

|                                               |                                                                                  |
|-----------------------------------------------|----------------------------------------------------------------------------------|
| <b>Project Title</b>                          | <b>Aberdares Improved Cook Stoves</b>                                            |
| <b>ERM CVS Reference</b>                      | <b>2287.V1</b>                                                                   |
| <b>Gold Standard Project Reference Number</b> | <b>GS883</b>                                                                     |
| <b>Client Name</b>                            | <b>Co2balance UK Ltd</b>                                                         |
| <b>Client Address</b>                         | <b>1 Discovery House<br/>Cook Way<br/>Taunton<br/>TA2 6BJ<br/>United Kingdom</b> |

## **Gold Standard Verification Report**

**ERM Certification and Verification Services**

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|                        |                                                   |
|------------------------|---------------------------------------------------|
| <b>Version Control</b> | <b>Date</b>                                       |
| Version 01             | 07 June 2012 (draft report)                       |
| Version 02             | 25 September (final report)                       |
| Version 02.1           | 01 November 2012 (final report after GS feedback) |

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## Abbreviations

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| CAR               | Corrective Action Request                              |
| CDM               | Clean Development Mechanism                            |
| EB                | Executive Board                                        |
| CL                | Clarification Request                                  |
| CO <sub>2</sub>   | Carbon Dioxide                                         |
| CO <sub>2</sub> e | Carbon Dioxide Equivalent                              |
| DOE               | Designated Operational Entity                          |
| ER                | Emission Reduction                                     |
| FAR               | Forward Action Request                                 |
| GHG               | Greenhouse Gas                                         |
| GWP               | Global Warming Potential                               |
| GS                | Gold Standard                                          |
| IPCC              | Intergovernmental Panel on Climate Change              |
| PDD               | Project Design Document                                |
| MR                | Monitoring Report                                      |
| PP                | Project Participant                                    |
| QA/QC             | Quality Assurance / Quality Control                    |
| UNFCCC            | United Nations Framework Convention for Climate Change |
| VER               | Verified Emission Reduction(s)                         |
| VVM               | CDM Validation and Verification Manual                 |

## Project specific abbreviations

|     |                             |
|-----|-----------------------------|
| CTF | Carbon rights Transfer Form |
| CZK | Carbon Zero Stove           |
| MKS | Monitoring Kitchen Survey   |
| NRB | Non Renewable Biomass       |
| KPT | Kitchen Performance Test    |
| KS  | Kitchen Survey              |

## 1. Project information

|                                   |                                                                                                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Project Title</b>              | Aberdares Improved Cook Stoves                                                                          |
| <b>CDM Project reference</b>      | GS883                                                                                                   |
| <b>Project Location</b>           | Aberdares, Kenya                                                                                        |
| <b>Host Party</b>                 | Kenya                                                                                                   |
| <b>Annex I Party(s)</b>           | United Kingdom                                                                                          |
| <b>Project Participants</b>       | co2balance UK Ltd                                                                                       |
| <b>Methodology</b>                | Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes |
| <b>Methodology version number</b> | Version 2                                                                                               |

|                                                          |                                                                       |
|----------------------------------------------------------|-----------------------------------------------------------------------|
| <b>Monitoring report version made publicly available</b> | Version 01: 29 March 2012<br>Upload date: 25 April 2012               |
| <b>Final monitoring report version</b>                   | Version 05, dated 18 September 2012                                   |
| <b>Verification Period</b>                               | Verification period 1<br>01 December 2010 – 31 March 2012 [16 months] |
| <b>Date(s) of Site Visit</b>                             | 30 April 2012 – 02 May 2012                                           |

|                                                                         |                                     |
|-------------------------------------------------------------------------|-------------------------------------|
| <b>Date/version of approved PDD and monitoring plan</b>                 | 24 April 2012                       |
| <b>Date/version of approved revised PDD (if applicable)</b>             | n/a                                 |
| <b>Date/version of approved revised Monitoring plan (if applicable)</b> | n/a                                 |
| <b>Crediting Period</b>                                                 | 01 December 2010 – 30 November 2017 |

|                                               |                            |
|-----------------------------------------------|----------------------------|
| <b>Number of emission reductions verified</b> | 25,465 t CO <sub>2</sub> e |
|-----------------------------------------------|----------------------------|

## 2. Verification Opinion

ERM Certification and Verification Services (ERM CVS) was commissioned by co2balance UK Ltd to verify the emissions reductions reported for the period 01 December 2010 – 31 March 2012 as set out in the monitoring report of the Gold Standard project activity Aberdares Improved Cook Stoves, Gold Standard Project Reference GS883.

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                             |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Basis of verification</b>                    | ERM CVS based its verification work on: <ul style="list-style-type: none"><li>the approved Gold Standard methodology applied in the project design document (PDD)</li><li>the approved PDD</li><li>the approved Gold Standard Passport</li><li>the CDM Validation and Verification Manual (VVM)</li><li>Gold Standard requirements version 2.1 and guidance</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                             |
| <b>Responsibilities of ERM CVS</b>              | ERM CVS is responsible to provide an independent verification conclusion on the reported greenhouse gas (GHG) emission reductions for the project during the relevant verification period. The verification activities included desk review, site visit, close out of open issues, preparation of report and technical review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                             |
| <b>Responsibilities of Project Participants</b> | The Project Participants (PPs) are responsible for the preparation of the information and GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the applicable monitoring plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                             |
| <b>ERM CVS Opinion</b>                          | <p>Based on the verification activities undertaken, ERM CVS concludes that the project activity is implemented and operated as described in the registered Project Design Document version 09 dated 24 April 2012.</p> <p>ERM CVS also concludes that the baseline and emission reduction calculations have been correctly presented in the revised PDD version 10 dated 18 September 2012 and are in accordance with the applied baseline methodology Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes Version 2.</p> <p>The GHG emissions reductions set out in the monitoring report dated 18 September 2012 were found to be appropriately measured and calculated in accordance with the applied monitoring methodology Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes Version 2 and the monitoring plan set out in the approved Project Design Document version 09 dated 24 April, revised baseline set out in the revised PDD version 10 dated 18 September 2012, and Gold Standard Passport version 04 dated 13 January 2012.</p> <p>Based on the verification activities undertaken, ERM CVS concludes that the reported emission reductions for the verification period 01 December 2010 – 31 March 2012 are fairly stated.</p> |                                                                                                             |
| <b>Total verified GHG emission reductions</b>   | <b>Emission reductions: 25,465 tonnes CO<sub>2</sub> equivalent</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                             |
| <b>Report approved by</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Signature</b><br><br> |
| <b>Name:</b><br><br><b>Melanie Eddis</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                             |
| <b>Date</b><br><br><b>01 November 2012</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                             |
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### 3. Introduction

This report sets out the methodology and conclusions of the verification process. ERM CVS assessed and verified whether the implementation of the project activity and the steps taken to report emission reductions and sustainability indicators comply with the Gold Standard requirements and guidance.

