

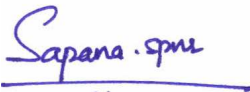


Verification and certification report form for CDM project activities

(Version 01.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the verification and certification report form for CDM project activities" at the end of this form.

VERIFICATION AND CERTIFICATION REPORT

Title of the project activity	Improved Jikos – Better Living For Rural Population
Reference number of the project activity	GS2457
Version number of the verification and certification report	1.1
Completion date of the verification and certification report	06/07/2016
Monitoring period number and duration of this monitoring period	First Monitoring Period: Monitoring Period Duration: 2 years, from 01/01/2014 - 31/12/2015, both days included
Version number of monitoring report to which this report applies	1.1
Crediting period of the project activity corresponding to this monitoring period	First crediting period
Project participant(s)	Fastenopfer
Host Party	Kenya
Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)	Energy demand (3.1) Technologies and Practices to Displace Decentralized Thermal Energy Consumption
Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PDD	21,205 tCO _{2e}
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	3,681 tCO _{2e}
Name of DOE	Bureau Veritas Certification Holding SAS
Name, position and signature of the approver of the verification and certification report	 Ms Sapana Pednekar Quality Manager Operations

SECTION A. Executive summary

Bureau Veritas Certification has conducted the first periodic verification of the project titled "Improved Jikos – Better Living for Rural Population"; with Gold Standard registration reference number GS2457. The project is developed by Fastenopfer, is located in Kenya (the host country), and applies the methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)".

The verification was based on:

- a) Requirements for Voluntary Offset Projects under the Gold Standard, including the applied Gold Standard methodology, and
- b) UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The Gold Standard requirements are stipulated in the GS Requirements–version 2.2 and The Gold Standard Toolkit version 2.2; UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The verification scope is defined as an independent and objective review and ex-post determination of the monitored GHG emission reductions, and consisted of the following three phases:

- i) Desk review of the project design, the baseline and monitoring plan
- ii) Follow-up interviews with project stakeholders;
- iii) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in the validated and registered project design documents. Installed equipment (efficient cook stoves) being essential for generating emission reduction run reliably. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reductions are calculated without material misstatements, and the emission reductions verified totalize 3,681 tCO₂e for the monitoring period.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported; and related to the valid and registered project baseline, approved monitoring plan and its associated documents.

Reporting period: 01/01/2014 - 31/12/2015 (both dates included)

Baseline emissions: Integrated in ER calculation formula

Project emissions: Integrated in ER calculation formula

Leakage emissions: 0 t CO₂e

Emission Reductions: 3,681 t CO₂e.

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader	IR	Mayieko	Samuel	BVC/Kenya	x	x	x	x

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Chirchir	James	Bureau Veritas Certification Holding (SAS)
2.	Approver	IR	Pednekar	Sapana	Bureau Veritas Certification Holding (SAS)

SECTION C. Application of materiality**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	<i>Incorrect capture of the date of construction of each stove</i>	<i>High</i>	<i>Likelihood – more likely to occur due to manual data capture and transfer to excel based database. Impact - may lead to over estimation of the number of days the stove has been in use. Hence over estimation of ERs claimed</i>	<i>Carry out a site visit and randomly cross check a sample of receipts/Stove Purchase Agreement with the information in the database</i>
2.	<i>Inadequate transfer of survey information (Usage survey)</i>	<i>High</i>	<i>Likelihood – more likely to occur due to manual transfer of survey information from handwritten questionnaires to excel sheets Impact – may lead to a higher usage rate and hence over estimation of ERs claimed.</i>	<i>Carry out a site visit and randomly cross check a sample of hand-written survey records to determine whether the transfer of information was performed adequately</i>
3.	<i>Unreported project and leakage emissions</i>	<i>medium</i>	<i>Likelihood – less likely to occur since the methodology includes accounting for project and leakage emissions. A Forward Action Request had been raised at validation related to project emissions. Impact – Over estimation of ERs claimed</i>	<i>Carry out a site visit and assess possible sources of project emissions (including production and transportation of materials for the stoves)</i>

4.	<i>Incorrect calculations</i>	<i>High</i>	<i>Likelihood – more likely to occur due to reliance on excel spread sheets with less controls Impact – Over estimation of ERs claimed.</i>	<i>Recalculate ERs using parameters reported by PP to determine if the reported ERs can be reproduced</i>
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C.2. Consideration of materiality in conducting the verification

Consideration of materiality began by determining the materiality threshold to be applied. Initially a threshold of 2% was considered, but was revised to 5% after PP's clarification from Gold Standard.

The DOE assessed the risks indicated in section C.1 above, based on acceptance sampling (refer to section D.4 below) and applying the materiality threshold of 5% as follows:

- Risk No.1, dates from a random sample of 11 samples of receipts/ Stove Purchase Agreement was compared with the dates in the stove database. No discrepancies were observed. The data was accepted and no more samples were taken.

- Risk No.2, a random sample of 20 hand-written survey records were compared with information in the survey database. Discrepancies were noted in 5 out of the 20 samples. The discrepancies were assessed on their effect in the value of the usage rate, and consequently the ERs calculations. It was noted that the discrepancies were not material i.e. they did not affect the usage rate and ERs calculations. The PP was however requested to make corrections on the discrepancies (refer to CAR 8 in appendix 4).

- Risk No.3 was assessed together with GS Forward Action Request # 1. The PP has assessed emissions associated with production and transportation of bricks used to make the stoves. From the assessment the associated emissions from production and transportation per stove are 1.34% of the total emissions achievable per stove over a 7 year crediting period. This is below the 5% materiality threshold. The DOE considers that the emissions associated with production and transportation is not material.

- Risk No.4, using the data and parameters reported by the PP, the DOE has been able to reproduce the same amount of ERs being claimed by the PP, by following the formulae provided in the methodology. The ER calculations by the PP are accepted.

SECTION D. Means of verification

D.1. Desk review

The assessment of the project documentation provided by the project participant is based upon both quantitative and qualitative information on emission reductions. Quantitative information comprises the reported numbers in the monitoring report (MR) version 1.1 dated 12/05/2016 (refer to doc 1 in Appendix 3) and emission reduction calculation spreadsheet dated 18/02/2016 (refer to doc 2 in Appendix 3). Qualitative information comprises information on internal management controls, calculation procedures, and data transfer procedures, frequency of emissions reports, and review and internal audit of calculations.

The monitoring report version 1 submitted by the project participant has been made available to Gold Standard. Additional monitoring documentation were provided by the project participants and reviewed by the DOE including:

- Monitoring and Usage survey report, and datasheets (refer to docs 3 and 4 in Appendix 3);
- KPT report and datasheets (refer to docs 5 and 6 in Appendix 3);
- Baseline/ Project scenario report and datasheets (refer to docs 7 and 8 in Appendix 3);

The DOE also reviewed other sources of information for comparison of the reported values including:

- The registered PDD and the monitoring plan (refer to doc 9 in Appendix 3);
- Validation report (refer to doc 10 in Appendix 3)
- The applied monitoring methodology (refer to doc 11 in Appendix 3);

D.2. On-site inspection

Duration of on-site inspection: 24/04/2016 to 27/04/2016				
No.	Activity performed on-site	Site location	Date	Team member
1.	Introduction meeting (Project representative)	Kitui	24/04/2016	Samuel Mayieko
2.	Opening meeting	Kitui	25/04/2016	Samuel Mayieko
3.	Review of records (including sales records)	Kitui	25/04/2016	Samuel Mayieko
3.	Visit technology users/ interview artisans & Enumerators	Kitui	25-26/04/2016	Samuel Mayieko
4.	Closing meeting	Kitui	26/04/2016	Samuel Mayieko
5.	Opening meeting	Nyeri	27/04/2016	Samuel Mayieko
6.	Visit technology users/ interview artisans & Enumerators	Nyeri	27/04/2016	Samuel Mayieko
7.	Review of records (including sales records)	Nyeri	27/04/2016	Samuel Mayieko
8.	Closing meeting	Nyeri	27/04/2016	Samuel Mayieko

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Knecht	David	Project Officer -Fastnopfer	24/04/2016	- Project implementation - Monitoring Plan - Monitoring data - QA/QC - Incentive mechanism - PFT/Survey records - SDIs - Issues raised at document review stage - ER calculations	Samuel Mayieko
2.	Peninah	Mwende	Project Coordinator - Caritas Kitui	25/04/2016	- Monitoring records control (e.g. Survey records, calibration records) - sales records - SDIs (Employment, Training) - Data QC/QA - Awareness creation	Samuel Mayieko

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3.	Kajana	Benson	Data officer Caritas Kitui	25/04/2016	- Project Surveys - SDIs (Employment, Training) - Data entry - Stove monitoring - Database	Samuel Mayieko
4.	Mulatya	David	Lead Artisan/ Enumerator (Kitui)	25/04/2016	- Control of stove quality - Experience in survey - Employment -Training	Samuel Mayieko
5.	Mulinge	Charles	Lead Artisan/ Enumerator (Kitui)	25/04/2016		
6.	Maingi	Belita	Lead Artisan/ Enumerator (Kitui)	26/04/2016		
7.	Musee	Meta	User (Kitui)	26/04/2016	- SDIs (air quality, time/money savings) - Stove usage - Baseline stove - Participation in surveys	Samuel Mayieko
8.	Vulanda	Catherine	User (Kitui)	26/04/2016		
9.	Munyoki	Maliti	User (Kitui)	26/04/2016		
10.	Nyamai	Kavinya	User (Kitui)	26/04/2016		
11.	Gideon	Rachael	User (Kitui)	27/04/2016		
12.	Mulwa	Kanyaa	User (Kitui)	27/04/2016		
13.	Mutei	Nzuki	User (Kitui)	27/04/2016		
14.	Lucas	Cecilia	User (Kitui)	27/04/2016		
15.	Mutua	Jerusa	User (Kitui)	27/04/2016		
16.	Muli	Judith	User (Kitui)	27/04/2016		
17.	Wanjohi	Simon	Program Coordinator - Caritas Nyeri	27/04/2016	- Project implementation and monitoring - Monitoring records	Samuel Mayieko
18.	Kagiri	Caroline	Project Officer - Caritas Nyeri	27/04/2016	- Monitoring records control (e.g. Survey records, calibration records) - sales records - SDIs (Employment, Training) - Data QC/QA - Awareness creation	Samuel Mayieko
19.	Mathenge	James	Data Officer - Caritas Nyeri	27/04/2016	- Project Surveys - SDIs (Employment, Training) - Data entry - Stove monitoring - Database	Samuel Mayieko
20.	Maina	William	Lead Artisan (Nyeri)	27/04/2016	- Control of stove quality - Experience in survey - Employment -Training	Samuel Mayieko
21.	Mwangi	Charles	Enumerator (Nyeri)	27/04/2016	- Experience in survey	Samuel Mayieko
22.	Nyambura	Esther	User (Nyeri)	27/04/2016	- SDIs (air	Samuel Mayieko

