-2012, version 05, dated 2013-05-08
/GSPI/	GS Passport. "Integrated Biomass Energy Conservation Project", (GS 613) Version 04, 2011 January 4 th
/PDD06/	GS approved design change GS-VER-PDD "" Integrated Biomass Energy Conservation Project – Malawi", Version 06, dated 2 nd November 2012
/2VER/	GS Verification Report for GS 613, 2 nd Periodic Verification dated 2013-01-24
/Tmanual/	Training Manual for field surveyors
/CAL/	Calibration Report for project weighing scale and moisture content scale: • Spring dial hoist scale: manufacturer Global Universal, 100 kg capacity, precision 0.5. • Hanging scale: Voltcraft HS-30, 30kg capacity, accurate to 20g • Digital high precision scale: My Weigh KD-8000, 8kg capacity digital scale, Accuracy of 1g • Wood humidity: Voltcraft FM-300, moisture measuring range 6% to 99%, ±1% (in moisture range 6% ~40%) • Digital hand thermometer: Voltcraft K 101 thermometer: measuring range – 200°C to + 137° (reversible °C/°F). Accuracy – 200°C to +200°C accuracy of 0.3% of the display, +1°C
/XLS/	• ER Calculation for FES (24-11-08 to 01-10-12) • ER Calculation ICS (24-11-08 to 01-10-12) • ER Calculation PCS (24-11-08 to 01-10-12) • ER Calculation RB (24-11-08 to 01-10-12) • ER Calculation UCS (24-11-08 to 01-10-12)
/PSA/	• Purchase and sales agreement with user • Template • Receipt No.: 179094, Agnes Kachiwanda, Chapita village • Receipt No.: 109375, Kitty Jackson, Kabanga villange • Receipt No.: 17520, Laika Frecha, Disi village • Receipt No.: 17762, Bobula Makito, Kaka village • Receipt No.: 17039, Dolesi Jemusi, Nsamti village
/SALES/	• Sales Record FES • Sales Record PCS • Sales Record RB • Sales Record UCS

Reference	Document
	Sales Record ICS
/XL-summary/	ER Summary spreadsheet from 24/11/2008 to 01-10-2012

Table 7-2: Background investigation and assessment documents

/CPM/	TÜV Nord JI / CDM CP Manual (incl. CP procedures and forms)
/GSPP/	Gold Standard Passport version 04
/GST/	The Gold Standard TOOLKIT V.2.1.
/GS-VVM/	The Gold Standard Validation and Verification Manual for Voluntary Offset Projects, dated June 2007
/GSR/	Gold Standard Requirements (GSv2.1)
/GFT/	Guidelines for Field Performance Tests of Energy Saving Devices and Kitchen Performance Tests
/IPCC-GPI/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPCC/	1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/KPI/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)
/METH/	<i>"Technologies and Practices to Displace Decentralised Thermal Energy Consumption – 11/04/2011"</i>
/GSREVI/	Integrated Biomass Energy Conservation Project – Malawi (GS613) 3-week issuance review period

Table 7-3: Websites used

Reference	Link	Organisation
/gs/	www.cdmgoldstandard.org	The Gold Standard Foundation
/unfccc/	http://cdm.unfccc.int	UNFCCC
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	☒ Mr. ☐ Ms	Conor Fox	GS 613 Coordinator
/IM01/	V	☐ Mr. ☒ Ms.	Cristel Cheong	GS 613 Assistant
/IM01/	V	☐ Mr. ☒ Ms	Maya Stewart	GS 613 Manager (Area 55)
/IM02/	V	☒ Mr. ☐ Ms	Lameck Phiri	FES end-user
/IM02/	V	☐ Mr. ☐ Ms	Agnes Joseph	FES End-user
/IM02/	V	☒ Mr. ☐ Ms	Absalom Nkoma	Rocket Barn and FES owner
/IM02/	V	☒ Mr. ☐ Ms	David Nkhoma	FES user
/IM02/	V	☒ Mr. ☐ Ms	Nedson Phiri	FES owner
/IM02/	V	☒ Mr. ☐ Ms	Daniel Banda	FES Owner
/IM02/	V	☒ Mr. ☐ Ms	Johnson Phiri	FES owner
/IM02/	V	☐ Mr. ☒ Ms	Sy Chimbiya	FES owner
/IM01/	V	☒ Mr.	Andrew Chigwenembe	stoves coordinator (Concern

Reference	Mol ¹		Name	Organisation / Function
		☐ Ms		Universal)
//IM01/	V	☒ Mr. ☐ Ms	Yamungu Botha	National Environmental Management Coordinator, Concern Universal
//IM01/	V	☒ Mr. ☐ Ms	Harlod Yalamu	Field facilitator, Concern Universal
//IM02/	V	☐ Mr. ☒ Ms	Stela Balala	Chipita village PCS seller & owner
//IM02/	V	☐ Mr. ☒ Ms	Amisa Mustafa	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Melia Ajasi	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Eliza Juma	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Hawa Lifa	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	M. Kabichi	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	A. Chiwanda	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	S. Jika	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Hanna Harry	Chipita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Julita Nachamba	Chiapita village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Mercy Kaipamulole	Stove promoter Dulani Village
//IM02/	V	☐ Mr. ☒ Ms	Janet Bile	Dulani village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Loney Banda	Dulani village PCS owner
//IM02/	V	☐ Mr. ☒ Ms	Hilda Kanyoza	Dulani village PCS owner

Reference	Moi ¹		Name	Organisation / Function
/IM02/	V	☐ Mr. ☒ Ms	Lines Hawa	Dulani village PCS owner
/IM02/	V	☐ Mr. ☒ Ms	Catherine Mavuto	Dulani village PCS owner
/IM02/	V	☐ Mr. ☒ Ms	Sevi Yonas	Dulani village PCS owner
/IM02/	V	☐ Mr. ☒ Ms	Gondwa Matiki	Dulani village PCS owner
/IM02/	V	☐ Mr. ☒ Ms	Bitilesi Nelesoni	Dulani village PCS owner
/IM02/	V	☐ Mr. ☒ Ms	Khirise Kapoto	Dulani village PCS owner
/IM02/	V	☐ Mr. ☒ Ms	Stella Mbeza	Dulani village PCS owner

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

ANNEX

- A1:** Verification Protocol
- A2:** Appointment / Authorisation
statements

ANNEX 1: VERIFICATION PROTOCOL

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

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
Raw data generation				
• Installation of measuring equipment • Dysfunction of installed equipment • Maloperation by operational personnel • Downtimes of equipment • Exchange of equipment • Change of measurement equipment characteristic • Insufficient accuracy • Change of	• Installation of modern and state of the art equipment • Process control automation • Internal data review • Regular visual inspections of installed equipment • Only skilled and trained personnel operates the relevant equipment • Daily raw data checks • Immediate exchange of dysfunctional equipment	• Inadequate installation / operation of the monitoring equipment • Inadequate exchange of equipment • Change of personnel • Undetected measurement errors • Inappropriateness of Management system procedures w.r.t. monitoring plan requirements (e.g. substitute value strategies) • Non-application of management system procedures	• Site – visit (maintenance dept., gas supplier) • Check of equipment • Check of technical data sheets • Check of suppliers information / guarantees • Check of calibration records, if applicable • Check of maintenance records • Counter-check of raw data and commercial data • Check of CDM management system	• See Table A-2