#### 3.1. Verification Objectives

As set out in the Gold Standard Requirements v.2.1, verification means the periodic independent review and ex post determination by a Designated Operational Entity of monitored reductions in anthropogenic emissions by sources of greenhouse gases (GHG) that have occurred as a result of a registered project activity during the verification period

The objective of the verification is to establish whether sufficient evidence exists to confirm, to reasonable assurance:

- Whether the project activity has been implemented and is being operated as per the PDD /3/ and that all physical features of the project activity are in place.
- Whether the applied monitoring plan /4/ is in compliance with the relevant approved Gold Standard monitoring methodology /8/
- Whether the monitoring report /1/ and other supporting documents provided are complete and verifiable and in accordance with the monitoring plan and applicable Gold Standard requirements and guidance.
- Whether the emission reductions as set out in the Monitoring Report /1/ have been measured, calculated and reported in accordance with the requirements of the monitoring plan /4/.
- Whether the reported data meet the key principles of data quality and are complete, reliable, consistent, accurate, valid, transparent and conservative.

#### 3.2. Scope and basis of verification work

The verification is an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE.

Based on the key project information set out on page 4, the verification addresses the implementation and operation of the project activity as set out in the PDD /3/, and the information and reported emissions reductions set out in the monitoring report prepared by the project participant (PP) for this verification period.

The verification tests the data and assertions set out in the monitoring report prepared for this verification period by the PPs and is based on

- the approved methodology /8/ applied in the PDD /3/
- the PDD /3/ and monitoring plan /4/
- Gold Standard Requirements version 2.1 and Gold Standard Toolkit version 2.1 and its Annexes
- the CDM Validation and Verification Manual (VVM) /9/
- Other information and references relevant to the project activity's reported emission reductions - refer to Annex 1 for full set of documents

The verification considers both quantitative and qualitative information on emission reductions and sustainability indicators. The monitoring report is assessed, using a rules based approach, against the principles of accuracy, relevance, credibility, reliability, completeness, consistency, and transparency. Conservativeness is applied throughout the process to ensure that emission reductions are not overstated.

ERM CVS conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification does not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

### 3.3. Appointment of Team Members and Technical Reviewer

Based on ERM CVS's review of the project, a verification team was established that takes into account the coverage of the technical area(s), sectoral scope(s) and relevant host country experience for verifying the emission reductions achieved by the project activity in the relevant verification period for this verification

Personnel who undertook this verification were:

| Verification Team | Role                      | CDM Knowledge | Gold Standard | Technical Area | Host country | Participated in site visit? |
|-------------------|---------------------------|---------------|---------------|----------------|--------------|-----------------------------|
| Neringa Pumputyte | Team Leader               | Yes           | Yes           | Full           | Yes          | Yes                         |
| Alastair Woods    | Verifier (under Training) | No            | Yes           | No             | No           | Yes                         |

| Technical Review | Role               | CDM Knowledge | Gold Standard | Expertise relevant to Technical Area | Host country | Participated in site visit? |
|------------------|--------------------|---------------|---------------|--------------------------------------|--------------|-----------------------------|
| Miguel Cortes    | Technical Reviewer | Yes           | Yes           | Yes                                  | No           | No                          |

#### Neringa Pumputyte – Lead Verifier

Neringa has been working with CDM and Gold Standard for the past 5 years, initially as a consultant and project developer and now as a validator and verifier. Neringa has completed 5 validations and verifications as an assessor in the sectors of renewable energy, LFG, fugitive emissions (oil and gas), and energy efficiency. Before joining ERM CVS, Neringa worked on hydro and cook stove projects as well as numerous waste handling projects as a CDM project developer. Neringa has completed the ERM CVS CDM training, as well as gold standard methodology training. Neringa also has a BSc and MSc in Geography, and an MSc in Environmental Change and Management from the University of Oxford.

#### Alastair Woods – Verifier under training

Alastair has nearly a year's experience in CDM having participated in two PoA validations on successful completion of the ERM CVS CDM training. Alastair studied Development Economics at the University of Cape Town and went on to complete an MSc in Carbon Management at the University of Edinburgh. He has also completed the Gold Standard training. Previously, he has interned with the environmental consultancy Trucost, as an analyst, and as an assistant coordinator for the International Green Awards.

#### Miguel Cortes – Technical Reviewer

Miguel Cortes has 7 years of CDM experience, 5 of which was spent working as a project developer and 2 as a Technical Reviewer and Lead Assessor for ERM CVS. Miguel has undertaken 26 validations and 14 verifications in Renewable Energies (Scope 1), Manufacturing (Scope 4), Mineral Production (Scope 8) and Metal Production (Scope 9). Miguel has 9 years direct experience in the Cement industry, which included cement operations and mineral extraction/mining related activities. Miguel also has 5 years' experience as a consultant for GHG emission reduction projects in the sectoral scopes of manufacturing, Mining, and metal production, including WHR, Biofuels, Biomass Production and Hydro Power CDM projects. Miguel has completed the ERM CVS CDM training and Gold Standard training. Miguel holds a BSc and MSc in Civil Engineering

### 3.4. Verification activities

The verification approach is based on the approach depicted in the CDM VVM. The verification activities are designed to evaluate:

- Whether sufficient evidence is available, both in terms of frequency (time period between evidence) and in covering the full verification period;
- The source and nature of the evidence (external or internal, oral or documented, etc.);
- Cross checks with comparable information available from sources other than that used in the monitoring report, where

possible.