23.	Kahuthu	Beatrice	User (Nyeri)	quality, time/money savings) - Stove usage - Baseline stove - Participation in surveys
24.	Gachagua	Godfrey	User (Nyeri)	
25.	Ngare	Samuel	User (Nyeri)	
26.	Wachira	Gladys	User (Nyeri)	
27.	Kimondo	Veronica	User (Nyeri)	

D.4. Sampling approach

The assessment of records was based on random sampling. The DOE employed acceptance sampling as described in CDM Standard for Sampling and surveys for CDM project activities and programme of activities version 05.0. The following conditions were applied to determine the sample size taken by the DOE:

- (a) Acceptable quality level or the Level of Assurance, i.e. the proportion of discrepancies between the PP sample records and the DOE sample records (i.e. DOE field/onsite inspection results) that are acceptable (AQL). AQL = 1%
- (b) The proportion of discrepancies between the PP sample record and DOE sample records that are unacceptable, (UQL). UQL = 20%
- (c) A 10% Producer's risk: That is a 10% chance that the DOE will wrongly reject the PPs records (i.e. reject a set of records of acceptable quality)
- (d) A 20% Consumer's risk: That is 20% chance that the DOE will wrongly accept the PPs records (i.e. accept a set of records which is unacceptable)

The table below shows the minimum sample size for based on the above conditions and the actual sample size taken during site visit:

Activity to verified	Minimum Sample size	Actual sample size taken
Monitoring and usage surveys	8	20 questionnaires sampled (10 from Kitui and 10 from Nyeri) out of which 16 respondents were visited (10 in Kitui and 6 in Nyeri)
Sales records	8	11 receipts/stove purchase agreement
Baseline survey	8	21 questionnaires

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	7	-
Compliance of the project implementation with the registered PDD	-	-	-
Post-registration changes	-	-	-
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline	4	-	-
Compliance of monitoring activities with the registered monitoring plan	-	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	1	1	-
Others (please specify)	-	-	-
Total	5	8	0

SECTION E. Verification findings**E.1. Compliance of the monitoring report with the monitoring report form**

Means of verification	Document reviewed: The monitoring report version 1.0 dated 20/03/2016 was reviewed for compliance with instructions for filling in monitoring report forms contained in the forms.
Findings	Seven (7) corrective actions were raised (refer to CAR 1 to CAR 7 in Appendix 4)
Conclusion	The DOE confirms that after resolution of the corrective action requests, the monitoring report version 1.1 dated 27/05/2016 complies with the relevant form and instructions therein and GS requirements with respect to monitoring report.

E.2. Remaining forward action requests from validation and/or previous verification

The DOE has reviewed the responses to the forward action requests (FARs) raised at validation and provided its opinion with respect to how the PP has addressed each of the FARs.

Forward Action Request # 1: The PP shall follow the ‘Guideline On The Application Of Materiality In Verifications’ (EB 69 Report Annex 6) in order to determine the project emission shall be accounted or not. The Verifying DOE shall provide its opinion in the verification report how these guidelines have been applied correctly.”

The DOE has reviewed the response to the FAR provided by the PP. It is the DOE’s opinion that the PP has followed the guideline for application of materiality. The PP claims the emissions associated with production and transportation of bricks (the main material used in making the stove) is not material as it only represents 1.34% of the total emission reductions achievable per stove over a 7 year crediting period, against a materiality threshold of 5%. The DOE has reviewed the calculations and assumptions presented by the PP and consider that the PP’s assumptions have been justified. Also refer to DOE’s clarification number CL 3 in appendix 4.

Forward Action Request # 2: On time for the verification, the PP shall carry out additional surveys to meet the minimum sample size requirement according whole population of ICS. The Baseline surveys shall be carry out in the households without the project technology.

The DOE confirms that the PP has carried out additional surveys (21 additional samples) to meet the minimum sample size requirement. The PP has carried out data analysis combining these additional samples with the samples taken at validation stage. The PP has made relevant adjustments base on the results of the data analysis. The DOE reviewed the surveys and consider that the PP has met the requirement.

It is the DOEs opinion that the PP has addressed the FARs identified at validation. No FARs have been raised in this verification.

E.3. Compliance of the project implementation with the registered project design document

Means of verification	Document review: Monitoring report version 1.0 (ref doc 12 Appendix 3) and version 1.1 (ref doc 1 Appendix 3), registered PDD (ref doc 9 Appendix 3), Monitoring manual (ref doc 13 Appendix 3) Site visit: Interviews with PP’s representative, monitoring team and stove users, and Observation of stove technology implemented
Findings	Compliant
Conclusion	The DOE has performed a site visit and found that the Project has been put into operation. The PP has continued to install the brick-type rocket stove in Kitui and Nyeri. No changes to the project design have been identified during this verification. The implementation and operation of the project activity has been conducted in accordance with the description contained in the registered PDD. Except for the number of stoves installed and usage rate, information (data and variables) provided in the monitoring report is the same as stated in the registered PDD. Fewer stoves were installed than projected in the registered PDD resulting to

	<p>lower emission reductions. Corresponding to the paragraph 385 of VVS version 09.0, the DOE can confirm that the implementation and operation of the Project is consistent with the registered PDD.</p>
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E.4. Post-registration changes**E.4.1. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline**

Not applicable

E.4.2. Corrections

Not applicable

E.4.3. Changes to the start date of the crediting period

Not applicable

E.4.4. Inclusion of a monitoring plan to a registered project activity

Not applicable

E.4.5. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

Not applicable

E.4.6. Changes to the project design of a registered project activity

Not applicable

E.4.7. Types of changes specific to afforestation and reforestation project activities

Not applicable

E.5. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline

Means of verification	<p>Document review The DOE reviewed the following documents: Monitoring report version 1.0 (ref doc 12 Appendix 3) and version 1.1 (ref doc 1 Appendix 3), registered PDD (ref doc 9 Appendix 3), Monitoring manual (ref doc 13 Appendix 3), Applied methodology (ref doc 11 Appendix 3), to establish whether the monitoring plan was in line with the monitoring methodology.</p>
Findings	Four clarification requested were raised (refer to CL 2, CL 3, CL 4 and CL 5 in Appendix 4)
Conclusion	<p>The verification team has verified the monitoring plan, including the data and parameters required to be monitored, measurement procedures, monitoring frequency and QC/QA procedures as described in the registered PDD and applied methodology. Corresponding to the paragraph 388 of VVS version 09.0, the DOE can confirm that the monitoring plan is in accordance with the approved methodology (Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011) applied by the Project.</p>

E.6. Compliance of monitoring activities with the registered monitoring plan**E.6.1. Data and parameters fixed ex ante or at renewal of crediting period**

Means of verification	<p>Document review For the parameters determined and fixed ex ante, the DOE has crosschecked the values as reported in the monitoring report with values provided in the registered PDD and IPCC default values. The DOE also assessed the application of the values</p>
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	in calculation of emission reductions.
Findings	Values have been reported and applied correctly
Conclusion	<p>The following parameters were determined and fixed ex ante:</p> <ul style="list-style-type: none"> - $EF_{b,co2}$ - CO₂ emission factor arising from use of wood-fuel in baseline scenario (1.7472 tCO₂/t wood) - $EF_{b,non-co2}$ - Non-CO₂ emission factor arising from use of wood-fuel in baseline scenario (0.1356 tCO₂eq/t wood) - $EF_{p,co2}$ - CO₂ emission factor arising from use of wood-fuel in project scenario (1.7472 tCO₂/t wood (=112.0 tCO₂/TJ * 0.0156 TJ/ t)). - $EF_{p,non-co2}$ - Non-CO₂ emission factor arising from use of wood-fuel in project scenario (0.1356 tCO₂eq/t wood). - $P_{b,y}$ - Quantity of woody biomass consumed in the baseline scenario in year y and per day in year y (2.81 t wood/year and 0.0077 t wood/day) <p>The DOE confirms that the parameters have been correctly reported and applied in emission reductions calculation</p>

E.6.2. Data and parameters monitored

E.6.2.1. Data and parameters monitored for GHG emission reductions calculation

Means of verification	<p>Parameter 1 – $f_{NRB,i,y}$ (Non-renewability status of woody biomass fuel in scenario i during year y) MoV: The DOE has reviewed the registered PDD and monitoring methodology to determine the monitoring and reporting requirement of the parameter. The PP has applied a default official value (92%) approved by the DNA of Kenya (ref link). The value is fixed for this crediting period. The DOE has assessed the application of the parameter in emission reductions calculation and confirms that it has been applied correctly.</p> <p>Parameter 2 – $P_{p,y}$ (Quantity of woody biomass consumed in the project scenario in year y and per day in year y) MoV: The DOE has reviewed the registered PDD and monitoring methodology to determine the monitoring and reporting requirement of the parameter. The parameter is required to be updated every two years through Performance Field Tests (PFT). The DOE has established that a PFT (refer to the Kitchen Performance Test 2014) was done in 2014. No PFT was required for the monitoring period, since the results for the PFT are still valid for the monitoring period. The KPT was reviewed and the results accepted at validation. The DOE has assessed the application of the value reported (i.e. 1.62 t wood/year or 0.0044t wood/day) in emission reductions calculation and confirms that it has been applied correctly.</p> <p>Parameter 3 – U_{py} (Usage rate in project scenario during year y) MoV: According to the registered PDD and the methodology the parameter is monitored annually through usage survey. The PP has carried out a usage survey as required (ref monitoring and usage report, doc 3 Appendix 3). The DOE confirms that the PP has implemented the sampling plan described in the monitoring manual (ref doc 13 Appendix 3). The transfer of survey information (refer to risk no. 2 in section C.2. above) and data analysis has been reviewed. From the review the DOE considers that the result of the usage survey (a cumulative usage rate of 93.4%) is acceptable and the PP has correctly monitored and applied the parameter in emission reductions calculation.</p> <p>Parameter 4 – Project technologies credited (units) MoV: The parameter was verified by randomly selecting 11 samples from the sales database and comparing the information with the corresponding receipts/Stove Purchase Agreements, during site visit. The sampling approach is described in section D.4. above. The DOE considers that the PP has monitored and reported the parameter as required. The following values are reported:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Year</th> <th>Number of stoves</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>231</td> </tr> <tr> <td>2014</td> <td>812</td> </tr> <tr> <td>2015</td> <td>649</td> </tr> </tbody> </table>	Year	Number of stoves	2013	231	2014	812	2015	649
Year	Number of stoves								
2013	231								
2014	812								
2015	649								