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
- technology - Accuracy of values supplied by Third Parties	- Stand-by duty is organized - Training - Internal audit procedures - Internal check of QA/QC measures of involved Third Parties	- Insufficient accuracy - Inappropriate QA/QC measures of Third Parties	- Check of CDM related procedures - Application of CDM management system procedures - Check of trainings - Check of responsibilities - Check of QA/QC documentation / evidences of involved Third Parties	
Raw data collection and data aggregation				
- Wrong data transfer from raw data to daily and monthly aggregated reporting forms - IT Systems - Spread sheet programming - Manual data transmission	- Cross-check of data - Plausibility checks of various parameters. - Appropriate archiving system - Clear allocation of responsibilities - Application of CDM Management system procedures	- Unintended usage of old data that has been revised - Incomplete documentation - Ex-post corrections of records - Ambiguous sources of information - Non-application of management system procedures	- Check of data aggregation steps - Counter-calculation - Data integrity checks by means of graphical data analysis and calculation of specific performance figures - Check of management system certification	See Table A-2

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
- Data protection - Responsibilities	- Usage of standard software solutions (Spreadsheets) - Limited access to IT systems - Data protection procedures	- Manual data transfer mistakes - Unintended change of spread sheet programming or data base entries - Problems caused by updating/upgrading or change of applied software	- Check of data archiving system - Check of application of Management system procedures	
Other calculation parameters				
Emission factors, oxidation factors, coefficients	The values and data sources applied are defined in the PDD and monitoring plan	- Unintended or intended Modification of calculation parameters - Wrong application of values - Misinterpretations of the applied methodology and/ or the PDD - Missing update of applicable regulatory framework (e.g. IPCC values)	- Update-check of regulatory framework - Countercheck of the applied MP in the MR against the methodology and the PDD	See Table A-2
Calculation Methods				

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
- Applied formulae - Miscalculation - Mistakes in spread-sheet calculation	- Advanced calculation and reporting tools - A CDM coordinator is in charge of the CDM related calculations - Usage of tested / counterchecked Excel spreadsheets - Involvement of external consultants	The danger of miscalculation can only be minimized.	- Countercheck on the basis of own calculation. - Spread sheet walk-through. - Plausibility checks - Check of plots	See Table A-2
Monitoring reporting				
- Data transfer to the author of the monitoring report - Data transfer to the monitoring report - Unintended use of outdated versions	- An experienced CDM consultant is responsible for monitoring reporting. - CDM QMS procedures are defined	- The danger of data transfer mistakes can only be minimized - Inappropriate application of QMS procedures	- Counter check with evidences provided. - Audit of procedure application	See Table A-2