#### *3.4.1. Desk review*

A detailed desk review was undertaken prior to the site visit. This included the PDD /3/, the Gold Standard Passport /6/, the monitoring plan /4/, the validation report /5/, the applied monitoring methodology /8/, Monitoring Report /1/, emission reduction calculation spreadsheet /2/, feedback form from the GS 8 week review period /7/, relevant external data and reports /10-13, 26, 27/.

The desk review included

- A review of the data and information presented to verify completeness and consistency in accordance with relevant Gold Standard requirements and guidance
- A review of the monitoring plan and monitoring methodology, paying particular attention to the time and frequency of measurements and surveys, quality of surveys and studies and the quality assurance and quality control (QA/QC) procedures
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reductions.

A complete list of all documents reviewed is contained in Annex 1.

#### *3.4.2. Site Visit*

A site visit to the project activity was undertaken from 30 April 2012 - 02 May 2012 to assess implementation and operation of the project activity and to review evidence, and interview key personnel to confirm evidence associated with the data generation, aggregation, calculation and reporting of the monitoring parameters.

The site visit addressed:

- An assessment of the project implementation and operation as per the PDD /3/ (including visiting a sample of households where the project has been implemented);
- Review of information flows for generating, aggregating and reporting the monitoring parameters, including review of samples of completed forms and overview of the project database;
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan /4/. A list of all interviewees is included in Annex 2.
- A cross-check between information provided in the monitoring report /1/ and data from other sources such as project database, survey sheets, builder forms, and other records, or similar data sources to establish the existence of a clear audit trail and records that validate or invalidate the stated data;
- A review of calculations and assumptions made in determining the GHG data and emission reductions, including definition of clusters;
- A review of assessment made in determining sustainability indicators;
- Identification of quality control procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters

During the site visit, the verification team conducted 16 household interviews across the Aberdares region included in the project boundary. These household interviews included visits to 9 households previously surveyed by the PP to confirm reliability of the information collected as part of the PP's monitoring, and ensure data was collected as per the monitoring plan; and 7 project households that had not been previously surveyed by the PP in order to cross check the validity of monitored information for key VER parameters and sustainability indicators. The followed table illustrates, of the households that the ERM CVS team sampled, those that were previously-surveyed by the project participant. The monitoring surveys are described in section 4.4.1.

| Monitoring Survey          | # households | Percentage |
|----------------------------|--------------|------------|
| Monitoring Kitchen Surveys | 9            | 56.25%     |
| Non-surveyed               | 7            | 43.75%     |
| Total                      | 16           | 100.00%    |

In addition, the verification team took a random sample of 53 MKS filled-out questionnaires, and compared their results with those in the electronic MKS master database in order to determine whether any errors were made by co2balance in the transposition. The itemization of the survey sample is presented in the table below:

| Monitoring Survey           | # households | Percentage |
|-----------------------------|--------------|------------|
| Monitoring Kitchen Survey 2 | 20           | 37.74%     |
| Monitoring Kitchen Survey 3 | 14           | 24.42%     |
| Monitoring Kitchen Survey 4 | 19           | 35.85%     |
| Total                       | 53           | 100.00%    |

### 3.4.3. Reporting

After the site visit, a draft report is prepared with the preliminary findings of the verification. Where it is not possible to confirm compliance, the verification team raised findings as follows:

- Clarification Request (CL): where information is insufficient or not clear enough to determine whether the applicable Gold Standard requirements have been met.
- Corrective Action Request (CAR): This is issued where:
  - Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
  - Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
  - Issues identified in a Forward Action Request (FAR) during validation (or previous verification) to be verified have not been resolved by the project participants.

The verification process may be stopped until this information has been made available to the verifiers' satisfaction. Failure to address a CL may result in a CAR. Information or clarification provided as a result of a CL may also lead to a CAR.

Forward Action Requests (FAR) may also be raised for actions if the monitoring and reporting require attention and/or adjustment for the next verification period. These have no impact upon the completion of the current verification activity.

After satisfactory close out of CARs and CLs, the final report presents the verification activities undertaken, the issues raised, and explains how these issues have been closed out to enable the final verification conclusions to be made.

### 3.4.4. Independent technical review

The verification activities and content of the report are subject to a review by an independent technical reviewer. The role of the Technical Reviewer is to provide oversight that all procedures have been followed by the verification team and all conclusions justified and supported by evidence. The Technical Reviewer will either accept or reject the recommendations made by the verification team.

## 4. Verification Findings

## 4.1. Status of open issues from validation and previous verifications (if applicable)

No FARs were raised in the validation report but four FARs were raised by the Gold Standard following its 8 week review period. ERM CVS has validated how the PP has taken these FARs into account.