	<table border="1"> <tr> <td>Total</td> <td>1692</td> </tr> </table> <p>Parameter 5 – N_{p,y} (Project technologies days) MoV: The parameter was verified by randomly selecting 11 samples from the sales database and comparing the information with the corresponding receipts/Stove Purchase Agreements, during site visit (refer to Risk No. in section C.2 above). The sampling approach is described in section D.4. above. The DOE considers that the PP has monitored and reported the parameter as required. The following value (694,104) is reported and applied correctly in emission reductions calculation.</p> <p>Parameter 6 – LE_{p,y} (Leakage in project scenario p during year y) MoV: The DOE confirms that the PP has monitored the parameter as required through a monitoring survey. The monitoring survey was carried out together with the usage survey. The DOE has also assessed the monitoring survey together with the usage survey (refer to DOE's review on parameter 3 above). The DOE considers that the PP has monitored and reported the parameter as required. A value of zero (0) leakage has been applied in emission reduction.</p> <p>Parameter 7 – Similar cook stove project activities in the project area MoV: The DOE has reviewed project listing in the registries provided i.e. Gold Standard registry, UNEP Risoec CDM Pipeline. The DOE has also looked at the CMD registry and confirm no project covering the same geographical area and implementing the same technology has been registered.</p> <p>Parameter 8 – Incentive scheme to abandon baseline technology (3-stone fires) MoV: The DOE confirms that the PP has monitored the parameter as required through a monitoring survey. Refer to DOE's comments in parameter 6 above. A rate of 7.1% has been reported.</p>	Total	1692
Total	1692		
Findings	One corrective action request (refer to CAR 8) and a clarification request (refer to CL 1) were raised.		
Conclusion	Corresponding to the paragraph 392 of VVS version 09.0, the DOE can confirm that: <ul style="list-style-type: none"> - The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. - All parameters required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow. 		

E.6.2.2. Data and parameters monitored for Sustainable Development Indicators (SDIs)

Means of verification	<p><u>SDI 1: Air quality</u> Parameter monitored: number of positive comments from stove users Target: 90% (as in the registered PDD)</p> <p>MoV: The DOE reviewed the monitoring and usage survey report (ref doc 3 Appendix 3) and monitoring and usage survey data (ref doc 4 Appendix 3); and further held interviews with 16 stove users, who participated in the monitoring survey, during site visit. The result shows the parameter achieved 97%. The DOE considers that the SDI has a positive score in this monitoring period.</p> <p><u>SDI 2: Quality of Employment</u> Parameter monitored: Number of artisans trained and active over time Target: 60% (as in the registered PDD)</p> <p>MoV: The DOE carried out a site visit and reviewed records from training (including attendance list, Artisans manual, training report), records from quarterly artisan meetings; and held interviews with 4 lead artisans. The results indicate the parameter attained 43%, which is below the 60% target. However, the DOE considers the SDI to have a positive score in this monitoring period, given that more than 50% (i.e. 71.7% of 60%) of the target was achieved.</p> <p><u>SDI 3: Livelihood of the poor</u></p>
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	<p>Parameter monitored: Time and money savings per week due to reduced fuel consumption Target: 1.5hr less per week spent on collecting firewood, and/or 50 KSh less per week spent on firewood</p> <p>MoV: The DOE reviewed the monitoring and usage survey report (ref doc 3 Appendix 3) monitoring and usage survey data (ref doc 4 Appendix 3), Baseline/Project scenario report (ref doc 7 Appendix 3) and Baseline / Project Scenario data (ref doc 8 Appendix 3). The DOE held interviews with 16 stove users, who participated in the monitoring survey, during site visit. The results indicate the 1.8hr less per week spent on collecting firewood and/or 100KSh less per week spent on firewood has been achieved, due to the project activity. The DOE considers that this SDI has a positive score in this monitoring period.</p> <p><u>SDI 4: Access to affordable and clean energy services</u> Parameter monitored: Number of households using efficient cook stoves at end of project Target: 41,100 cook stoves are constructed at end of project</p> <p>MoV: Review of sales records (ref to assessment of parameter 4 in section E.6.2.1 above). The results indicate that 1692 stove have been implemented in this monitoring period against a projection of 11600 (refer to the registered PDD) for the same period. The DOE considers that the full impact of the project activity on this SDI can best be evaluated, against the target, at the end of the first crediting period of the project activity. The DOE however notes that the PP is monitoring the indicator.</p> <p><u>SDI 5: Human/institutional capacity</u> Parameter monitored: Number of women trained as artisans and active over time Target: 25% of trained artisans are women and 60% of trained women artisans are present during the quarterly artisan meeting one year after completing the training</p> <p>MoV: The DOE carried out a site visit and reviewed records from training (including attendance lists) and records from quarterly artisan meetings. The results show that 31% of artisans trained are women, and 55% still report to meetings one year after completion of their training. The DOE considers that this SDI has a positive score in this monitoring period.</p> <p><u>SDI 6: Quantitative employment and income generation</u> Parameter monitored: Number of people receiving income from project activity Target: 4 project staff and 5 lead artisans</p> <p>MoV: The DOE reviewed employment records (contracts for project coordinator and data office – Kitui, Contracts for project officer and data officer – Nyeri) during site visit. The DOE also held interviews with 4 lead artisan during site visit. The results indicate that there are 5 project staff (one on a part time basis) and 6 lead artisans employed, as a result of the project activity. The DOE considers that this SDI has a positive score in this monitoring period.</p>
Findings	A corrective action request was raised (refer to CAR 8)
Conclusion	<p>Corresponding to the paragraph 392 of VVS version 09.0, the DOE can confirm that:</p> <ul style="list-style-type: none"> - The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. - All parameters required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

E.6.3. Implementation of sampling plan

Means of verification	<p>Document review The following documents were reviewed: monitoring manual (ref doc 13 Appendix 3), monitoring and usage survey report (ref doc 3 Appendix 3) and monitoring and usage survey data (ref doc 4 Appendix 3). The DOE further assessed the survey</p>
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	procedures, sampling method, data entry and analysis. The DOE applied acceptance sampling as described in section D.4 above to determine that the PP has implemented the sampling plan in the registered PDD and monitoring manual. Site visit Interviews with PP's representative, monitoring team (including enumerators) and stove users were held during site visit.
Findings	Compliant
Conclusion	The DOE confirms that, for the parameter monitored and determined through sampling (refer to section E.6.2 above), the sampling efforts and surveys comply with the validated sampling plan in the registered PDD and also in the monitoring manual.

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	The project activity does not involve direct measurement of parameters using measuring equipment. Measuring equipment is only used when carrying out Kitchen Performance Tests (KPTs). In 2014, a KPT was carried out and the results (including calibration of the electronic scale) were assessed at validation. The calibration records are maintained by the PP.
Findings	Compliant
Conclusion	No calibration activities were required for this monitoring period.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	Document review The following document were reviewed: applied methodology (ref doc 11 Appendix 3), registered PDD (ref doc 9 Appendix 3), monitoring report (ref doc 1 Appendix 3) and ER calculation spreadsheet (ref doc 2 Appendix 3)
Findings	Compliant
Conclusion	Baseline emissions calculations are integrated in emissions reduction calculation formula

E.8.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	Document review The following document were reviewed: applied methodology (ref doc 11 Appendix 3), registered PDD (ref doc 9 Appendix 3), monitoring report (ref doc 1 Appendix 3) and ER calculation spreadsheet (ref doc 2 Appendix 3)
Findings	Compliant
Conclusion	Project emissions calculations are integrated in emissions reduction calculation formula

E.8.3. Calculation of leakage GHG emissions

Means of verification	Document review The following document were reviewed: applied methodology (ref doc 11 Appendix 3), registered PDD (ref doc 9 Appendix 3), monitoring report (ref doc 1 Appendix 3) and ER calculation spreadsheet (ref doc 2 Appendix 3) and monitoring and usage survey report (ref doc 3 Appendix 3)
Findings	Compliant
Conclusion	No leakage

E.8.4. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	Document review The review involved crosschecking the values of the parameters used in ER calculations with the referenced sources. The following document were reviewed: applied methodology (ref doc 11 Appendix 3), registered PDD (ref doc 9 Appendix 3), monitoring report (ref doc 1 Appendix 3), ER calculation spreadsheet (ref doc 2 Appendix 3), Kitchen Performance Test 2014 (ref doc 5 and 6 Appendix 3)
Findings	One Clarification Request (refer to CL 1) and one Corrective Action Request (refer to

	CAR 8) were raised.	
Conclusion	The details for emission reductions calculation during the monitoring period from 01/01/2014-31/12/2015 are provided in the ER calculation spreadsheet (ref doc 2 Appendix 3). Below is a summary of the calculations:	
	$ER_y = \sum_{b,y} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b,fuel} * (f_{NRB,b,y} * EF_{fuel,CO2} + EF_{fuel, nonCO2})) - LE_{p,y}$	
	Where:	
	Parameter	Value
	N _y	Project Technology Days = 216,241 days in 2014
	N _y	Project Technology Days = 477,863 days in 2015
	U _y	Cumulative Usage Rate = 0.934
	P _y	Fuel Savings = 0.0033 t wood/day-stove
	f _{NRB,b,y}	Non-renewable biomass fraction = 92.00%
	NCV	Net Caloric Value
EF _{wood, CO2}	Emission Factor = 1.7472 tCO ₂ e/t wood	
EF _{wood, nonCO2}	Emission Factor = 0.1356 tCO ₂ e/t wood	
Σ LE _y	Leakage LE = 0 tCO ₂ e/t year	
	Source of value	
	Stove Database 2015	
	Stove Database 2015	
	Usage Survey 2015	
	calculated from KPT 2014	
	CDM default value for Kenya	
	Included in EF _{wood}	
	IPCC 2006 default	
	IPCC 2006 default (CH ₄ + N ₂ O)	
	Assumption (monitoring survey)	
	The DOE confirms:	
	(a) All data was available for this monitoring period	
	(b) Crosschecks have been done on the values used in ER calculation with their respective sources of data (refer to section E.6.2 above).	
	(c) Appropriate methods and formulae for calculating GHG emission reductions have been followed;	
	(d) Assumptions, emission factors and default values that have been applied in the calculations have been justified;	
	(e) A pro-rata approach was correctly applied to the calculations of GHG emission reductions;	
	(f) The first day in which CERs are being claimed has been correctly specified.	