Table A-1: (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.
1. Project history				
1.1 Open issues from validation (EB 55 Annex 1, §§ 181-183, 188c, 190c) <i>Check (esp. in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i>	/MR/ /gs/	<i>Description:</i> This is 3 rd periodic verification. <i>Justification of evidences:</i> <i>Conclusion:</i>	N/A	OK
1.2 Open issues from previous verification (EB 55 Annex 1, § 193) <i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification reports (FAR) and take into consideration the guidance as specified in VVS.</i>	/MR/ /2VER/	<i>Description:</i> During the 2 nd verification 3 FARs were raised by DOE and 1 FAR by GS as detailed in CLs H1-H4. <i>Justification of evidences:</i> As detailed in the 2 nd Periodic Verification Report ^{/2VER/} , the PP has to indicate how these FARs were dealt with. <i>Conclusion:</i> Please refer to CLs H1 to H4.	GL-H1 GL-H2 GL-H3 GL-H4	OK
1.3 Requests for Deviations / Revisions of MP (EB 55 Annex 1, §§ 201, 203, 212, 219) <i>Check if there have been any requests for deviations from the registered monitoring plan or requests for revisions of the monitoring plan. If any, make sure that the monitoring report reflects the application of</i>	/IM01/ /PDD06/ /MR/	<i>Description:</i> There is no request for deviation from registered monitoring plan <i>Justification of evidences:</i> This was confirmed during on-site visit. The Monitoring Report is as per registered monitoring plan	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>the approved guidance from the CDM EB regarding the Rfdev. and that those issues are subject to verification?</i>		<i>/PDD06/</i> Conclusion: No deviations to monitoring plan observed.		
1.4 Initial verification <i>In case an initial verification has been carried out, check if all FARs, recommendations etc. have been addressed appropriately.</i>	/MR/ /gs/	Description: This is 3 rd Periodic Verification. Justification of evidences: As per Monitoring Report. Conclusion: Please see 1.2 above	OK	OK
1.5 Initial project implementation (EB 55 Annex 1, §§ 182, 195-201) <i>In case of first periodic verification: Assess whether the project has been implemented and operated as per the registered PDD and are all physical features of the project in place? Further focus on the potential phase wise implementation and report on the corresponding statuses and starting dates accordingly.</i> <i>Also, discuss – if applicable – any approvals of the necessary request of notification or request for approval of changes from the project activity as described in the registered PDD (EB 48 Annex 66/67).</i> <i>In case of further periodic verifications: Go to next chapter.</i>	/MR/ /gs/	Description: This is the 3 rd Periodic Verification. Justification of evidences: As per Monitoring Report and GS Issuances. Conclusion: OK	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
2. Update on Changes and Incidents (during the Monitoring Period)				
2.1 Technical equipment (EB 55 Annex 1, § 187) <i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period. Further ensure that consistent designations 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> <i>Also, discuss –if applicable- any approvals of the necessary request of notification or request for approval of changes from the project activity as described in the registered PDD (EB 48 Annex 66/67).</i>	/IM01/ /MR/ /PDD06/	<i>Description:</i> Project equipment remains the same as per registered PDD. <i>Justification of evidences:</i> The assessment is done by review of PDD, MR and onsite observation. <i>Conclusion:</i> No equipment changes observed.	OK	OK
2.2 Operation modes (EB 55 Annex 1, § 195) <i>Check if relevant operation modes of the project activity have been exchanged or modified during the</i>	/IM01/ /PDD/ /MR/	<i>Description:</i> The project technology is improved cook stoves and rocket barns hence no operation modes are involved. <i>Justification of evidences:</i> As per PDD, MR.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>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 changes have been considered in the monitoring report and the emission reduction calculation.</i> <i>Also, discuss – if applicable – any approvals of the necessary request of notification or request for approval of changes from the project activity as described in the registered PDD (EB 48 Annex 66/67).</i>		Conclusion: OK.		
2.3 Incidents (EB 55 Annex 1, § 187, 208a) <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>	/IM01/ /MR/ /PDD06/	<i>Description:</i> It was observed that no stove sales were registered during 3rd Monitoring Period. Similarly, no replacement stoves were reported during the same period. This does not reflect continuous stove sales as stated in the registered PDD. <i>Justification of evidences:</i> This was noted during on-site visit and during desk-review of the Monitoring Report. <i>Conclusion:</i> Refer to CAR U1 and CAR U2.	CAR U1 CAR U2	OK
2.4 Personnel <i>Identify, if relevant personnel w.r.t. monitoring has been exchanged?</i>	/IM01/ /PDD/ /MR/	<i>Description:</i> The project roll-out and Monitoring is carried out a local entity Area 55. Hestian Innovation Ltd. plays an oversight role. Area 55 replaced Hestian Rural Development Innovation, which was a local entity that implemented the project during the	CLR2 CLR3	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>In case of changes, assure that the implemented monitoring procedures have not been affected.</i>	/2VER/	2nd monitoring period. The project key personnel remain the same during 3rd monitoring period. <i>Justification of evidences:</i> This was assessed during onsite interviews and observation. The DOE was the same for both verification periods. <i>Conclusion:</i> Nonetheless, the Quality Assurance measure introduced by Area 55 of limited warranty system for rocket barns and institutional stoves as stated in the Monitoring Report was not provided to DOE (CL R2); the staff training manuals were not provided as well as (CL R3).		
2.5 Legislation Find out whether relevant legislation with effect on the project activity in the host country has been changed. In any case data source shall be referenced.	/IM01/ /MR/ /2VER/	<i>Description:</i> There has been no change of relevant legislation in the host country that would affect the project. <i>Justification of evidences:</i> Based on host country knowledge and review of relevant literature. <i>Conclusion:</i> No legislation changes have taken place that would affect the project.	OK	OK
3. Monitoring Report – General				
3.1 Monitoring period Check if the monitoring period is in line with a) the crediting period and/or b) previous monitoring	/PDD/ /MR/ /2VER/	<i>Description:</i> The monitoring period is in line with the crediting period. The previous monitoring period run from 2010-10-02 to 2011-10-01 both days inclusive. The current monitoring period is stated as 02/10/2011 to 01/10/2012 both days inclusive.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>periods?</i>	/gs/	<i>Justification of evidences:</i> The verifier crosschecked the crediting period stated in the registered PDD; the MR and the 2nd verification report. <i>Conclusion:</i> The monitoring period is correctly stated.		
3.2 Publication of the Monitoring Report <i>Check if the monitoring report has been made publicly available on the UNFCCC website before the verification commenced.</i>	/gs/	<i>Description:</i> N/A – this is a Gold Standard project. <i>Justification of evidences:</i> <i>Conclusion:</i>	N/A	OK
3.3 References <i>Check if the monitoring report provides the correct references, in detail: project title, UNFCCC registration No., applied methodology/ies, meth tools.</i>	/MR/ /PDD06/ /METH/ /gs/	<i>Description:</i> The PP submitted the draft Monitoring Report (version 02) to the verification team. The GS registration No. GS 613 as well as the project title are stated correctly in the MR. <i>Justification of evidences:</i> The verification team undertook a desk review of the draft MR and crosschecked it against the applied methodology and the registered PDD. <i>Conclusion:</i> The references in the Monitoring Report are correct.	OK	OK
3.4 Completeness	/MR/ /PDD06/	Yes all relevant issues are covered; in detail: ☒ (i) Implementation status	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 182, 195, 202, 206) <i>Assess if the monitoring report is complete, i.e. have all relevant issues been addressed? The MR shall include: (i) The implementation status of the project during the monitoring period (ii) Monitoring systems and procedures incl. QA/QC system employed (iii) all parameters to be monitored and reported at the intervals required by the MP and the Meth (iv) information on calibration of monitoring instruments (v) Emission factors, IPCC default values etc. (vi) reference to any deviation request approved by the EB, (vii) calculation of ER including reference to formulae and methods used (viii) comparison of the actual ER claimed in the MP with the estimate in the registered PDD and explanation in case of significant increase.</i>	/METH/ /MANUAL/	☒ (ii) Monitoring systems and procedures (esp. QA/QC) ☒ (iii) All parameters and corresponding intervals ☒ (iv) Information on calibration of monitoring instruments ☒ (v) Emission factors, IPCC default values etc. ☒ (vi) Reference to deviations, if applicable N/A ☒ (vii) Calculation of emission reductions ☒ (viii) Comparison of actual ER with estimated ER as per PDD Specific findings of the verification team related to each of the issues above will be discussed in the relevant sections of this checklist protocol.		
3.5 Comparison of estimated and actual ER (EB 55 Annex 1, § 198c) <i>Have differences between the monitored ER and the ex-ante ER been reported and appropriately justified? Please assess potential impacts on baseline and additionality.</i>	/MR/ /PDD06/ /XLS/	<i>Description:</i> The draft MR contains a comparison of ex-ante ER and actual ER. A justification is presented in the Monitoring Report. <i>Justification of evidences:</i> This was verified through review of the MR and ER calculations excel spreadsheet. <i>Conclusion:</i> However since the conservativeness of the emission reductions calculation is questioned in (CL P5, CAR P6, CAR C2, CL C3), it cannot be confirmed if the stated emission reduction is justified.	CL P5 CAR P6 CAR C2 CL C3	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
3.6 Transparency <i>Assess if the monitoring report is transparent, i.e. clear and unequivocal in all respect?</i>	/MR/ /PDD06/	<i>Description:</i> The MR contains all the relevant aspects necessary for verification. <i>Justification of evidences:</i> The verification team checked the text of MR to ensure consistency with MP was checked. <i>Conclusion:</i> The MR is considered transparent.	OK	OK
3.7 Misstatements on general issues <i>Assess whether the monitoring report is free of material misstatements regarding issues other than the monitoring parameters.</i> <i>Discuss the monitoring parameters in detail in chapter “Monitoring Parameters”.</i>	/MR/	<i>Description:</i> There are some errors in the MR as outlined in findings CAR R1. <i>Justification of evidences:</i> The verification team checked the text of MR to ensure consistency with MP. <i>Conclusion:</i> Refer to CAR R1.	CAR R1	OK
3.8 Deviations from the validated monitoring plan (EB 55 Annex 1, §§ 196-197, 204-206, 211-212) <i>Assess whether the MR is in line with the validated monitoring plan?</i> <i>In case of intended changes: Have they been approved by the UNFCCC?</i>	/MR/ /PDD06/ /IM01/	<i>Description:</i> No deviations from validated monitoring plan were observed. <i>Justification of evidences:</i> The verification team assessed the MR in comparison with the validated MP. Further, the verification team did physical inspection of the project during onsite visit. <i>Conclusion:</i> monitoring is as per requirements	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