| Forward Action Request                                                                                                                                                                                                                                                                                                                                                     | Date and document (Validation or verification)                                               | Verification activities undertaken to close the FAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Draft OK/ CAR/ CL | Final OK/ Not OK |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|
| <p>GS 8 week review FAR 1:</p> <p>Issue: PP shall provide justification for the discrepancy between the WISDOM study and NRB report provided. For the Aberdares region, the WISDOM study shows surplus renewable biomass however the PP claims an NRB of 95%</p> <p>FAR: PP shall provide evidence prior to the first verification to further support the claimed NRB.</p> | <p>The Gold Standard Synthesis of the 8-week registration review period /7/, 01 Feb 2012</p> | <p>At the time of the site visit, no evidence was provided to further support the NRB value used for emission reduction calculations. <b>CAR 1</b> was raised.</p> <p>The project developer provided reference to a registered CDM PoA in Kenya (ref. number 5336) and NRB fraction used there (96%), and explained differences between the two methodologies and why it still can be used to support NRB fraction used in this project. In addition, the PP has provided explanation about the differences in methodologies and data sources used by WISDOM study /26/ and NRB report used for this project /25/, which are the reasons for different results - please refer to Section 5, CAR 1.</p> <p>ERM CVS reviewed the PoA-DD "Efficient Cook Stove Programme: Kenya ", the CDM methodology AMS-II.G. ver. 3 used by that PoA, methodology applied for this project /08/, NRB study for this project /25/, and WISDOM study /26/. The Gold Standard methodology requires a more comprehensive assessment including annual regrowth of biomass on a supply side, considering other uses of woody biomass in addition to fuel on a demand side, and considers practical restraints of reachable collection area. The underlying assumptions and approaches are comparable between the CDM and Gold Standard methodologies. Therefore while the value from CDM PoA reference 5336 cannot be used directly in this project activity, it does support a high value of NRB fraction. In accordance with the monitoring plan the value will be updated in the next verification period. As the PP has provided further evidence to support NRB fraction <b>CAR 1</b> was closed.</p> <p>CDM registered PoA (ref. number 5336): <a href="http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/GND0CTW7MQ6ZJ2IE5XA4KL3SF1YP9U/view">http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/GND0CTW7MQ6ZJ2IE5XA4KL3SF1YP9U/view</a></p> | <b>CAR-1</b>      | <b>OK</b>        |
| <p>GS 8 week review FAR 2:</p> <p>The expert crosschecking the Kitchen Surveys observed that the KS questionnaires were not of good quality. PP shall ensure that the questionnaires used for the monitoring KS are improved.</p>                                                                                                                                          | <p>The Gold Standard Synthesis of the 8-week registration review period /7/, 01 Feb</p>      | <p>ERM CVS has reviewed the comments made by the expert /13/, KS questionnaires used in the original KS at the time of project development (for determining clusters) /10/, and MKS questionnaires /11, 12/. The expert had raised the following concerns about the original KS questionnaire:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>OK</b>         | <b>OK</b>        |

|  |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
|--|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|  | 2012 | <ol style="list-style-type: none"> <li>1) We do not know how often per day or week the intervention stove is being used, or for what foods or drinks</li> <li>2) The use of 'other' stoves that use charcoal and other fuels suggest that there is secondary fuel use (questions 29/30 and 34/35 KS1). However we cannot provide information on the fraction of total fuel use.</li> <li>3) The questionnaire data provides information on numerical quantities of 'fuel' used in one week (question 46), which could be ambiguous. This information is available for wet and dry seasons for both study groups but it does not differentiate between pre- and post-stove installation.</li> <li>4) Data on whether households currently buy or collect their 'fuel' is not available according to season or whether this has changed since installation of the CZ stove</li> <li>5) There is no information on midweek and weekend cooking patterns; whether number of meals cooked has changed since stove installation; or for festivals and other events that may increase or decrease the number of meals cooked</li> <li>6) Fuel use for 'other purposes' than cooking was asked about before and after the installation of the stove (question 31 and 36) but the questionnaire did not explore changing patterns according to seasons; the fraction of total fuel used for other purposes or the number of hours using the stove for warmth before and after the installation of the stove.</li> </ol> <p>Based on review of the MKS survey questionnaires and interviews with households that ERM CVS has conducted, verification team can confirm that the survey questionnaires were improved to properly take into account the consultant's comments:</p> <ol style="list-style-type: none"> <li>1) MKS questionnaires included a question 'How many times per day are you using the CarbonZero stove?', enabling to collect data on how much the intervention stove is used. While information on the type of food was not collected, it is reasonable to expect that type of food cooked is quite uniform, as the project area is not culturally diverse.</li> <li>2) Kitchen Performance Tests (KPTs) were designed in a way that subsumes the use of secondary fuels. Therefore information on secondary fuel use is</li> </ol> |  |  |
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|  |  | <p>collected primarily for the purpose of checking if clusters need to be re-defined. For this, it is enough to have questions on how many times per day different fuels and cooking devices (stove types) are used (separately for different seasons).</p> <p>3) Difference in fuel use was determined by KPTs. Qualitative questions were introduced to identify the difference in woodfuel use. Question on numerical quantities of wood before the intervention and after the intervention was still kept in the first three MKSs (MKS 1-3) but removed afterwards. As MKSs are conducted on households that have new stoves, it is likely that after a year of using new stove, the users may not recollect clearly how much fuel they used in each season before the new stove was introduced. The questionnaire in MKS instead has a question on evaluating whether households spend more, less or the same amount of fuel since receiving the CZK stove.</p> <p>4) Data on whether households currently buy or collect their 'fuel' was still collected without differentiating between seasons and without noting whether there was a difference in this since installation of the CZ stove. While this is not expected to affect cluster definitions for emission reduction calculations, it would be relevant for sustainability indicators. MKS questionnaires so far have assumed that households continue either collecting or buying wood. The questionnaire does not yet include a way to record a change. Therefore <b>FAR 6</b> was raised for further improvement during the next verification period.</p> <p>5) The issue of differences between mid-week and weekend/festivals was addressed by conducting the KPTs in mid-week, according to the provisions of applied methodology (i.e if KPTs are performed during 3 day period (72 hours), then they should be conducted mid-week). Therefore, collecting this information in MKS is not considered necessary</p> <p>6) Questionnaire was not adapted to ask about changing patterns of other fuel use according to seasons, or to identify the fraction of total fuel used for other purposes or the number of hours using the stove for warmth before and after the installation of the stove. However, the main other uses identified by MKS are warming up water for washing clothes or bathing, which is not</p> |  |  |
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|                                                                                                                                                                                                                                                                                                                                                 |                                                                                              | <p>expected to vary between seasons.</p> <p>ERM CVS considers the MKS questionnaires to be of suitable quality and that the concerns raised during the Gold Standards Review Period have been addressed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |              |
| <p>GS 8 week review FAR 3:</p> <p>PP shall conduct usage surveys and also consider aging of stoves prior to next issuance. The usage survey and aging test shall be conducted on the first batch of stoves distributed under this project activity.</p>                                                                                         | <p>The Gold Standard Synthesis of the 8-week registration review period /7/, 01 Feb 2012</p> | <p>Usage surveys were not conducted at the time of the site visit, and the aging of stoves was not considered. <b>CAR 2</b> was raised.</p> <p>After the issue was raised, a usage survey was conducted by co2balance in June 2012. The survey is validated in section 4.4.1 below. Following the survey, emission reductions have been adjusted downwards according to the determined usage factor of 0.95 /30//02//01/. Please refer to section 4.4.1 and 4.4.4, parameter “usage in year y” for further details</p> <p>After the site visit, co2balance also conducted a new set of baseline KPTs because in previous KPTs a large proportion of results had to be taken out due to ambiguity of results related to a rounding issue, as was suggested by an independent expert /13/. The new KPT results were used to revise the baseline. New KPT results and revised baseline are validated in section 4.2.2 below. As new KPTs were done on the “ageing” stoves, their results effectively consider ageing. <b>CAR 2</b> was therefore closed.</p> <p>However, the usage survey produced potentially contradictory results that do not impact emission reductions but require further investigation – please refer to section 4.4.4 and remediation form in section 5 for further details. <b>FAR 5</b> was raised.</p> | <b>CAR 2</b> | <b>FAR 5</b> |
| <p>GS 8 week review FAR 4:</p> <p>Issue: PP shall provide details of incentive mechanisms designed to ensure that the use of baseline stoves is not continued.</p> <p>FAR 4: The effectiveness of this mechanism shall be checked before first issuance. In case, an incentive is found to be ineffective, PP shall change/modify the same.</p> | <p>The Gold Standard Synthesis of the 8-week registration review period /7/, 01 Feb 2012</p> | <p>During the households visits ERM CVS has checked the effectiveness of the incentive mechanism and found it sufficient. Please refer to section 4.2 for details.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>OK</b>    | <b>OK</b>    |