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	Document review The following document were reviewed: registered PDD (ref doc 9 Appendix 3) and monitoring report (ref doc 1 Appendix 3)
Findings	Compliant
Conclusion	The total estimated ex ante emission reductions for this monitoring period according to the PDD is 21,205 tCO ₂ e. The corresponding actual emission reduction in the monitoring period as reported in the monitoring report and verified by the DOE is 3,681 tCO ₂ e, over the 2 year monitoring period. The registration date of the project activity being 19/05/2015, the emission reductions constitutes 1953 tCO ₂ e of retroactive emission reductions (for the period 01/01/2014 to 19/05/2015) and 1728 tCO ₂ e of regular cycle emissions reduction (for the period 19/05/2015 to 31/12/2015).

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	Document review The following document were reviewed: registered PDD (ref doc 9 Appendix 3) and monitoring report (ref doc 1 Appendix 3)
Findings	Compliant
Conclusion	The DOE considers the reason provided for the difference in the actual ERs

	achieved and the estimates in the PDD to be justifiable. The variation is due to fewer stoves installed than projected in the PDD.
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E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	Document review The following document were reviewed: registered PDD (ref doc 9 Appendix 3) and monitoring report (ref doc 1 Appendix 3)
Findings	Compliant
Conclusion	All emission reductions claimed fall under the period from 1 January 2013. Relevant GWPs for the period were used.

SECTION F. Internal quality control

The verification report underwent an Internal Technical Review (ITR) before requesting issuance of VERs for the project activity. The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas Certification procedures.

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

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

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

The reviewer may raise Clarification Requests to the verification team and discusses these matters with Team Leader. After the agreement of the responses on the Clarification Requests from the verification team as well as the PP, the finalized verification report is accepted for further processing such as final approval, submission to the PP or uploading via to the GS registry.

SECTION G. Verification opinion

Bureau Veritas Certification (the DOE) has performed the first periodic verification of the project titled "Improved Jikos – Better Living for Rural Population", Gold Standard Reference Number GS2457, which is located in Kenya, and applying the methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)". The verification was performed based on the requirements for Voluntary Offset Projects under the Gold Standard and the requirements set by CDM and relevant guidance provided by CMP and the CDM Executive Board. The verification consisted of the following three phases:

- i) Desk review of the project design, the baseline and monitoring plan;
- ii) Follow-up interviews with project stakeholders;
- iii) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of Fastenopfer (the project participant) is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the project on the basis set out within the monitoring plan contained in the registered PDD. The development and maintenance of records and reporting procedures, in accordance with the plan including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification has verified the project Monitoring Report version 1.1 dated 27/05/2016 for the reporting period 01/01/2014 to 31/12/2015. Bureau Veritas Certification confirms that the project is implemented as described in the validated and registered project design documents. Installed equipment (efficient cook stoves) being essential for generating emission reductions run reliably. The monitoring system is in place and the Project is generating GHG emission reductions as a Gold Standard VER project.

Bureau Veritas Certification can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions, resulting GHG emission reductions, the validated and registered project baseline, approved monitoring plan and its associated documents.

SECTION H. Certification statement

Bureau Veritas Certification (the DOE) has performed the first periodic verification of the project titled "Improved Jikos – Better Living for Rural Population", Gold Standard Reference Number GS2457, which is located in Kenya, and applying the methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)". The verification was performed based on the requirements for Voluntary Offset Projects under the Gold Standard and the requirements set by CDM and relevant guidance provided by CMP and the CDM Executive Board. The verification consisted of the following three phases:

i) Desk review of the project design, the baseline and monitoring plan; ii) Follow-up interviews with project stakeholders; iii) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of Fastenopfer (the project participant) is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the project on the basis set out within the monitoring plan contained in the registered PDD. The development and maintenance of records and reporting procedures, in accordance with the plan including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification has verified the project Monitoring Report version 1.1 dated 27/05/2016 for the reporting period 01/01/2014 to 31/12/2015. Bureau Veritas Certification confirms that the project is implemented as described in the validated and registered project design documents. Installed equipment (efficient cook stoves) being essential for generating emission reductions run reliably. The monitoring system is in place and the Project is generating GHG emission reductions as a Gold Standard VER project.

Bureau Veritas Certification can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions, resulting GHG emission reductions, the validated and registered project baseline, approved monitoring plan and its associated documents.

Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, Bureau Veritas Certification confirms the following statement:

Reporting period: 01/01/2014 - 31/12/2015
Baseline emissions: Integrated in ER calculation formula
Project emissions: Integrated in ER calculation formula
Leakage emissions: 0 t CO2 equivalents
Emission Reductions: 3,681 tCO2 equivalents



Mr. Samuel Mayieko
Team Leader
06/07/2015



Mr. James Chirchir
Internal Technical Reviewer
06/07/2015

Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
EB	CDM Executive Board
ERs	Emission Reductions
FAR	Forward Action Request
GHG	Green House Gas(es)
GS	Gold Standard
GWP	Global Warming Potential
KPT	Kitchen Performance Test
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
PP	Project Participant
SDI	Sustainable Development Indicator
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reductions
VVS	Validation and Verification Standard

Appendix 1. Competence of team members and technical reviewers

Mr. Samuel Mayieko	Bureau Veritas Certification, Kenya	<p>Team Leader, Climate Change Lead Verifier,</p> <p>He has a degree in Physics with over 9 years of experience in renewable energy and climate change, out of which 6 years have been in CDM. He has been trained on CDM verification, QMS (ISO 9001) and EMS (ISO 14001), as Lead auditor. He has been involved in validation and verification of CDM and Gold Standard projects covering sectoral scope 1 and 3. Some of the GS projects he has been involved in included: verification of GS 879, verification of GS 477 and verification of GS 464. He is a resident of Kenya, the host country where the project is implemented.</p>
Mr. James Chirchir	Bureau Veritas Certification, Kenya	<p>Technical Reviewer, Climate Change Lead Verifier.</p> <p>He holds a Bachelor's degree in Chemical and Process Engineering and had 4 years' experience in manufacturing before joining Bureau Veritas. He is Lead Auditor in ISO 9001:2008 and ISO 14001:2004 and a trained CDM Verifier. He has conducted at least 5 CDM projects as validator/verifier. He has been involved in the verification of the following GS projects GS 879, GS 477 and GS 464. He is a resident of Kenya, the host country where the project is implemented.</p>

Appendix 2. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	David Knecht	Monitoring report, version 1.1	27/05/2016	PP
2	Fastenopfer	Database and ER calculation	18/02/2016	PP
3	David Knecht, / James Mathenge, Carolin Kagiri, Peninah Mwende, Simon Wanjohi, Benson Muyanga	Monitoring/Usage Survey 2015 Report	15/01/2016	PP
4	David Knecht, / James Mathenge, Carolin Kagiri, Peninah Mwende, Simon Wanjohi, Benson Muyanga	Data of Baseline/ Project Survey - GS 2457	15/01/2015	PP
5	David Knecht	Kitchen Performance Test Report, Version 02	09/06/2015	PP
6	David Knecht	Data of KPT GS 2457	09/06/2015	PP
7	David Knecht, / James Mathenge, Carolin Kagiri, Peninah Mwende, Simon Wanjohi, Benson Muyanga	Amended Baseline/Project Scenario Survey Report, Version 1	09/01/2016	PP
8	David Knecht, / James Mathenge, Carolin Kagiri, Peninah Mwende, Simon Wanjohi, Benson Muyanga	Data of amended Baseline/ Project Survey - GS 2457	15/12/2015	PP
9	Fastenopfer	Improved Jikos – Better Living for Rural Population (GS2457), Version 3.3	26/01/2016	PP
10	TUV NOD	Validation report	03/03/2015	DOE
11	GS	Technologies and Practices to Displace Decentralized Thermal Energy Consumption - 11/04/2011	11/04/2011	DOE
12	David Knecht	Monitoring report, version 1	20/03/2016	PP
13	James Mathenge, Esther Muthoni, Carolin Kagiri, Peninah Mwende, David Knecht, Benson Muyanga	QA/QC and Monitoring Manual Carbon Offset Project, Version 2	08 October 2015	PP
14	David Knecht	Calculation of emissions from brick production and transportation for GS2457	27/05/2016	PP
15	Syed Ashraful Alam	Use of biomass fuels in the brick-making industries of Sudan: Implications for deforestation and greenhouse gas emission	April 2006	PP
16	Ferdinandus Sampe / Daniel Lallo Pakiding	Perception of Traditional Small Scale Brick-making owner on firewood usage for Brick-making process	18 September 2015	PP
17	Fastenopfer	GS Passport, version V3.1	26/01/2016	PP

Appendix 3. Clarification requests, corrective action requests and forward action requests

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

FAR ID	FAR 1 and FAR 2	Section no.		Date: 25/05/2016
Description of FAR				
<i>Refer to CL 3 below</i>				
Project participant response				Date: 25/05/2016
<i>Refer to CL 3 below</i>				
Documentation provided by project participant				
<i>Refer to CL 3 below</i>				
DOE assessment				Date: 25/05/2016
<i>Refer to CL 3 below</i>				

Table 2. CL from this verification

CL ID	CL 1	Section no.	Cover page	Date: 20/04/16
Description of CL				
<i>The monitoring period is indicated as 2 years 01.01.2014-31.12.2015, the PP is requested to clarify whether or not the first and last days are included</i>				
Project participant response				Date: 12/05/2016
<i>The monitoring period also includes the last and the first day of the indicated period.</i>				
Documentation provided by project participant				
<i>N/A</i>				
DOE assessment				Date: 25/05/2016
The PP's response has been reviewed, together with ER calculations, where it has been determined that the first and last days indicated are included. The response is accepted and the CL is Closed				

CL ID	CL 2	Section no.	B.1	Date: 20/04/16
Description of CL				
<i>The PP is requested to clarify whether there were any events or situations during the monitoring period that may impact the applicability of the methodology</i>				
Project participant response				Date: 12/05/2016
<i>There were no events or situations during this monitoring period that may impact the applicability of the methodology.</i>				
Documentation provided by project participant				
<i>N/A</i>				
DOE assessment				Date: 25/05/2016
The PP's response has been reviewed, and was also confirmed with interviews and observations during on site assessment. The response is accepted and the CL is Closed				

CL ID	CL 3	Section no.	B.1	Date: 20/04/16
Description of CL				
<i>The PP is requested to clarify how FARs raised at validation have been addressed</i>				
Project participant response				Date: 12/05/2016

Verification FAR #1 is stated as: *“Forward Action Request # 1: The PP shall follow the ‘Guideline On The Application Of Materiality In Verifications’ (EB 69 Report Annex 6) in order to determine the project emission shall be accounted or not. The Verifying DOE shall provide its opinion in the verification report how these guidelines have been applied correctly.”*

The above FAR makes reference to EB 69 Report Annex 6, which stipulates a project emission threshold of 2% of the total ER (p.3). As already put forward in the “6-week registration review document” by GS (p.7), the PP is of the opinion that the actually relevant document is the chosen TPDDTEC-methodology itself, which reads on page 34:

*“[...]Special attention is required, **as throughout all technologies encompassed by this methodology**, to the level of GHG emissions arising from production, transport, installation and delivery of the clean water supply or treatment options. Whenever such emissions are expected to be material (5% or more of the overall emissions), these must in any case be accounted for in the project situation as part of the project emissions.[...]”*

Hence, the relevant threshold for this project is **5%** and not 2%.