3.9 Deviations from the approved methodology (EB 55 Annex 1, §§ 200, 201, 203) <i>Assess whether the MR in line with the applied monitoring methodology?</i>	/ MR / / METH / / PDD06 /	<i>Description:</i> No deviation from the approved methodology. <i>Justification of evidences:</i> The verification team assessed the MR in comparison with the approved methodology. <i>Conclusion:</i> complies with the approved and applied GS methodology	OK	OK
4. Monitoring Parameters <i>(List all parameters of the PDD chapter B.7.1; pl. copy the 6 lines below for each parameter)</i>				
4.1. fNRB		Description: Non-renewability status of woody biomass fuel in scenario i in year y		
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) <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> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan</i>	/ PDD06 / / METH / / 2VER / / MR / / unfccc /	<i>Description:</i> As per registered PDD, this parameter is fixed to be updated if necessary. The applied fNRB of 81% was accepted by the host country DNA in June 2012. No update is considered necessary. <i>Justification of evidences:</i> As per MR and crosschecked on UNFCCC website. <i>Conclusion:</i> The parameter is correctly determined.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
of the PDD and the applied methodology.				
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) Determine whether the value given in the monitoring report is correct and sufficiently justified. In case of mistakes pl. provide details and descriptions of the CARs raised.	/PDD06/ /METH/ /2VER/ /MR/ /unfccc/	☒ Correct ☐ Not correct Description: Refer to checklist item above. Justification of evidences: Conclusion:	OK	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.	/PDD06/ /METH/ /2VER/ /MR/ /unfccc/	Description: The parameter value is confirmed by the host country DNA. Justification of evidences: By review of referenced documents. Conclusion: OK.	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) 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.	/PDD06/ /METH/ /2VER/ /MR/ /unfccc/	Description: Refer to checklist item above. Justification of evidences: Conclusion:	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	//PDD06/ /METH/ /2VER/ /MR/ /unfccc/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion</i>	OK	OK
4.2. LE_{p,y}		Description: Leakage in project scenario p in year y		
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination	/MR/ /PDD06/ /METH/	<i>Description:</i> As per registered PDD, leakage is supposed to be monitored every 2 years in line with applied methodology and registered monitoring plan. During this monitoring period, no leakage was accounted for. However evidence for leakage assessment for the period 2011-2012 was not provided to DOE (CAR P1). <i>Justification of evidences:</i> Assessment is based on review of methodology; MR and PDD. <i>Conclusion:</i> Refer to CAR P1.	CAR P1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>				
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /PDD06/ /METH/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P1	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /PDD06/ /METH/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P1	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/MR/ /PDD06/ /METH/	<i>Description:</i> Refer to Checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P1	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205,	/MR/ /PDD06/	<i>Description:</i> Refer to checklist item above.	CAR P1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/METH/	Justification of evidences: Conclusion:		
4.3. $P_{p,y}$ ($P_{p,FES}$), ($P_{p,PCS}$), ($P_{p,RB}$), ($P_{p, UCS}$), ($P_{p, ICS}$),		Description: Quantity of fuel that is consumed in project scenario p during year y		
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan	/MR/ /PDD06/ /KPT/ /CAL/	Description: The parameter is measured through Kitchen Performance Tests performed every two years and continuous total stove/barn sales. For PCS, UCS and FES stoves the measurement is quantity in kg/household/day. The ICS measured by kg/adult meal/ICS. And kg/kg of tobacco output. The consumption quantities are adjusted for usage and aging. The equipment used is the generic spring-dial hoist scales (100kg capacity); voltcraft FM-100 Moisture meter (capacity to measure moisture content up to 44%; accuracy 1%) and measuring tape. The equipment is calibrated as per manufacturer's instructions.	GLU1 GLU3 CAR P2 CAR P3	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 PDD and the applied methodology.</i>		<i>Justification of evidences:</i> The assessment is based on review of MR, PDD, sales records and KPT reports. <i>Conclusion:</i> As indicated earlier, it has to be clarified why no sales were recorded for this monitoring period (CL U1, CL U3). Further, the monitoring frequency of parameter P_{pFES} is not as per registered monitoring plan (CAR P2); CAR P3 – the usage and monitoring surveys of December 2012 for the PCS were not provided to the DOE.		
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /PDD06/ /KPT/	<i>Description:</i> The measurement of stoves UCS, and ICS and the barns is correctly done and hence the value for these technologies is considered correct. However as indicated above the monitoring of PCS and FES stoves in not correct (CAR P2, CAR P3). <i>Justification of evidences:</i> The assessment is based on review of MR, PDD and KS reports. <i>Conclusion:</i> Refer to CAR P2 and CAR P3.	CAR P2 CAR P3	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /PDD06/ /KPT/ /METH/	<i>Description:</i> A pre-testing scenarios were carried out and a paired test was carried out to minimise external factors. Calibration of measuring equipment is as per manufacturer's instructions. <i>Justification of evidences:</i> By review of MR, applied methodology and monitoring surveys. <i>Conclusion:</i> Nonetheless the training records of new staff were not provided to DOE (CL Q2) and also the	CAR P2 CAR P3	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/MR/ /PDD06/ /KPT/ /METH/	<i>Description:</i> See assessment in 4.3 (a) above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CLU1 CLU3 CAR P2 CAR P3	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.</i>	/MR/ /PDD06/ /KPT/ /METH/	<i>Description:</i> Refer to checklist above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CLU1 CLU3 CAR P2 CAR P3	OK
4.4. $U_{p,y}$ ($U_{p,PCS}$), ($U_{p,FES}$), ($U_{p,UCS}$), ($U_{p,ICS}$), ($U_{p,RB}$)		Description: Usage rate in project scenario p during year y (Percentage of stoves of age x remaining in use in year y)		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) <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> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/IM01/ /MR/ /KPT/ /PDD06/ /METH/	<i>Description:</i> This parameter is measured by usage surveys for all technologies. The frequency of measure is annual or more frequently. For the stoves usage is measured against age of stove. PCS stoves usage is measured for stoves aged 0-1; 1-2; 2-3 and 3-4 years. For the FES the stove ages are 0-1; 1-2 and 2-3 years. For the UCS its 0-1; 1-2; 2-3 years. For the rocket barn usage measurement is by seasons: 0-1 season; 1-2; 2-3; and 3-4 seasons. Random sampling is applied to the FES, UCS and PCS at a 90% confidence interval, the minimum sample size was reached. ICS only 21 are built all were checked. Similarly for the RB results from all seasons were used. Data was collected by enumerators through questionnaires. These were checked during onsite visit. <i>Justification of evidences:</i> The verification team reviewed the MR, PDD, usage survey reports, applied methodology and made onsite assessment. <i>Conclusion:</i> The usage report for PCS for December 2012 was not provided to DOE (CAR P3). Further, information on geographical cluster for random sample in MR is not correct (CL R4).	CAR P3 CL-R4	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/IM01/ /MR/ /KPT/ /PDD06/ /METH/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P3 CL-R4	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IM01/ /MR/ /KPT/ /PDD06/ /METH/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P3 CLR4	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /MR/ /KPT/ /PDD06/ /METH/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P3 CLR4	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether</i>	/IM01/ /MR/ /KS/ /PDD06/ /METH/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR P3 CLR4	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.				
4.5. Eff_p		Description: Efficiency of aging project stove PCS		
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/IM01/ /KS/ /MR/ /PDD06/ /METH/	Description: This parameter is to assess how the efficiency of project PCS compares with baseline conservative estimation of 31%. As project stove demonstrates efficiency of more than 31% and has to be factored in the suppressed demand calculation. Justification of evidences: The assessment is based on document review. Conclusion: However it has to be clarified why older PCS and FES stoves have higher efficiency as indicated in MR (CL P5).	CL P5	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) Determine whether the value given in the monitoring report is correct and sufficiently justified. In case of mistakes pl. provide details and descriptions of the CARs raised.	/IM01/ /KS/ /MR/ /PDD06/ /METH/	Description: Refer to checklist item above. Justification of evidences: Conclusion:	CL P5	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206)	/IM01/ /KS/ /MR/	Description: Refer to checklist above. Justification of evidences:	CL P5	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 and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/PDD06/ /METH/	Conclusion:		
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /KS/ /MR/ /PDD06/ /METH/	Description: See checklist item above. Justification of evidences: Conclusion:	CL P5	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in</i>	/IM01/ /KS/ /MR/ /PDD06/ /METH/	Description: See checklist item above. Justification of evidences: Conclusion:	CL P5	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
covering the full monitoring period.				
4.6. N_{p,y}		Description: Stove and barn Sales		
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/SALES/ /IM01/ /PDD06/ /MR/	Description: The sales record is continuously updated by local project managing entity (Area 55) and the database is maintained by project coordinator. The verification team found the sales record well maintained and traceable. Justification of evidences: By review of documents and onsite random sample assessments. Conclusion: However it has to be clarified why there are no sales for this monitoring period (CL U1) as well as no additional stoves recorded (CL U2).	CLU1 CLU2	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) Determine whether the value given in the monitoring report is correct and sufficiently justified. In case of mistakes pl. provide details and descriptions of the CARs raised.	/SALES/ /IM01/ /PDD06/ /MR/	Description: Correctness to be determined upon closure of CLs U1 and U2 Justification of evidences: Conclusion:	CLU1 CLU2	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of	/SALES/ /IM01/ /PDD06/ /MR/	Description: Refer to checklist item above. Justification of evidences:	CLU1 CLU2	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>the monitoring equipment has been carried out by competent personnel.</i>		<i>Conclusion:</i>		
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/SALES/ /IM01/ /PDD06/ /MR/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	GLU1 GLU2	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.</i>	/SALES/ /IM01/ /PDD06/ /MR/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	GLU1 GLU2	OK
Sustainable Development Variables (Gold Standard Requirement)				
4.7. Air Quality				