#### 4.2. Project Implementation in accordance with the PDD

As per VVM section D.1 /9/, ERM CVS evaluated the conformity of the project activity and its operation with the PDD /3/. This assessment was undertaken on the basis of the site visit including visiting households where Carbon Zero Cook Stove units were distributed, review of documents and project database, and interviews with relevant personnel.

During the site visit, ERM CVS assessed whether all features of the project as described in the PDD are in place and that the PP has operated the project in accordance with operational criteria set out in the PDD /3/.

Based on the information available on the Gold Standard Registry, the most recent version of the project PDD was uploaded onto the registry on 25 April 2012. The verification period dates are 01 December 2010 to 31 March 2012.

#### 4.2.1. Overview of project design

The 'Aberdares Improved Cook Stove project' involves the distribution of Carbon Zero Cook Stoves, also referred to as Carbon Zero Kenya cook stoves (from herein referred to as CZK units), to rural households in the Central province of Kenya. The activity aims at replacing inefficient open wood fires with CZK units of a higher thermal and combustion efficiency, and training households in their use, resulting in improved kitchen regimes through reduced fuel use and lowered levels of indoor air pollution due to better combustion. Emissions of GHGs are reduced through reduced use of non-renewable biomass (NRB). A single model of the stove is initially distributed, as only one cluster was identified during project development.

CZK stove is a fixed construction of an inner ceramic liner surrounded by clay bricks and mortar, using a 'rocket' style design. This consists of a horizontal (combined) fuel and air intake, terminating in a firebox with a vertical outlet on which the cooking pot rests. There is no chimney, and instead a draft is created by the temperature difference between the low inlet and the outlet, and the hot combustion gasses pass out of the top directly onto the cooking pot. The rocket design allows better combustion and high temperatures to be reached compared to the 3 stone fire, thereby saving the amount of fuel for cooking, and also reduces the amount of smoke produced.

The households received CZK units for free during a distribution campaign. Initially, before the project registration, 149 pilot stoves were constructed in June 2010 after the Local Stakeholder Consultation and therefore fall under the regular project cycle and have been included in Emissions Reductions calculations. Construction was then halted to allow for proper project preparations to be made and the Baseline Study to be conducted. Stove construction recommenced in December 2010 and continued for 6 months by the end of which 9,245 CZK units had been constructed. Construction halted in June 2011 as the Project Participant (PP) needed to relocate resources to other on-going projects. Construction will be resumed at the next available opportunity.

Therefore, this verification covers the construction of the first 9,245 CZS units in households within the project area.

The project was confirmed to be implemented in the following locations:

| <b>Lari Division</b>      |                                             |
|---------------------------|---------------------------------------------|
| <b>Location</b>           | <b>Kamae</b>                                |
| Sub location              | Kamae<br>Kamukombini                        |
| <b>Location</b>           | <b>Kinale</b>                               |
| Sub location              | Kinale<br>Mukeu                             |
| <b>Location</b>           | <b>Kijabe</b>                               |
| Sub location              | Bathi<br>Magina<br>Mbauini<br>Kijabe        |
| <b>Location</b>           | <b>Gitithia</b>                             |
| Sub location              | Gitithia<br>Nyambari                        |
| <b>Location</b>           | <b>Lari</b>                                 |
| Sub location              | Lari Scheme<br>Githirioni                   |
| <b>Location</b>           | <b>Kirenga</b>                              |
| Sub location              | Kirenga<br>Gituamba<br>Kambaa<br>Escarpment |
| <b>Gatamaiyu Division</b> |                                             |
| <b>Location</b>           | <b>Gatamaiyu</b>                            |
| Sub location              | Kagwe<br>Kamuchege                          |
| <b>Location</b>           | <b>Nyanduma</b>                             |
| Sub location              | Nyanduma<br>Gachoire                        |

| Location     | Kamburu  |
|--------------|----------|
| Sub location | Kamburu  |
|              | Kagaa    |
|              | Matimbei |

According to the approved PDD, the project also involves training provided to beneficiary households on efficient use of the stoves and health benefits to ensure successful transfer of the technology. The project design also involves the individual tracking of CZK units using unique identification numbers and GPS co-ordinates to ensure they fall within the project boundary and to avoid double counting, as well as ensuring each recipient agrees to transfer carbon rights to co2balance.

The small-scale project activity falls within the Energy Efficiency – Domestic category and utilises the Gold Standard 'Methodology for improved cook-stoves and kitchen regimes V.02'. It also applies the guidance of the UNFCCC CDM 'Tool for demonstration and assessment of additionality (version 05.2.1)' as required by the above methodology.