Based on this methodology we have assessed the emissions from production and transportation of bricks as suggested by Validation FAR #4 and FAR #5 of the LSC-Report Feedback by GS (p.9). We have found that the production emissions of brick production and transportation account for 1.34% of CO2 savings generated by a project stove. This value is below 5% and thus we conclude that emissions are negligible. Supporting documents are included (150609_ER_estimation_GS2457_V3_FAR.xlsx).

Verification FAR #2 is stated as: *“Forward Action Request #2: On time for the verification, the PP shall carry out additional surveys to meet the minimum sample size requirement according whole population of ICS. The Baseline surveys shall be carry out in the households without the project technology.”*

The same has been addressed in the adjusted monitoring report version 1.1 page 5. Relevant documents are *“Amended_BS_PS_Report_20151204.docx”* and *“160118_BS_PS_Report_GS2457_V2.docx”*.

Documentation provided by project participant	
<ul style="list-style-type: none"> 150609_ER_estimation_GS2457_V3_FAR.xlsx Amended_BS_PS_Report_20151204.docx 160118_BS_PS_Report_GS2457_V2.1_track_change.docx 	
DOE assessment	Date: 25/05/2016
FAR 1 – Pending (Awaiting guidance from GS on the applicable threshold) FAR 2- Please refer to the DOE comment on the monitoring report	
Project participant response	Date: 27/05/2016
<p>FAR1 As shared the email from Gold Standard shared with the DOE indicates, the applicable threshold for project emissions for this project is 5%. The monitoring report was adjusted in this sense. The comment in the excel file has also been addressed.</p> <p>FAR 2 The DOE comment in the monitoring report has been considered and the report adjusted accordingly.</p>	
DOE assessment	Date: 27/05/2016
The PP’s response has been reviewed together with the supporting documents and found to be acceptable. The CL is Closed	

CL ID	CL 4	Section no.	C	Date: 20/04/16
Description of CL				
<i>The PP is requested to clarify whether or not a project database has been developed in line with the monitoring methodology</i>				
Project participant response				Date: 12/05/2016
<i>This project only markets one type of technology. The project is based on one project scenario. Hence, there is no need for differentiating between applied project technologies and scenario. Hence the project database and the sales database are the same in project GS2457. These have been developed according to the applied methodology as described in the PDD V3.3 (p. 36).</i>				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 25/05/2016
The PP’s response has been reviewed and accepted. The CL is Closed				

CAR ID	CL 5	Section no.	Production and Transport emissions	Date: 06/05/2016
Description of CAR				
<i>The PP is requested to provide justification for the assumptions used in the determination of the production and transport emissions in the response to FAR 1. For instance how is the value in the "Amount of wood consumed per brick fired in kiln (t)" sourced from a report for Peru suitable and appropriate for Kenya?</i>				
Project participant response				Date: 12/05/2016
<i>The applied value for quantity of wood consumed per brick represents an average value for different brick types as used in Peru. The average value was calculated based on empirical data from baseline studies. Specific figures for brick production in Kenya could not be found. In order to validate the value from South America, wood consumption from brick production in Sudan is used. A conservative value for wood consumed per brick in Sudan amounts to 0.008 tons. The applied average value from Peru is more than double the value in Sudan. Further, the value for wood consumed per brick produced in Indonesia is around 0.0015 tons. This value is also lower than the value from Peru. It is thus reasonable to assume that the applied value is a conservative figure (high value = high emissions) for the estimation of emissions from the production of bricks. The calculation of wood consumption per brick produced in Sudan and Indonesia has been included in the latest ER excel file under "production_transport_emissions".</i>				
Documentation provided by project participant				
<ul style="list-style-type: none"> • <i>traditional_brick_making_Indonesia.pdf</i> • <i>biomass_brick_Sudan.pdf</i> • <i>150609_ER_estimation_GS2457_V3_FAR.xlsx</i> 				
DOE assessment				Date: 25/05/2016
The PP's response has been reviewed, together with the supporting documents and found to be acceptable. The CL is Closed				

Table 3. CAR from this verification

CAR ID	CAR 1	Section no.	Cover page, Section A.1	Date: 20/04/2016
Description of CAR				
<i>In the monitoring report, the PP is requested to indicate the dates in the accepted format (DD/MM/YY)</i>				
Project participant response				Date: 12/05/2016
<i>The dates have been revised accordingly (Monitoring report V1.1). However, GS does not oblige to use the CDM template nor to fill it in as would be required of a CDM project.</i>				
Documentation provided by project participant				
<i>Revised Monitoring report</i>				
DOE assessment				Date: 25/05/2016
The PP's response and revised report have been reviewed and accepted. The CAR is Closed				

CAR ID	CAR 2	Section no.	Cover page	Date: 20/04/2016
Description of CAR				
<i>The sector scope is not indicated correctly</i>				
Project participant response				Date: 12/05/2016
<i>The sector scope has been changed to energy demand. However, according to GS and GS Passport it would be "End-use Energy Efficiency".</i>				
Documentation provided by project participant				
<i>Revised Monitoring report</i>				
DOE assessment				Date: 25/05/2016
The PP's response and revised report have been reviewed and accepted. The CAR is Closed				

CAR ID	CAR 3	Section no.	Cover page	Date: 20/04/2016
Description of CAR				
<i>The estimated amount of GHG emission reductions is indicated as: 3,681 tCO₂e. However this amount is different from the estimates in the registered PDD for the same monitoring period</i>				
Project participant response				Date: 12/05/2016
<i>The amount of estimated GHG emission reductions was adjusted to reflect the PDD V3.3 (p.30) values. The corrected values can be found in the monitoring report V1.1 page 1.</i>				

Documentation provided by project participant	
Revised Monitoring report	
DOE assessment	Date: 25/05/2016
The PP's response and revised report have been reviewed and accepted. The CAR is Closed	

CAR ID	CAR 4	Section no.	A.5	Date:	20/04/2016	
Description of CAR						
<i>The start date of the crediting period is not indicated</i>						
Project participant response					Date:	12/05/2016
<i>The start date has been included as 01/01/2014 (p.3 monitoring report V1.1).</i>						
Documentation provided by project participant						
Revised Monitoring report						
DOE assessment					Date:	25/05/2016
The PP's response and revised report have been reviewed and accepted. The CAR is Closed						

CAR ID	CAR 5	Section no.	B.1	Date:	20/04/2016	
Description of CAR						
<i>The description provided does not include a description of the installed technology in section B.1 of the monitoring report</i>						
Project participant response					Date:	12/05/2016
<i>A short description has been included in Section B.1 (page 4) of the monitoring report V1.1. More ample information can be found in the PDD V3.3.</i>						
Documentation provided by project participant						
Revised Monitoring report						
DOE assessment					Date:	25/05/2016
The PP's response and revised report have been reviewed and accepted. The CAR is Closed						

CAR ID	CAR 6	Section no.	D.2	Date:	20/04/2016	
Description of CAR						
<i>(i) It is noted that the PP has included parameter "Project technologies credited (units)" which is not in the registered PDD. Also the description of parameter Np,y in the monitoring report differs from the registered PDD</i>						
<i>(ii) For the following parameters: fNRB,i,y, Up,y, Np,y, the purpose of data indicated is not in line with the guidelines for completing the monitoring report form, and for parameter Project technologies credited (units), the purpose of data is not indicated</i>						
<i>(iii) For the parameter Npy, monitored continuously, the PP is requested to present the values in a table at appropriate intervals</i>						
Project participant response					Date:	12/05/2016
<i>(i) This confusion is due to a loophole in the methodology. The methodology defines the monitoring parameter Np,y as it is included in the PDD V3.3 as "Project technologies credited (units)" (methodology p.27), which are installed stoves in our case. However, for calculating the achieved ER during the monitoring period (document 160301_Database_Consolidated_ER_calculations_151231.xlsx) the value Np,y is defined as "Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y." (methodology p.14). In order to satisfy both definitions, the monitoring report includes the parameter "Project technologies credited (units)" according to p.27 of the methodology (which corresponds to the PDD parameter Np,y). In addition, in the monitoring report the parameter Np,y is defined according to p.14 of the methodology and used for calculating the ER.</i>						
<i>(ii) The purpose of data has been adjusted on page 9 to page 13 of the monitoring report.</i>						
<i>(iii) The table with values on stove implementation rhythm has been included on page 12 of the monitoring report.</i>						
Documentation provided by project participant						
Revised Monitoring report						
DOE assessment					Date:	25/05/2016
The PP's response and revised report have been reviewed and accepted. The CAR is Closed						

CAR ID	CAR 7	Section no.	D.2	Date: 20/04/2016
Description of CAR				
<i>Parameter Pp,y required the use of a monitoring equipment. Details on accuracy class, and calibration information for the equipment is not indicated</i>				
Project participant response				Date: 12/05/2016
<i>The same has been included on page 11 of the revised monitoring report v 1.1.</i>				
Documentation provided by project participant				
<i>Revised Monitoring report</i>				
DOE assessment				Date: 25/05/2016
<i>The PP's response and revised report have been reviewed and accepted. The CAR is Closed</i>				