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/IM01/ /IM02/ /MR/ /KS/ /SD XLS/ /GSP/	<i>Description:</i> This parameter is monitored through Kitchen survey (KS) performed yearly. The KS for all cooking stoves indicate the less smoke in the kitchen. <i>Justification of evidences:</i> The verifier carried out random interviews of stove end users and reviewed relevant documents. <i>Conclusion:</i> The measure was found to be in line with the GS registered monitoring plan. However Annex 1 table in MR regarding SD indicators is not complete (CL SDM2).	CL SDM2	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) Determine whether the value given in the monitoring report is correct and sufficiently justified. In case of mistakes pl. provide details and descriptions of the CARs raised.	/IM01/ /IM02/ /MR/ /KS/ /SD XLS/ /GSP/	<i>Description:</i> This parameter is measured through kitchen surveys. This is in lined with the registered GSP. <i>Justification of evidences:</i> The verification team checked 50 households randomly drawn from the sales record. Each household reported less smoke, reduced eye irritation and reduced coughing than the baseline stove. <i>Conclusion:</i> The parameter was assessed correctly.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IM01/ /IM02/ /IMR/ /KS/ /SD XLS/ /GSP/	<i>Description:</i> The measure for this parameter is assessed qualitatively by the third party. <i>Justification of evidences:</i> QA/QC procedures were checked by end user interviews. <i>Conclusion:</i> The QA/QC procedures are met.	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /IM02/ /IMR/ /KS/ /SD XLS/ /GSP/	<i>Description:</i> See checklist item. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be</i>	/IM01/ /IM02/ /IMR/ /KS/ /SD XLS/ /GSP/	<i>Description:</i> See checklist item. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.</i>				
4.8. Livelihood of the Poor				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) <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> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	<i>Description:</i> The parameter is the estimated by: - The total value of wood saving is estimated at 153 million Malawian Kwacha (MK) per year. - Cooking/curing time saving is estimated at 152.6 million MK per year. - RB: Improved quality and quantity of tobacco is estimated at 70 million MK/year. <i>Justification of evidences:</i> The verification team interviewed randomly stove owners. They all confirmed fuelwood saving resulting in reduced cooking time and fuel collection time. Rocket barn owner has a higher increase in their incomes because of increased quality and quantity of cured tobacco. <i>Conclusion:</i> The monitoring frequency for this indicator is in line with the monitoring plan. Nonetheless, Annex 1 table in MR regarding SD indicators is not complete (CL SDM2).	CL SDM2	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring</i>	/IM01/ /IM02/ /IMR/	<i>Description:</i> This parameter is assessed through annual monitoring surveys. The survey frequency for all stoves and RB meets the required survey interval. The surveys generally indicate above average usage (except for FES that has	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/KS/ /SD/ /GSP/	extremely low usage). This indicates that end-user’s livelihood has improved in terms of money spent on fuelwood or time spent collecting fuelwood. <i>Justification of evidences:</i> The verification team reviewed the survey reports and carried out on-site interviews in randomly selected households in different locations. <i>Conclusion:</i> The measurement of this parameter was correctly undertaken and the value given is justified.		
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IM01/ /IM02/ /MR/ /KS/ /SD/ /GSP/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /IM02/ /MR/ /KS/ /SD/ /GSP/	<i>Description:</i> See checklist item above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/IM01/ /IM02/ /IMR/ /KS/ /SD/ /GSP/	Description: Refer to checklist item above. Justification of evidences: Conclusion:	OK	OK
4.9. Quantitative employment and income generation				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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.	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	Description: This parameter is measured by the number of jobs created by the project as per registered GS Passport. Jobs were created for stove & barn producers, retailers and coordinators. Total employment is 1078 people employed by the project. Justification of evidences: During onsite visit the verifier conducted interview ^{/IM02/} with employers. Conclusion: Project was providing employment to the local	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.		population. This is in line with the registered GS passport.		
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) Determine whether the value given in the monitoring report is correct and sufficiently justified. In case of mistakes pl. provide details and descriptions of the CARs raised.	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	Description: Refer to checklist above. Justification of evidences: Conclusion:	OK	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	Description: Refer to checklist above. Justification of evidences: Conclusion:	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) 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.	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	Description: Refer to checklist above. Justification of evidences: Conclusion:	OK	OK
e) Verification	/IM01/	Description: Refer to checklist above.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/IM02/ /MR/ /SD XLS/ /GSP/	Justification of evidences: Conclusion:		
4.10. Quality of Employment				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring	/IM01/ /IM02/ /MR/ /SD XLS/ /GSP/	Description: This parameter is measured by qualitative assessment of employment conditions such as health insurance and training according to GS Passport. It was evident from interviews with producers that trainings were given by sub-contractors. Justification of evidences: The assessment is done through desk review and onsite interviews. Conclusion: All staff employed directly by the project are covered with health insurance.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>plan of the PDD and the applied methodology.</i>				
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	<i>Description:</i> See comments above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	<i>Description:</i> Refer to checklist item above. <i>Justification of evidences:</i> The verification checked the MR monitoring procedure against the MP. <i>Conclusion:</i>	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /IM02/ /IMR/ /SD XLS/ /GSP/	<i>Description:</i> See comments above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205,	/IM01/ /IM02/ /IMR/	<i>Description:</i> See comments above. <i>Justification of evidences:</i>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/SD XLS/ /GSP/	Conclusion:		
4.11. Access to Energy Services				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/IM01/ /IM02/ /MR/ /GSP/ /SALES/	Description: This parameter assesses the improvement in energy access. It is monitored on the basis of annual sales from number of stoves and barns made. As per draft MR submitted, 15,555 households have access to energy services from efficient stoves (FES, PCS, UCS); 21 institutions have access to energy services from ICS; and 952 RB are used by smallholder tobacco farmers. Justification of evidence: The sales records were found in good order and traceable hence this parameter is fulfilled. Conclusion: The measurement of this parameter is in line with the requirements of the monitoring plan.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/IM01/ /IM02/ /MR/ /GSP/ /SALES/	<i>Description:</i> Please see comments above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IM01/ /IM02/ /MR/ /GSP/ /SALES/	<i>Description:</i> Please see comments above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /IM02/ /MR/ /GSP/ /SALES/	<i>Description:</i> Please see comments above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data</i>	/IM01/ /IM02/ /MR/ /GSP/	<i>Description:</i> Please see comments above. <i>Justification of evidences:</i>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/SALES/	Conclusion:		
4.12. Human and Institutional Capacity				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/IM01/ /IM02/ /MR/ /GSP/ /SD XLS/	Description: This parameter is measured by the number of women employed & trained by the project. It was evident during onsite visit that PCS production was predominantly a women job as well as its retailing. Training has been done for PCS stoves 616 trainees (82% women) and marketing and retailing 403 trained (59% women). The monitoring is done bi-annually to check of number of employees are women. Justification of evidences: The verification team interviewed producers and sub-contractors during onsite visit. Conclusion: It is evident the project provides training for women especially in the PCS production and sales.	OK	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e)	/IM01/ /IM02/	Description: See checklist item above.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /SD XLS/	<i>Justification of evidences:</i> <i>Conclusion:</i>		