The project context and cluster definitions were determined using the results of baseline Kitchen Surveys (herein referred to as KS) conducted in September 2010. Kitchen Performance Tests (herein referred to as KPTs) were conducted in October 2010 to determine fuel savings for calculating baseline GHG emissions.

The verification period then began in December 2010. Monitoring Kitchen Surveys (herein referred to as MKS) were conducted in March 2011 and quarterly thereafter: MKS1, KMS2, MKS3 and MKS4. The MKS results were used for checking if the project needs re-clustering and/or if there is a need to conduct KPTs earlier than required by the methodology (which is every two years).

Emission reductions in the approved PDD were calculated based on the results of original baseline KPTs conducted in October 2010. During this verification, the project developer decided to revise the baseline and conduct new baseline KPTs. This was done for the following reasons:

- Due to ambiguity related to rounding of some of the original baseline KPT results a low sample size was used for calculating woodfuel savings, and lower bound figure had to be used, resulting in underestimation of woodfuel savings.
- Part of the stoves got damaged after implementation: the lower secondary inlet got broken (either intentionally to fit larger logs or unintentionally). The new set of KPTs were conducted on both un-modified and modified stoves to compare their woodfuel savings

| Compliance question                                                                                                                                                    | Verification activities undertaken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Draft OK/ CAR/CL                                          | Final OK/ Not OK                                      |
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| <p><b>What is the Implementation and operation status of the project?</b></p> <p><b>Are all physical features of the project activity in place as per the PDD?</b></p> | <p>Based on the site visit and the review of documentation provided, ERM CVS evaluated whether the project has been implemented and operated as described in the approved PDD /3/.</p> <p>During the ERM CVS site visit, the verification team:</p> <ul style="list-style-type: none"> <li>• Visited a sample of 16 households to which CZS units had been distributed.</li> <li>• Interviewed staff responsible for distribution and education campaigns, monitoring surveys, and day to day operations including monitoring coordinator, community and education liaison officer, a mason employed by one of the contractors for the CZS</li> </ul> | <p><u>Stove building</u></p> <p>ERM CVS has confirmed that stoves were manufactured in Kenya. For the construction of stoves, co2balance UK Ltd contracted and trained stove building contractors (Baco Investments and Zesac) to construct and manage the stove build of the project, as confirmed by review of the signed contracts /14, 15/.</p> <p>Before distribution campaign, co2balance organised promotion campaign, during which project staff engaged village elders, women groups, and example beneficiaries to help promote the new stoves. This included education on health and environmental sustainability aspects. ERM CVS has confirmed this based on interviews with the project staff and review of education/training material and description of procedure /16/.</p> <p>Building contractors used local masons for installation of stoves. This was confirmed by</p> | <p><b>CAR-3</b></p> <p><b>CL-1</b></p> <p><b>CL-5</b></p> | <p><b>OK</b></p> <p><b>OK</b></p> <p><b>FAR 6</b></p> |

| Compliance question | Verification activities undertaken                                                                                                                                                                                                                                                                                                 | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Draft OK/ CAR/CL | Final OK/ Not OK |
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|                     | <p>installation, and a surveyor employed by co2balance to conduct the monitoring surveys.</p> <ul style="list-style-type: none"> <li>Reviewed the relevant distribution and maintenance records, contracts with building contractors, carbon rights transfer notes, project database, training and operations materials</li> </ul> | <p>interviews with project staff and one of the local masons, and cross-checked by reviewing letters sent to co2balance Kenya by the Lari district officials /17/, where officials expressed appreciation to the project for providing local employment.</p> <p>Prior to building, co2balance trained contractors on how to install the stove properly. ERM CVS has reviewed the stove builder's manual /18/ and has confirmed this by questioning one of the masons on key quality aspects.</p> <p><u>Stove tracking</u></p> <p>Please refer to section 4.4.2 on validation of the sales record.</p> <p><u>Carbon rights transfer</u></p> <p>According to the PDD, each recipient household would sign a carbon rights transfer form as a confirmation that the rights to GHG emission reductions are transferred to the PP as payment for the improved cook stove /3/.</p> <p>Once stoves were built, project community and education liaison officers were visiting households to continue education campaign, ask recipients to sign the carbon rights transfer forms, and take pictures of the installed stove. Information about signed transfer forms as well as scanned form itself were then uploaded on the project database.</p> <p>The collection of signed forms was lagging behind the stove building.</p> <p>ERM CVS reviewed a sample of such signed forms /19/. However, based on review of the total distribution record (also referred to as detailed customer database/project database) /20/ and its export file /21/ at the time of the site visit, ERM CVS found that carbon rights transfer notes were missing for 2,122 stove beneficiaries.. Based on interviews with the project staff, ERM CVS understands that information on some forms was not yet transferred to the project database. <b>CAR 3</b> was raised for all signed forms to be transferred to the database before the issuance.</p> <p>Since the issue was raised, 650 additional carbon right transfer notes were uploaded by the PP, resulting in 1,472 forms still outstanding. ERM CVS has confirmed this by checking the export file from the project database as of 30 August 2012 /36/. The PP has adjusted the number of stoves eligible for carbon credits accordingly and is only</p> |                  |                  |