CAR ID	CAR 8	Section no.	Monitoring/Usage Survey/Baseline survey	Date: 06/05/2016
Description of CAR				
<i>From the 20 questionnaires sampled during onsite assessment, it was observed that the information transferred, from 5 of the questionnaires, to the excel datasheet 160115_MS_US_Dataset_V1.2, was not entirely consistent as follows:</i>				
<i>i) survey number K/46 – the information in columns 5, 7a and 7b does not match with the questionnaire</i>				
<i>ii) survey number K/51 – the information in column 11 does not match with the questionnaire</i>				
<i>iii) survey number K/48 – the information in columns 2 and 5 does not match with the questionnaire</i>				
<i>iv) survey number CN/UMS/25/2015 – the information in (i) does not match with the questionnaire</i>				
<i>v) survey number CN/UMS/13/2015 – the information in 9a does not match with the questionnaire</i>				
<i>For the baseline survey, it was observed that the information in the questionnaires does no corresponding to the relevant columns in the spreadsheets 151118_BS_PS_Data_GS2457_V02_amended. Also information on column 11 of survey number CN/BLS/07/2015 does not match the information in the questionnaire.</i>				
Project participant response				Date: 12/05/2016
<i>i) K/46 column 5: the phone number includes a typo. Column 7a and 7b : this survey was done at the start using a previous version of the questionnaire including one more question. This is why the information in the database shifted by one, but is nevertheless correctly indicated.</i>				
<i>ii) K/51 column 11 (stove construction date). As explained during site visit, when analyzing the final survey, a quality control in form of cross-checking stove construction dates and stove-ID was performed. In case of K/51The stove construction date on the hard copy was wrongly indicated. The survey database as submitted includes the correct stove construction date (8.9.2014).</i>				
<i>iii) K/48: Typo in interview date and phone number has been corrected.</i>				
<i>iv) CN/UMS/25/2015: The team checked again with the hardcopy. The information in column i) matches the hardcopy information.</i>				
<i>v) CN/UMS/13/2015. The information has been adjusted accordingly.</i>				
<i>Regarding the baseline survey, the information in the “original 79” questionnaires does correspond to the columns in the spreadsheet. However, according to the FAR, we have conducted an additional 21 surveys, which have now been controlled during verification. The question numbering of these additional 21 surveys does not correspond with the spreadsheet (which is an amended version of the original).</i>				
<i>Regarding column 11 of survey number CN/BLS/07/2015, this was a typo and has been corrected in the database as well as in the baseline survey report.</i>				
<i>In order to increase traceability of data manipulation, in coming years the project will produce an explanatory sheet in the future where modification between hard copy and soft copy are listed.</i>				
Documentation provided by project participant				
<ul style="list-style-type: none"> • 160115_MS_US_Dataset_V1.2_PP.xlsx • 160115_Monitoring_Usage_Survey_Report_GS2457_V1.1_trackchange.doc • 151118_BS_PS_Data_GS2457_V02_amended_PP.xlsx • 160118_BS_PS_Report_GS2457_V2.1_track_change.docx 				
DOE assessment				Date: 25/05/2016

Issue i) PP's response has been reviewed and accepted, the issue is closed Issue ii) PP's response has been reviewed and accepted, the issue is closed Issue iii) PP's response has been reviewed and accepted, the issue is closed Issue iv) the DOE made a typo error, the DOE was referring to CN/UMS/23/2015. The information entered in (i) did not match with the questionnaire Issue v) PP's response has been reviewed and accepted, the issue is closed PP's response on the Issue on baseline survey has been reviewed and accepted, the issue is closed	
Project participant response	Date: 27/05/2016
Issue iv) has been addressed for CN/UMS/23/2015. The The information has been adjusted accordingly. Adjusted document title is: <ul style="list-style-type: none"> 160115_MS_US_Dataset_V1.3_PP.xlsx 	
DOE assessment	Date: 27/05/2016
All the PP's responses on CAR 8 have been assessed together with the corrections and have been accepted, the CAR is Closed	

Table 4. FAR from this verification

FAR ID	Not applicable	Section No.	N/A	Date: DD/MM/YYYY
Description of FAR				
N/A				
Project participant response				Date: DD/MM/YYYY
N/A				
Documentation provided by project participant				
N/A				
DOE assessment				Date: DD/MM/YYYY
N/A				

APPENDIX A: CDM PROJECT VERIFICATION PROTOCOL (Rev 09)

Table 1 Verification requirements based on VVS version 09.0 (EB 82 Annex 14), PS version 9 (EB 82 Annex 13), PCP version 09(EB 82 Annex 15), and Guidelines for completing the Monitoring Report Form version 05.1

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Part I Cover Page					
(a) Is the title of the project activity provided?	MR		Yes IMPROVED JIKOS – BETTER LIVING FOR RURAL POPULATION	OK	OK
(b) Is the reference number of the project activity provided?	MR		Yes: Provided as: GS2457	OK	OK
(c) Is the version number of the monitoring report indicated?	MR		Yes Indicated as: Version 1	OK	OK
(d) Is the completion date of the monitoring report provided in DD/MM/YYYY format?	MR		NO, Provided as: 20.03.2016, CAR 1: The date is not indicate in the accepted format (dd/mm/yy)	Not OK CAR 1	OK (refer to resolution of CAR 1 in Appendix 4)
(e) Is the monitoring period number and duration of this monitoring period (first and last days included in DD/MM/YYYY format) provided?	MR		Yes Provided as: Monitoring period: First Monitoring Period Duration: 2 years 01.01.2014-31.12.2015, CL 1: Are the first and last days included?	Not OK CL 1	OK (refer to resolution of CL 1 in Appendix 4)

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(f) Are project participants indicated?	MR		Yes Indicated as: Fastenopfer	OK	OK
(g) Is the host party(ies) indicated?	MR		Yes Indicated as: Kenya	OK	OK
(h) Are the sectoral scope(s) applicable to the project activity indicated?	MR		Yes Indicated as: End-use energy efficiency, CAR 2: The sector scope is not indicated correctly	Not OK CAR 2	OK (refer to resolution of CAR 2 in Appendix 4)
(i) Is list of methodology(ies) applicable to the project activity enlisted?	MR		Yes Listed as: Gold Standard methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)	OK	OK
(j) Is list of standardized baselines applicable to the project activity enlisted?	MR		N/A	OK	OK
(k) Is the estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD indicated?	MR		Yes CAR 3: The estimated amount of GHG emission reductions is indicated as: 3,681 tCO ₂ e. However this amount is different from the estimates in the registered PDD for the same monitoring period	Not OK CAR 3	OK (refer to resolution of CAR 3 in Appendix 4)
(l) Are the actual GHG emission reductions or net GHG removals by sinks achieved in this monitoring period	MR		Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
indicated including up to 2012 (if applicable) and for period reported from 01 January 2013 (if applicable)?			Reported as: 3,681 tCO2e for the period from 01 January 2013		
Part II Monitoring Report					
A Description of project activity					
A.1 Purpose and general description of project activity					
A.1.1 Is the description of the project activity to be presented in this section a brief summary of the detailed description given in the section B.1 Implementation status of the project activity?	MR		Yes A description of the project activity is provided. In summary the project activity is the construction of efficient cook stoves to replace inefficient 3-stone fires in rural communities in Nyeri, Kitui, Machakos and Laikipia Counties in Kenya.	OK	OK
A.1.2 Does this description include:					
A.1.2.1 Purpose of the project activity and the measures taken for GHG emission reductions or net GHG removals by sinks?	MR		Yes It is indicated that the measure indicated A.1.1 above will result in savings of unsustainably harvested firewood thereby reducing GHG emissions from thermal energy consumption.	OK	OK
A.1.2.2 Brief description of the installed technology and equipment?	MR		Yes The project technology employed is a brick-type rocket stove for cooking, which is made using local bricks, mud, water, cement and sand	OK	OK
A.1.2.3 Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)?	MR		Yes Start date of the project: 20.10.2013 Date of first stove construction: 20.10.2013 Start date of the crediting period: 01.01.2014 First Monitoring period: 01.01.2014-31.12.2015 Date of registration: 19.05.2015	Not OK Refer to CAR 1	OK (refer to resolution of CAR 1 in