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IM01/ /IM02/ /MR/ /SD XLS/	<i>Description:</i> See checklist item. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IM01/ /IM02/ /MR/ /SD XLS/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement /</i>	/IM01/ /IM02/ /MR/ /SD XLS/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.				
4.13. Technology transfer and technological self-reliance				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/IMR/ /IM02/ /GSP/ /SALES/	Description: Appropriate technology transfer shall be monitored every two years to establish project technology dissemination levels as per registered GS Passport. This is established through the sales record – establishing the number of stoves/barns that are supplied. Justification of evidences: The verification team checked the sales record and carried out on-site interview with end-users. Conclusion: However as earlier indicated, it is not clarified why there are no stove/barn sales during the 3 rd monitoring period.	CLU1	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) Determine whether the value given in the monitoring	/IMR/ /IM02/ /GSP/	Description: See comment above. Justification of evidences:	CLU1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/SALES/	Conclusion:		
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /IM02/ /GSP/ /SALES/	Description: Please see comment above. Justification of evidences: Conclusion: Justification of evidences: Conclusion:	CLU1	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/MR/ /IM02/ /GSP/ /SALES/	Description: Justification of evidences: Conclusion:	CLU1	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording, calculation</i>	/MR/ /IM02/ /GSP/ /SALES/	Description: Justification of evidences:	CLU1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.</i>		Conclusion:		
4.14. Balance of payments and investments				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) <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> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/MR/ /IM01/ /GSP/ /SALES/ /ISSUAN CE/	<i>Description:</i> This parameter shall be monitored every 2 years to assess increase of investments from improved devices as per registered GS Passport. It is also done through monitoring of VER sales. So far Gold Standard Foundation has made two issuances for the project of 98,416 VERs. <i>Justification of evidences:</i> By document review and interview of project owner. <i>Conclusion:</i> However as earlier indicated, it has to be clarified why no stove/barn sales were made in the 3 rd monitoring period.	CLU1	OK
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring</i>	/MR/ /IM01/ /GSP/	<i>Description:</i> See comment above. <i>Justification of evidences:</i>	CLU1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/SALES/ /ISSUAN CE/	Conclusion:		
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /IM01/ /GSP/ /SALES/ /ISSUAN CE/	Description: Justification of evidences: Conclusion:	CLU1	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/MR/ /IM01/ /GSP/ /SALES/ /ISSUAN CE/	Description: Justification of evidences: Conclusion:	CLU1	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) <i>Describe how the information flow (from data generation, aggregation, to recording,</i>	/MR/ /IM01/ /GSP/ /SALES/	Description: Justification of evidences:	CLU1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.</i>	/ISSUAN CE/	Conclusion:		
4.15. Biodiversity				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) <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> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/MR/ /GSP/ /KS/ /SALES/	<i>Description:</i> This parameter shall be monitored annually by assessing reduced deforestation due to reduced fuelwood consumption attributed to improved stoves/barns. This is assessed through monitoring surveys to establish usage rates to determine level of wood consumption. 14,623 households use improved cookstoves, 21 institutions use ICS and 952 RB are in use. The surveys are carried out at least annually for all project technologies. <i>Justification of evidences:</i> Assessment was based on review of GSP monitoring requirements and cross-checking monitoring surveys to check if stoves are used. <i>Conclusion:</i> Proper usage of stoves was found except in the case of FES.	OK	OK
b) Correctness	/MR/	<i>Description:</i> Refer to checklist item above.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/GSP/ /KS/ /SALES/	<i>Justification of evidences:</i> <i>Conclusion:</i>		
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /GSP/ /KS/ /SALES/	<i>Description:</i> <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/MR/ /GSP/ /KS/ /SALES/	<i>Description:</i> <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205,	/MR/	<i>Description:</i>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/GSP/ /KS/ /SALES/	Justification of evidences: Conclusion:		
4.16. Soil condition				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/IMR/ /GSP/ /SALES/ /SD XLS/	Description: This parameter shall be monitored annually to assess reduced fuelwood consumption and hence reduced deforestation which is attributed to improved stoves/barns. Soil condition is also assessed through monitoring the collection of clay for the production of PCS to ensure it does not cause soil erosion. This is done bi-annually by the local NGO (Concern Universal) that checks and compiles clay-monitoring report ¹ . Justification of evidences: Clay monitoring report as well as extraction sites were checked during onsite visit.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<i>Conclusion:</i> The assessment is as per registered monitoring plan.		
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/IMR/ /IGSP/ /SALES/ /SD XLS/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/IMR/ /IGSP/ /SALES/ /SD XLS/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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>	/IMR/ /IGSP/ /SALES/ /SD XLS/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK
e) Verification	/IMR/	<i>Description:</i> Please see comment above.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/GSP/ /SALES/ /SD XLS/	Justification of evidences: Conclusion:		
4.17. Water quantity and quality				
a) Measurement / Determination method (EB 55 Annex 1, §§ 184-185, 202-203) Describe how the monitoring parameter was measured / determined. 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/MR/ /GSP/ /KS/ /SALES/	Description: This parameter shall be monitored every two years by assessing reduced deforestation due to reduced woodfuel consumption attributed to improved stoves/barns. The measurement of this parameter is by monitoring of sales and usage of stoves. As indicated earlier, monitoring surveys are done at least annually, which is in line with the requirements. Justification of evidences: The assessment is by review of monitoring surveys, sales and monitoring plan. Conclusion: However it is not clarified why there are no	GLU1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		stove/barn sales for this monitoring period (CL U1)		
b) Correctness (EB 55 Annex 1, §§ 202, 206, 221e) <i>Determine whether the value given in the monitoring report is correct and sufficiently justified.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /GSP/ /KS/ /SALES/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CL U1	OK
c) QA/QC Procedure (EB 55 Annex 1, §§ 184b (vii), 205c, 206) <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/MR/ /GSP/ /KS/ /SALES/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CL U1	OK
d) Accuracy (EB 55 Annex 1, §§ 205c, 206a) <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</i>	/MR/ /GSP/ /KS/ /SALES/	<i>Description:</i> Please see comment above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CL U1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>made for calculating ERs.</i>				
e) Verification (EB 55 Annex 1, §§ 184a, 184b, 186, 203, 205, 206b) Describe how the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences (external / internal, oral or documented). Further whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full monitoring period.	/ MR / / GSP / / KS / / SALES /	Description: Please see comment above. Justification of evidences: Conclusion:	GLU1	OK
5. ER Calculation				
5.1 Traceability (EB 55 Annex 1, § 182) 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.	/ XLS / / XL Summary / / METH / / PDD06 / / MR / / IM01 /	Description: The ER calculation is given in the excel file (XL Summary) and individually for each project device (XLS). Whereby the project emissions and leakage are subtracted from baseline emissions adjusted for suppressed demand. The calculation follows the GS methodology 'Technologies and Practices to Displace Decentralised Thermal Energy Consumption (11/04/2011)' in the same as per registered PDD. However the followings findings were raised: Value unit applied in ER calculation for parameters (P_B)	CAR C1 CLP5 CAR P6 CAR C2 CAR C3	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		PCS₀, P_{B FES 0}; P_{B UCS 0}) is not correct (CAR C1). - It is not clarified why older PCS stoves have a higher efficiency (CL C2); - Based on onsite finding, the ER calculation has to be corrected to account for high non-usage of the FES stove (CAR C3); - The ER calculation values are not conservatively rounded-down (CAR C4); - The “assumption” value for usage rates is not correct (CAR C5) - Evidence for leakage monitoring is not provided (CAR P1). <i>Justification of evidences:</i> The ER calculation traceability was assessed by comparing sales records, PDD, MR, and excel files and onsite observation. <i>Conclusion:</i> Refer to findings raised above.	CAR P1	