| Compliance question | Verification activities undertaken | Verification findings<br>(including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
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|                     |                                    | <p>requesting credits for those stoves for which a signed carbon rights transfer form is available on the project database. Second Table in section B1 of the revised monitoring report as well the supplementary data spreadsheet transparently show number of stoves built each month as well as crediting stoves after discounting those stoves for which carbon rights transfer forms are not available /01//02/. <b>CAR 3</b> was closed.</p> <p><u>Stove model</u></p> <p>Pictures of installed stoves with identification numbers visible were uploaded on the project database. This is a good way of confirming and tracking stove installation.</p> <p>Verification team visited a sample of project's beneficiary households and checked a sample of pictures in the project database /20/. It was noted that stoves built in the pilot phase looked slightly different to the ones distributed in the main distribution campaign. The main difference appears to be in the location of secondary air inlet: while in the pilot stoves the inlet is on a side of the stove, in the main stove model it is in the front. The pilot stove also has mortar/plaster finish around the stove.</p> <p>It was noted that stove picture in the first version of the monitoring report shows the type of stove that was built during the pilot phase /1/. This is the same as the model that is depicted in the PDD /3/. However, the stoves constructed after the pilot phase were of a different appearance. The monitoring report does not depict or explain the difference in stove appearances/models and does not justify whether the differences affect the performance of the stove. <b>CL 1</b> was raised.</p> <p>During the site visit, verification team also observed that some of the stoves have secondary air inlet broken. The PP confirmed that they were aware of this and were investigating the issue. However, the first version of the monitoring report did not refer to this observation and did not explain this and justify whether this affects the efficiency of stove and woodfuel savings. Please refer to <b>CL 5</b> raised in section 4.4.4</p> <p>The revised Monitoring Report (Version 2) uses a picture and description of the CZK stove, which is the primary stove type used in the project area. The stoves installed during the pilot phase had essentially the same design (structure), only were plastered around, therefore there is no difference in performance of the pilot phase and main construction phase stoves. This is in line with</p> |                        |                        |

| Compliance question | Verification activities undertaken | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Draft OK/ CAR/CL | Final OK/ Not OK |
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|                     |                                    | <p>what the verification team saw during the site visit and has been checked against pictures in the electronic distribution record. <b>CL 1</b> was closed.</p> <p>The revised monitoring report explains about the “modified” stoves. Based on the site visit interviews with households and project staff, ERM CVS can confirm that it is likely that in many cases the secondary air inlet may be intentionally broken to allow using larger sticks/logs. However, the project beneficiaries would not admit it because of the fear of losing the stove. . It is also possible that inlets can break unintentionally during use. Although the stoves with broken inlet may have had it either broken or intentionally modified, herein they are referred to as modified stoves for simplicity.</p> <p>Modification of the stove could affect efficiency of burning and thus fuelwood savings. In order to measure if/how fuelwood savings may differ between modified and unmodified stoves. The new KPTs were done on groups of un-modified and modified stoves. ERM CVS reviewed calculation results and can confirm that that difference in savings of woodfuel use between the two groups is not statistically significant: the p-value is 0.9710 at significance level of 10% (0.1). As long as the KPTs are done on a sample that consists of a proportional number of modified and unmodified stoves, there is no need to identify a separate cluster. Please refer to section 4.2.2 below for further details on the new KPTs.</p> <p>As the issue around modified stoves and comparison of performance between modified and unmodified stoves were correctly explained in the revised MR, CL 5 was closed, and <b>FAR 6</b> was raised for the PP to modify MKS questionnaire to include a way to record if a stove is damaged /modified.</p> <p><u><i>Incentive mechanism</i></u></p> <p>According to the PDD and interview with the project proponent, incentive mechanism is based on the following two aspects:</p> <ul style="list-style-type: none"> <li>educating local people on the health and environmental benefits of abandoning inefficient baseline technology entirely</li> <li>the improved stove being given free of charge and being maintained free of charge over a 7 year period</li> </ul> <p>Verification team has visited a sample of beneficiary households and interviewed women. In most cases the cookstoves were being used at the time the verification team</p> |                  |                  |

| Compliance question                                                                                                                               | Verification activities undertaken                                            | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Draft OK/ CAR/CL | Final OK/ Not OK |
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|                                                                                                                                                   |                                                                               | <p>visited households. The stoves also have physical appearance of being used. Out of 16 households visited, only one was clearly still using the 3-stone fire along with the CZK stove, and the main reason given was custom: the woman said she was too used to using the 3-stone fire to abandon it. Usage survey had to be carried out during this verification period to respond to FAR 3 raised by the Gold Standard. The surveys were carried out after the site visit and validated in section 4.4.1 and 4.4.4 of the report.</p> <p>Some beneficiaries appear to have moved the place of cooking from a separate/outdoor kitchen to indoor area: this indicates that households switched to the CZK stove and abandoned the 3-stone fire.</p> <p>One of the key aspects of incentive mechanism is presence of project's monitoring and community liaison officers in the project area, who are local to the area and are accepted by the beneficiaries. They are key contacts in case of a breakage or any problem with the stove. They are also pro-actively visiting beneficiaries to ensure they know about the proper use of the stove and about the health benefits. Verification team interviewed two officers, and also witnessed that some villagers were recognising one of the officers who was accompanying the verification team during the site visit.</p> <p>Overall based on the site visit, verification team can confirm that incentive mechanism is working sufficiently.</p> |                  |                  |
| <b>Does the monitoring report correctly state the project description, and the implementation and operational status of the project activity?</b> | ERM CVS reviewed the monitoring report /1/ based on results of the site visit | The first version of the monitoring report did not explain about the difference in stove appearance between the pilot stoves and stoves built in the main distribution campaign; and the stove picture included in the monitoring report showed a pilot stove and not the main type of stoves built after the pilot phase – please refer to CL 1. The revised Monitoring Report (Version 2) uses a picture and description of the CZK stove, which is the primary stove type used in the project area. The stoves installed during the pilot phase have essentially the same design (structure), only are plastered around, therefore performance is not affected. This is in line with what the verification team saw during the site visit and has been checked against pictures in the electronic distribution record.. <b>CL 1</b> was closed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>CL-1</b>      | <b>OK</b>        |
| <b>Has there been any variance in the</b>                                                                                                         | The verification team compared data and variables stated in the               | All data and parameters used for estimating emission reductions apart from number of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | OK               | <b>OK</b>        |

| Compliance question                                                                                                                                                                                                  | Verification activities undertaken                    | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                               | Draft OK/ CAR/CL | Final OK/ Not OK |
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| information (data and variables) provided in the monitoring report compared with the PDD and which has caused an increase in emission reductions or likely to increase the estimates in future verification periods? | monitoring report with data and variables in the PDD. | <p>CZK units distributed were the same in the first version of the monitoring report and the approved PDD /1/ /3/.</p> <p>During this verification, the PP has revised the baseline and is submitting a revised PDD for approval. Changes to the PDD are validated in section 4.2.3 below.</p> |                  |                  |