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			However that dates are not indicated in the accepted format. Refer to CAR 1		Appendix 4)
A.1.2.4 Total GHG emission reductions or net GHG removals by sinks achieved in this monitoring period?	MR		Yes amount to : 3681 tCO ₂ e	OK	OK
A.2 Location of project activity					
A.2.1 Is the information on the location of the project activity provided, including Host Party(ies), Region/ State/ Province, City/Town/Community, Physical / Geographical location etc.?	MR		Yes (a) Host Party - Republic of Kenya, (b) Region/state/province, - Nyeri, Kitui, Machakos and Laikipia Counties, (c) City/town/community - Rural Communities in the County of Kitui, Nyeri, Machakos and Laikipia (d) Physical/geographical location: - Kitui town, is located at 1° 22' 0" South, 38° 1' 0" East. - Nyeri, the principal town in the County, are 0° 25' 0" South, 36° 57' 0" East. - Machakos, the principal town of Machakos County is located at 1° 13' 0" South, 37° 16' 0" East - Laikipia (Rumuruti), located at 0° 19' 0" North, 36° 30' 0" East. A map of the counties covered in the host country is provided	OK	OK
A.3 Parties and project participant(s)					
A.3.1 Is the Party(ies) and project participant(s) involved in the project activity listed in the provided table?	MR		Yes Parties - Switzerland and Kenya Project participant - Fastenopfer The two parties do not wish to be considered as project participants	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
A.4 Reference of applied methodology and Standardised baseline					
A.4.1 Is the exact reference (number, title, version) of the methodology(ies) and Standardised Methodologies indicated?	MR		Yes Gold Standard methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011).	OK	OK
A.4.2 Is the exact reference (number, title, version) of any tools and other methodologies to which the applied methodology(ies) refers indicated?	MR		Not applicable as no tools have been applied	OK	OK
A.5 Crediting period of project activity					
A.5.1 Are the type, start date and length of the crediting period corresponding to this monitoring period provided?	MR		Yes Provided as: Type: 7 years, Renewable CAR 4: The start date of the crediting period is not indicated	Not OK CAR 4	OK (refer to resolution of CAR 4 in Appendix 4)
A.6 Contact information of responsible persons/entities					
<ul style="list-style-type: none"> ✓ Is contact information of person(s)/entity(ies) responsible for completing monitoring report provided? ✓ Also is it indicated whether the person(s)/entity(ies) is (are) also a Project participant(s) as indicated in Appendix 1 	MR		Yes Provided as: Ballyokas David Knecht (knecht@fastenopfer.ch) of Fastenopfe the project participant	OK	OK
B Implementation of project activity					
B.1 Description of implemented registered project activity					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.1.1 Is the description of the installed technology, technical processes and equipment provided, including diagrams, where appropriate?	MR PS	244(a)	CAR 5: The description provided does not include a description of the installed technology in this section of the monitoring report	Not OK CAR 5	OK (refer to resolution of CAR 5 in Appendix 4)
B.1.2 Is the information on the implementation and actual operation of the project activity, including relevant dates (e.g. construction, commissioning, continued operation periods, etc.) provided?	PS	244(b)	Yes It is indicated that the project activity started operation on 20 October, 2013 and has been in continuous operation since the start of operation.	OK	OK
B.1.3 Is description of: (i) the events or situations that occurred during the monitoring period that may impact the applicability of the methodology and, where applicable the applied standardized baseline. (ii) How the issues resulting from these events or situations have been addressed?	PS	244(c)	CL 2: The PP is requested to clarify whether there was any events or situations during the monitoring period that may impact the applicability of the methodology	Not OK CL 2	OK (refer to resolution of CL 2 in Appendix 4)
B.1.4 Have the project participants addressed the FARs identified during validation or previous verification(s)?	VVS	354	CL 3: The PP is requested to clarify how FARs raised at validation have been addressed	Not OK CL 3	OK (refer to resolution of CL 3 and CL 5 in Appendix 4)
B.1.5 Have the Project participants used the valid version of the applicable monitoring report form.	VVS	381	Yes Version 05.1	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.1.6 Have the implementation and operation of the of the registered project activity or PoA and CPA been conducted in accordance with the description contained in the registered PDD or PoA-DD and CPA-DD?	VVS	383	Further assessment during site visit	Pending	OK
B.1.7 Are all physical features (technology, project equipment, and monitoring and metering equipment) of the project activity in the registered PDD or included CDM CPA in the registered CPA-DD in place?	VVS	384	Further assessment during site visit	Pending	OK
B.1.8 Have the project participant entity operated the project activity as per the registered PDD or PoA and CPA as per the registered PoA-DD and CPA-DD or any approved revised PDD or PoA-DD and CPA-DD?	VVS	384	Further assessment during site visit	Pending	OK
B.1.9 Was an on-site visit conducted?	VVS	384	Planned for 25 th April 2016	Pending	OK
B.1.10 If an on-site visit was not conducted, is the rationale of the decision justified?	VVS	384	N/A	OK	OK
B.2 Post registration changes			Under the post registration section it is indicated that there are none.		
B.2.1 Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline			None	OK	OK
B.2.1.1 Is it indicated whether any temporary deviations have been applied during this monitoring period?	MR		None	Pending	OK
B.2.1.2 Is a description of the deviation(s) in accordance with applicable provisions for temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baseline in the Project standard	MR		None	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided?					
B.2.1.3 Are the reasons for the deviation(s), how it deviates from the monitoring plan and/or applied methodology(ies), and/or applied standardized baseline, the duration for which the deviation(s) is(are) applicable and justification on the conservativeness of the approach included in the description?	MR		None	OK	OK
B.2.1.4 For deviation(s) that require prior approval by the Board, is the date of approval and reference number included in the description or else completion date of the revised PDD on the request for post-registration changes that is being submitted with this monitoring report provided?	MR		None	OK	OK
B.2.2 Corrections			None	OK	OK
B.2.2.1 Is it indicated whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report?	MR		None	OK	OK
B.2.2.2 In cases where the correction(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, is the approval date and reference number provided? Otherwise, is the version number and the completion date of the revised PDD provided?	MR		None	OK	OK
B.2.3 Changes to start date of crediting period			None	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.2.3.1 Are there any changes to the start date of the crediting period that has been approved during this monitoring period or submitted with current MR?	MR		None	OK	OK
B.2.3.2 In case where the changes and the revised PDD are approved prior to the submission of this monitoring report for request for issuance is the date of approval date and reference no provided?	MR		None	OK	OK
B.2.4 Inclusion of a monitoring plan to the registered PDD that was not included at registration			None	OK	OK
B.2.4.1 Is it indicated whether the inclusion of a monitoring plan into the PDD for which the delayed submission of the monitoring plan was chosen by the project participants at the time of the registration of the project activity, has been approved by the Board prior to the submission of current monitoring report or is being submitted together with current MR.	MR		N/A	OK	OK
B.2.4.2 If the inclusion of a monitoring plan into the registered PDD has been approved by the Board prior to the submission of current MR, is the date of approval and reference number provided?	MR		N/A	OK	OK
B.2.5 Permanent changes from registered monitoring plan or applied methodology or applied standardized baseline			None	OK	OK
B.2.5.1 Is it indicated whether any permanent changes from the registered monitoring plan or applied methodologies or standardized baseline have been	MR		N/A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
approved during current monitoring period or submitted with the current monitoring report?					
B.2.5.2 In cases where the change(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, is the approval date and reference number provided? Otherwise, are the version number and the completion date of the revised PDD provided?	MR		N/A	OK	OK
B.2.6 Changes to project design of registered project activity			None	OK	OK
B.2.6.1 Is it indicated whether any changes to the project design of the project activity have been approved during current monitoring period or submitted with this monitoring report?	MR		N/A	OK	OK
B.2.6.2 In cases where the change(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, are the approval date and reference number provided? Otherwise, are the version number and the completion date of the revised PDD provided?	MR		N/A	OK	OK
B.2.7 Types of changes specific to afforestation or reforestation project activity			Not applicable since it is not a forestry project	OK	OK
B.2.7.1 Is it indicated whether any changes specific to afforestation or reforestation project activities have been applied during this monitoring period based on applicable provisions in the Project standard that do not require prior approval by the Board?	MR		N/A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.2.7.2 If changes were applied, are the version number and the completion date of the revised PDD provided?	MR		N/A	OK	OK
C Description of monitoring system					
C.1 General requirements					
C.1.1 Have project participants described the monitoring system and provided line diagrams (graphical schemes) showing all relevant monitoring points?	MR PS	246	Yes The PP has described the monitoring system in a separate document (the monitoring manual). The description contains the necessary information including personnel involved on the monitoring process monitoring methods and procedures as well as the necessary documents that will be used for monitoring. The project activity involves households and a line diagram will not be applicable to the project activity	OK	OK
C.1.2 Does this description where appropriate include data collection procedures (information flow including data generation, aggregation, recording, calculations and reporting), organizational structure, roles and responsibilities of personnel, and emergency procedures for the monitoring system?	MR PS	246	Yes, Refer to C.1.1 above	OK	OK
C.1.3 Is the registered monitoring plan of the project activity in accordance with the applied methodology including applicable tool(s) and where applicable, the applied standardized baseline?	VVS	386	Further assessment on site CL 4: The PP is requested to clarify whether or not a project database has been developed in line with the methodology	Not Ok CL 4	OK (refer to resolution of CL 4 6 in Appendix 4)
C.1.4 For monitoring aspects that are not specified in the methodology and where applicable, the standardized baseline, particularly in the case of small-scale	VVS	387	Pending site visit	Pending	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
methodologies (e.g. additional monitoring parameters, monitoring frequency and calibration frequency), are there any issues which may enhance the level of accuracy and completeness of the registered monitoring plan and should be brought to the attention of the Board?					
C.1.5 Has the monitoring plan been properly implemented and followed by the project participants?	VVS	390(a)	Pending site visit	Pending	OK
C.1.6 Have all parameters stated in the registered monitoring plan and relevant Board decisions been monitored and updated as applicable, including:	VVS	390(b)	Refer to section D below	Refer below	OK
C.1.6.1 Project emission parameters?	VVS	390(b)	Refer to section D below	Refer below	OK
C.1.6.2 Baseline emission parameters?	VVS	390(b)			OK
C.1.6.3 Leakage parameters?	VVS	390(b)			OK
C.1.6.4 Management and operational system: the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the registered monitoring plan?	VVS	390(b)	Further assessment on site	OK	OK
D Data and parameters					
D.1 Data and parameters fixed ex ante or at renewal of crediting period			The following parameters are fixed ex ante: EF _{b,CO2} , EF _{b,non-CO2} , EF _{p,CO2} EF _{p,non-CO2} and Pb,y	OK	OK
D.1.1 For “Purpose of data”, is one of the following options chosen: (a) Calculation of baseline emissions or baseline net GHG removals by sinks; (b) Calculation of project emissions or actual net GHG removals by sinks; (c) Calculation of leakage?	MR		For parameters EF _{b,CO2} , EF _{b,non-CO2} , EF _{p,CO2} and EF _{p,non-CO2} the pp is requested to indicated the purpose of data either as calculation of project emissions, baseline emissions or leakage as guided by the form.	Not OK Refer to CAR 6 (ii)	OK (refer to resolution of CAR 6 in

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
					Appendix 4)
D.1.2 Is the data that is fixed before registration and/or at the renewal of crediting period and that is used in the MR under section D.1 provided?	MR		Yes The data for the parameters in section D.1 above is provided	OK	OK
D.1.3 For "Value(s) applied", is one table used to report multiple values referring to the same data and parameter, wherever applicable? If necessary, are reference(s) to electronic spreadsheets used?	MR		For the parameters in section D.1, only single values are reported for the above fixed parameters in line with the registered PDD	OK	OK
D.1.4 Is the source of data provided and/or identified?	PS	248(d)	Yes The sources of data for the parameters in section D.1 are provided and are similar the registered PDD	OK	OK
D.1.5 Is information about appropriate emission factors, IPCC default values and any other reference values that have been used in the calculation of GHG emission reductions or net GHG removals provided?	PS	248(g)	N/A	OK	OK
D.2 Data and parameters monitored			fNRB,i,y, Pp,y, Up,y, Project technologies credited (units), Np,y, LEp,y, Similar cook stove project activities in the project area, Incentive scheme to abandon baseline technology (3-stone fires). CAR 6 (i): It is noted that the PP has included parameter Project technologies credited (units) which is not in the registered PDD. Also the description of parameter Np,y in the monitoring report differs from the registered PDD	Not OK CAR 6 (i)	OK (refer to resolution of CAR 6 in Appendix 4)
D.2.1 For "Purpose of data", is one of the following options chosen: (a) Calculation of baseline emissions or baseline net GHG	MR		CAR 6 (ii): For the following parameters: fNRB,i,y, Up,y, Np,y, the purpose of data indicated is not in line with the guidelines for completing the monitoring report form, and for parameter	Not Ok CAR 6	OK (refer to

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
removals by sinks; (b) Calculation of project emissions or actual net GHG removals by sinks; (c) Calculation of leakage?			Project technologies credited (units), the purpose of data is not indicated	(ii)	resolution of CAR 6 in Appendix 4)
D.2.2 For "Value(s) of monitored parameter", if applicable, is one table used to report multiple values referring to the same data and parameter? If necessary, are reference(s) to electronic spreadsheets used?	MR		CAR 6 (iii): For the parameter Npy monitored continuously, the PP is requested to present the values in a table at appropriate intervals For other parameters single values are reported.	Not OK CAR 6 (iii)	OK (refer to resolution of CAR 6 in Appendix 4)
D.2.3 a) Are the values of the monitored parameter for the purpose of calculating GHG emission reductions or net GHG removals provided? b) In case where data is measured continuously, is it presented using an appropriate time interval? c) For default values (such as an IPCC value), where it is not fixed ex-ante, is the most recent value applied?	PS	248(a)	a) Yes b) Only Npy parameter is measured continuously refer to CAR 6 (iii) above c) Default values are fixed ex-ante	Refer to CAR 6 (iii) above	OK (refer to resolution of CAR 6 in Appendix 4)
D.2.4 Is the equipment used to monitor each parameter described, including details on accuracy class, and calibration information (frequency, date of calibration and validity), if applicable as per monitoring plan?	PS	248(b)	CAR 7: Parameter Pp,y required the use of a monitoring equipment. Details on accuracy class, and calibration information for the equipment is not indicated No monitoring equipment is required to determine the other parameters specified on D.2 above	Not ok CAR 7	OK (refer to resolution of CAR 7 in Appendix 4)