5.2 Parameter consistency (EB 55 Annex 1, § 186) <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</i>	/XLS/ /XL Summary / /METH/ /PDD06/ /MR/ /IM01/	<i>Description:</i> The monitoring report and excel ER spreadsheet calculation were compared for all project technologies to check their consistency. Generally there is correct data exchange between the MR and the calculation spreadsheet and it is clear and traceable how the values are generated. However refer to CAR C1, CL C2 and CAR C5 as several issues were identified for corrections and clarifications.	CAR C1 CL P5 CAR C3	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
any). Further ensure that consistent designations for parameters in PDD, MR, calculation spreadsheet are applied. The evaluation of the correctness of the parameter values itself should be discussed in the chapter "Monitoring Parameters".		<i>Justification of evidences:</i> Assessment is based on review of excel spreadsheets, applied methodology and MR. <i>Conclusion:</i> Refer to CAR C1, CL C2 and CAR C5.		
5.3 Applied formulae (EB 55 Annex 1, §§ 204-206) Check if the applied formulae and methods for calculating baseline emissions, project emissions and leakage are in accordance with the monitoring plan and / or the approved methodology.	//XLS/ /XL Summary / /METH/ /PDD06/ /MR/	<i>Description:</i> The formulae applied in the MR are derived from <i>GS Technologies and Practices to Displace Decentralised Thermal Energy Consumption (11/04/2011)</i> which is the methodology applied in the registered PDD (PPD06). . <i>Justification of evidences:</i> The verification team reviewed the formulae stated in the applied methodology and the GS-VER-PDD and compared to the formulae applied in the XLS calculator. <i>Conclusion:</i> The applied formulae and methods for calculating baseline emissions, project emissions and leakage are in accordance with the monitoring plan and the approved methodology.	OK	OK
5.4 Completeness of calculation (EB 55 Annex 1, § 205a) Assess whether the provided calculations are complete and reflect all requirements of the monitoring plan. Check especially that no standard or old values have been used for calculation where calculations based	/XLS/ /XL Summary / /METH/ /PDD06/ /MR/	<i>Description:</i> Refer to 5.1. above. <i>Justification of evidences:</i> <i>Conclusion:</i>	CAR C1 CL P5 CAR P6 CAR C2 CAR	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>on up-to-date data is required.</i>	/IM01/		C3 CAR P1	
6. Quality Management; defined organisational structure, responsibilities and competencies Internal QA/QC and document control				
6.1 Management System (EB 55 Annex 1, § 184 a (iii)) <i>Check if the GHG data monitoring system is embedded in a (certified) company quality management system, if so, check if all CDM monitoring procedures been fully integrated in the project participant's quality management system. If not how the GHG management system has been implemented.</i>	/MR/ /XLS/ /PDD06/ /IM01/	<i>Description:</i> During this monitoring period, the project management system was transferred from Rural Innovation Development (HRID) to a new local entity Area 55. Key project staff remain the same. Area 55 ensures quality control of the monitoring system including managing the electronic sales records and back-up records. It liaises with the surveyors on the regular surveys. The project coordinator manages the electronic database of total sales record. During onsite, the verifier found a traceable and operation management system in place. <i>Justification of evidences:</i> The management system was assessed through checking the consistency of the data monitoring in place against the requirements of the MP. <i>Conclusion:</i> The GHG management system has been implemented and is functional. However, the Area 55 newly introduced procedure for limited warranty system mentioned in MR3 V2 was not provided to verifier (CL Q1); as well as the training record of new workers (CL Q2).	~~CL Q1~~ ~~CL Q2~~	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
6.2 Roles and Positions <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> <i>Check further if only duly qualified personnel is involved in the monitoring procedures.</i>	/MR/ /PDD06/ /IM01/	<i>Description:</i> As indicated above, the project management is operated by Area 55. The personnel structure is well defined whereby the project coordinator manages the electronic database. Sub-contractors are hired to implement project equipment and manage BS and KS periodic surveys. <i>Justification of evidences:</i> This was crosschecked onsite document review and interview. <i>Conclusion:</i> The roles and responsibilities are clearly defined in the MR and are in line with what was observed onsite.	OK	OK
6.3 Trainings <i>Check if initial trainings have been carried out, in case deemed necessary.</i>	/MR/ /IM01/ /2VER/	<i>Description:</i> A new entity Area 55 has taken over the management of the project operations. Although as indicated above, key project personnel remain unchanged from the previous monitoring period, training records for new workers was not provided. (CL R3). <i>Justification of evidences:</i> Through desk review and as observed onsite. <i>Conclusion:</i> Refer to CL Q2.	CL R3	OK
6.4 Troubleshooting procedures <i>Describe relevant troubleshooting measures and assess whether these troubleshooting procedures have been implemented.</i>	/MR/ /PDD/ /IM01/ /IM02/	<i>Description:</i> The project has developed a good network with sales facilitators who keep track and liaise with their stove/barn customers (each sales location is management by a specific sales representative). Customers are encouraged to purchase a second stove for the continuity of stove usage; this was evident with PCS & ICS customers. However as non-regular usage continues to be observed among FES stoves, troubleshooting procedures for when these devices were not provided (CL H3).	CL H3 CL U3	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		Further, during the onsite visit it was discussed the incentive of project owner to start new project in the same area using the same technology and the same production and distribution system. (CLU3) Clarification is sought in regards of: • Preventing of double counting, • Separation of different projects during data collection and; • Ensuring unique identification of each project-stove in the field. <i>Justification of evidences:</i> The verifier checked project documents and interviewed end users and project implementers. <i>Conclusion:</i> Refer to CL H3 and CL U3.		
6.5 Maintenance procedures Are appropriate maintenance procedures in place?	/MR/ /PDD06/ /IM01/ /IM02/	<i>Description:</i> Construction of project devices is carried out by sub-contractors. Maintenance is carried out by field facilitators who operate in specific areas and manage client demands such as maintenance stoves/barns. <i>Justification of evidences:</i> The verifier confirmed during onsite visit that the maintenance procedures were adequate. <i>Conclusion:</i> Appropriate maintenance procedures are in place.	OK	OK
6.6 Internal QA/QC <i>Assess whether there are any procedures in place on when, where and how checks and reviews of relevant monitoring parameters as well as further processing of the same are to be carried out. Please determine</i>	/MR/ /PDD06/ /IM01/	<i>Description:</i> As indicated above, each stove/barn type is implemented by specific sub-contractors who manage the original sales records, project database, and sustainable development indicators. These are then forwarded to Area 55 for quality control and filing. The project coordinator ensures	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>the evidences to be documented. (This might include spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.)</i>		quality control and manages the data base. A third party, Clioma Ltd is sub-contracted to conduct Usage and Monitoring surveys. <i>Justification of evidences:</i> The verifier checked the monitoring process and it was functioning. <i>Conclusion:</i> QA/QC procedures are assessed as sufficient.		
6.7 Data archive Check whether all records of monitoring parameters are archived according to the monitoring plan.	/MR/ PDD06/ /IM01/ /IM02/	<i>Description:</i> The data recording keeping is in good form. <i>Justification of evidences:</i> The verifier crosschecked field data records and electronic files and they were fully traceable. <i>Conclusion:</i> The records of monitoring parameters are archived according to the monitoring plan.	OK	OK
6.8 Data protection Assess whether appropriate measures have been take in order to avoid unintended or intended manipulation of the measured data.	/MR/ /PDD06/ /IM01/ /IM02/	<i>Description:</i> Same as above. <i>Justification of evidences:</i> <i>Conclusion:</i>	OK	OK