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
D.2.5 Is the equipment used for monitoring controlled and calibrated in accordance with the registered monitoring plan, the applied methodology, Board guidance, local/national standards, or as per the manufacturer's specification?	VVS	390(c)	Calibration status of monitoring equipment in D.2.4 above will be assessed on site	Pending	OK
D.2.6 Is the calibration of those measuring equipment that has an impact on the claimed emission reductions conducted by the project participants at a frequency specified in the applied monitoring methodology, applied standardized baseline and/or the registered monitoring plan?	VVS	394	Calibration status of monitoring equipment in D.2.4 above will be assessed on site	Pending	OK
D.2.7 If, during verification of a certain monitoring period, the calibration has been delayed and the calibration has been implemented after the monitoring period in consideration (i.e. the results of delayed calibration are available), is the following conservative approach adopted in the calculation of emission reductions:	VVS	395	Pending site visit as in D.2.6 above	Pending	OK
D.2.7.1 Is the maximum permissible error of the instrument applied to the measured values taken during the period between the scheduled date of calibration and the actual date of calibration, if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error?	VVS	395(a)	Refer to comment in D.2.7 above	Pending	OK
D.2.7.2 If the error identified in the delayed calibration test beyond the maximum permissible error of the measuring equipment, is the error equivalent to the identified error applied to the measurement?	VVS	395(b)	Refer to comment in D.2.7 above	Pending	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
D.2.8 Has the error been applied:	VVS	396	Refer to comment in D.2.7 above		
D.2.8.1 In a conservative manner, such that the adjusted measured values of the delayed calibration shall result in fewer claimed emission reductions?	VVS	396(a)	Refer to comment in D.2.7 above	Pending	OK
D.2.8.2 For all measured values taken during the period between the scheduled date of calibration and the actual date of calibration.	VVS	396(b)	Refer to comment in D.2.7 above	Pending	OK
D.2.9 In cases where the results of the delayed calibration are not available, or the calibration has not been conducted at the time of verification, prior to finalizing verification, were the project participants requested to conduct the required calibration and have the project participants calculated the emission reductions conservatively using the approach described in section "D.2.7" above?	VVS	397	Refer to comment in D.2.7 above	Pending	OK
D.2.10 In cases where it is not possible for the project participants to conduct the calibration at a frequency specified by either the applied methodology, standardized baseline, guidance provided by the Board, and/or the registered monitoring plan due to reasons beyond the control of the Project participants, are the requirements for post registration changes, in sections 9& 10 of the VVS, followed?	VVS	398	Refer to comment in D.2.7 above	Pending	OK
D.2.11 In cases where neither the monitoring methodology, where applicable standardized baseline nor the registered monitoring plan specify any requirements for calibration frequency for measuring equipment, are the equipment calibrated either in accordance with the specifications of the local/national standards, or as per the manufacturer's	VVS	399	Refer to comment in D.2.7 above	Pending	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
specification? If neither local/national standards nor the manufacturer's specification are available, were international standards used?					
D.2.12 Is it described how the parameters are measured/ calculated and is the measurement and recording frequency mentioned?	PS	248(c)	Yes A description is provided for each of the monitored parameter mentioned in D.2 above. Refer to CAR 6 above	Refer to CAR 6	OK (refer to resolution of CAR 6 in Appendix 4)
D.2.13 Are monitoring results consistently recorded as per approved frequency?	VVS	234(d)	Yes	OK	OK
D.2.14 Is the source of data (e.g. logbooks, daily records, surveys, etc.) provided and/or identified?	PS	248(d)	Further assessment on site	Pending site visit	OK
D.2.15 Wherever relevant is the calculation method of the parameter provided?	PS	248(e)	Yes, They calculation method are provided separately in spreadsheet	OK	OK
D.2.16 Are the QA/QC procedures applied described (if applicable per monitoring plan)?	PS	248(f)	QA/QC procedures to be assessed on site	Pending site visit	OK
D.2.17 Has quality assurance and quality control procedures been applied in accordance with the registered monitoring plan?	VVS	390(e)	Further assessment will be done on site	Pending site visit	OK
D.2.18 Is information about appropriate emission factors, IPCC default values and any other reference values that have been used in the calculation of GHG emission reductions or net GHG removals provided?	PS	248(g)	Yes, IPCC default values are provided in section D1 and are fixed ex ante. They were verified at validation.	OK	OK
D.3 Implementation of sampling plan					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
D.3.1 Is description provided on how project participants implemented the sampling efforts and surveys for those data and parameters according to the sampling plan, Include:	MR		Yes Further assessment on site	Pending	OK
D.3.1.1 Description of implemented sampling design?	MR		Yes	OK	OK
D.3.1.2 Collected data (electronic spreadsheets may be attached and referenced)?	MR		Yes	OK	OK
D.3.1.3 Analysis of the collected data?	MR		Yes	OK	OK
D.3.1.4 Demonstration on whether the required confidence/precision has been met?	MR		Yes	OK	OK
E Calculation of emission reductions or GHG removals by sinks					
E.1 Calculation of baseline emissions or baseline net GHG removals by sinks					
E.1.1 Are sample calculations for all formulae used and calculation of baseline emissions or baseline net GHG removals by sinks provided, applying actual values?	MR PS	253(a)	The methodology allows for direct calculation of ERs. The calculation of ERs is provided in section E.2 of the monitoring report	OK	OK
E.1.2 Are the electronic spreadsheets attached to present full calculations in the monitoring report?	MR		Refer to E.1.1 above	OK	OK
E.2 Calculation of project emissions or actual net GHG removals by sinks					
E.2.1 Are sample calculations for all formulae used and calculation of project emissions or actual net GHG removals by sinks provided, applying actual values?	MR PS	253(b)	The methodology allows for direct calculation of ERs. The PP has presented the calculation substitution the values for the fixed and monitored parameter in the formula	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			$ER_y = \sum_{b,y} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b,fuel} * (f_{NRB,b,y} * EF_{fuel,CO2} + EF_{fuel, nonCO2})) - LE_{p,y}$ <p>To determine the actual ERs realized in the monitoring period</p>		
E.2.2 Are the electronic spreadsheets attached to present full calculations in the monitoring report?	MR		<p>Yes</p> <p>Spreadsheets for ER calculations are provided</p>	OK	OK
E.3 Calculation of leakage					
E.3.1 Are sample calculations for all formulae used and calculation of leakage provided, applying actual values?	MR PS	253(c)	No leakage is associated with the project	OK	OK
E.3.2 Are the electronic spreadsheets attached to present full calculations in the monitoring report?	MR		N/A	OK	OK
E.4 Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks					
E.4.1 <ul style="list-style-type: none"> Are results of above sections summarized and Are GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period presented, using the provided table? 	MR PS	253(d)	Yes	OK	OK
E.4.2 Is a complete set of data for the specified monitoring period available?	VVS	402(a)	Yes	OK	OK
E.4.3 Has information provided in the monitoring report been cross-checked with other sources such as plant log books,	VVS	402(b)	Pending site visit	pending	OK (refer to resoluti

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
inventories, purchase records, laboratory analysis?					on of CAR 8 in Appendix 4)
E.4.4 Have calculations of baseline emissions, project activity emissions and leakage GHG Emissions, as appropriate, been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology document and where applicable the applied standardized baseline?	VVS	402(c)	Yes The methodology allows for direct calculation of ERs	OK	OK
E.4.5 Any assumptions that have been used in emission calculations justified?	VVS	402(d)	Yes, Assumption is on leakage and this has been justified	OK	OK
E.4.6 Have appropriate emission factors, IPCC default values and other reference values correctly applied?	VVS	402(e)	Yes	OK	OK
E.4.7 In event , where monitoring period starts before 31/12/2012 and ends anytime thereafter, is actual GHG emission reductions or net GHG removals by sinks achieved for the following 2 periods respectively: 1) Up to 31 December 2012 (first commitment period); and 2) From 1 January 2013 onwards.	MR		N/A All monitoring starts after 1 January 2013 onwards	OK	OK
E.4.8 Is it ensured that the achieved GHG emission reductions or net GHG removals by sinks are calculated proportionally for each period?	MR PS	254	Only one period is applicable. The PP has indicated the period before 1 January 2013 as 0	OK	OK
E.4.9 In cases where annual caps were applied in the calculations, is it ensured that the annual caps are pro-rated to each period?	MR PS	254	N/A	OK	OK
E.5 Comparison of actual emission reductions or net GHG removals by sinks with estimates in					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
registered PDD					
E.5.1 Is comparison of actual GHG emission reductions or net GHG removal of the project activity achieved during this monitoring period with the estimates in the registered PDD provided?	MR PS	256	Yes, this is provided as: Estimates as per the PDD: year 2014: 5,285 t CO ₂ e, year 2015: 18,920 t CO ₂ e, Total for the period 24,205 t CO ₂ e Actual: Year 2014: 1,147 t CO ₂ e, year 2015 : 2,534 t CO ₂ e, Total for the period: 3,681 t CO ₂ e	OK	OK
E.6 Remarks on difference from estimated value in registered PDD					
E.6.1 For any registered CDM project activity, except A/R project activities, have project participants explain the cause of any increase in the actual GHG emission reductions achieved during the current monitoring period (e.g. higher water availability, higher plant load factor, etc.), including all information (i.e. data and/or parameters) that is different from that stated in the registered PDD?	MR PS	257	Yes, There is no increase in actual ERs compared to estimate. However the PP has explained the main cause for the difference in values. The PP has indicated that the difference is as a result of less stoves installed than forecasted in the PDD	OK	OK
Appendix 1: Contact Information of Project participants and responsible person/ entities					
In accordance with section A.6 above, is the table containing mandatory information like: Project participant and/or responsible person/entity, Organization, Street/P.O. Box, City, Postcode, Country, Telephone, Fax, E-mail and Name of contact person provided?	MR		Yes	OK	OK

<i>Version</i>	<i>Date</i>	<i>Description</i>
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