ANNEX 2: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL



SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2014-12-08
Ji	Lead Assessor Technical Reviewer	2014-12-08
VCS / ISO 14064-2	Lead Assessor Technical Reviewer	2014-12-08

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal Energy Generation	
1.2	Renewable Energies	
2.1	Electricity Distribution	
2.2	Heat Distribution	
3.1	Energy Demand	
5.1	Chemical Process Industries	
11.1	Chemical Process Industries	
12.1	Chemical Process Industries	
13.1	Waste Handling and Disposal	13.1.1 Waste Management 13.1.2 Waste Water Management
13.2	Animal Waste Management	
15.2	Animal Waste Management	

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S01-F003 rev2 / 2012-04-05

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2016-01-24
VCS / ISO 14064-2	Lead Assessor	2016-01-24

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies
14.1	Forestry

173 – Rev. 2, Date: 2013-01-25

173_S01-VA060-F20_2013-01-25_rev2.doc

S01-VA060-F20 rev3 / 2012-10-25

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2015-08-09
VCS / ISO 14064-2	Assessor	2015-08-09

251 - Rev. 1, Date: 2012-08-10

251_S01-F003_2012-08-10_rev1.doc

S01-F003 rev2 / 2012-04-05



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

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-06-30
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2014-06-30

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal energy generation	
1.2	Renewable Energy	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
2.2	Heat distribution	
3.1	Energy demand	
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management
13.2	Animal waste management	
15.2	Animal waste management	

163 – Rev. 2, Date: 2011-08-10

163_S01-F003_2011-08-10_rev2
S01-F003 rev1 / 2011-08-02