#### 4.2.2. Changes to the PDD

As explained in section 4.2.1, during this verification the project developer decided to revise the baseline and conduct new baseline KPTs. This was done for the following reasons:

- Due to ambiguity related to rounding of some of the original baseline KPT results, a low sample size was used for calculating woodfuel savings in the approved PDD, resulting in underestimation of woodfuel savings.
- Part of the stoves got damaged or modified after implementation: the lower secondary inlet got broken (either intentionally to fit larger logs or unintentionally). The new set of KPTs were conducted on both un-modified and modified stoves to compare their woodfuel savings

The following changes have been made to the PDD:

- Revised information on KPTs in section B.4 of the PDD
- Revisions in the section on methodological choices (section B.6.1)
- Revised ex-ante parameter tables in section B.6.2 for the following parameters:
  - $N_y$  – number of stoves: value changed
  - $EF_{af,co2}$  – CO<sub>2</sub> emission factor arising from use of alternative fuel: justification corrected
  - $EF_{af,non-co2}$  – Non-CO<sub>2</sub> emission factor arising from use of alternative fuel: justification corrected
  - $EF_{af,prod,co2}$  – CO<sub>2</sub> emission factor arising from production of alternative fuel: justification corrected
  - $EF_{af,prod,non-co2}$  – Non-CO<sub>2</sub> emission factor arising from production of alternative fuel: justification corrected
- Revised information on KPT results and revised ex-ante ER calculations in section B.6.3 of the PDD and summary of ER calculations in section B.6.4.
- Revised monitored parameter tables in section B.7.1 for the following parameters:
  - $L$  – leakage: value adjusted according to revised value of  $N_y$
  - $B_{bl,y}$  and  $B_{pj,y}$  – instead of biomass savings, separate parameters for biomass combustion in the baseline and in the project, with values revised according to new KPT results

The changes are validated below:

|   | Change to the PDD                                     | Validation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Revised information on KPTs in section B.4 of the PDD | Changes were validated against the new baseline report /31/, spreadsheet with detailed raw data from new KPTs /36/, and PDD supplementary data spreadsheet /38/. KPTs were conducted in July and August 2012, which is dry season. 3-day tests were performed (requiring 4 days of visiting) during week days. This is the minimum length allowed by the methodology. The short length was chosen in order to balance the costs. As opposed to original KPTs, the new kitchen tests were not paired, as project households had had the new stove for at least a year and might not have returned back to usual pre-intervention behaviour. |

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|  |  | <p>The sample size was as follows;</p> <ul style="list-style-type: none"> <li>90 “baseline” households with 3-stone fires</li> <li>90 “project” households with CZK stoves, out of which: <ul style="list-style-type: none"> <li>55 were modified with secondary air inlet broken and</li> <li>35 were unmodified (please refer to CL 5 for details on this issue)</li> </ul> </li> </ul> <p>An independent consultant who had reviewed the original baseline kitchen surveys had suggested that the minimum sample size for conducting kitchen tests should be 45 households /13/. The sample size used in the revised kitchen tests for groups of baseline and project households is therefore much higher, which balances the short length of the test per household (3 days) and the non-paired test. The required sample size was also calculated based on test results to confirm that sample size was sufficient.</p> <p>The sample selection was done in the following way:</p> <ul style="list-style-type: none"> <li>For baseline households: Out of 38 villages, 6 villages were selected with a help of a random number generator, and field staff were instructed to choose households in these villages randomly, just not selecting households that are close to the main roads or on far outskirts. This method is reasonable for selecting a sample of baseline households, as no database is available for selecting actual specific households randomly.</li> <li>For CZK households: using random number generator, 135 beneficiaries were selected to have a buffer for non-responsiveness and 90 of the selected households were included in monitoring. Out of those, 35 had unmodified stoves, and 55 had stoves with secondary air inlet broken (one was removed as an outlier). This corresponds to the proportion of modified (60%) versus unmodified (40%) stoves as found during the visit of 443 households, which was carried out to establish to what extent the stoves were modified (refer to CL 5).</li> </ul> <p>The PP found 2 outliers in the set of project households with CZK stoves (both modified and unmodified). The methodology version applied in this project does not include provisions on how outliers should be determined. The test used is however in line with the recommendation in the revised methodology “Technologies and Practices to Displace Decentralised Thermal Energy Consumption”.</p> <p>As the KPTs were not paired but done on separate (independent) samples, the analysis for baseline and project fuel use has to be done separately. The methodology used by this project requires conducting an expert statistical analysis to determine at a 90% confidence level (or better) a range of values within which the mean difference between baseline emissions and project emissions lies. Analysis can be done using the appropriate independent two-sample t-test. However, as the kitchen tests were not paired, it is not possible to have a range of savings values. Therefore PP used guidance provided by the newer version of the relevant methodology, “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” version 01.</p> <p>ERM CVS checked calculations done by the PP to evaluate whether data analysis provided in the revised baseline report meets the requirements for using the 90/30 rule provided by this newer version of the methodology. Verification team can confirm that for both, woodfuel use in the baseline and woodfuel use in the project scenario, the endpoints of the 90% confidence interval lie within +/- 30% of the estimated means for the two parameters. As this condition is satisfied, the PP’s choice to use mean values of baseline woodfuel use and project woodfuel use is correct.</p> <p>Overall the revised KPTs and data analysis was performed in line with the methodology requirements /8/.</p> |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|    |                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2  | Revisions in the section on methodological choices (section B.6.1)                                                                                 | The section was revised to take out modifications of formulae. This is because original baseline KPTs were done on paired samples and value of baseline savings per stove was used to calculate emission reductions. As revised KPTs were done on independent samples, the baseline emissions are calculated based on woodfuel use and project emissions are calculated based on project woodfuel use. This is in line with the applied methodology /8/, which requires that if paired sampling has not been used, average Baseline Emissions and Project Emissions should be calculated separately from the sample.                                                                           |
| 3  | $N_y$ – number of stoves: value changed                                                                                                            | The total size of the project is defined by maximising emission reductions per project, and this is dictated by the woodfuel savings. As the woodfuel savings have changed based on results of the new KPTs, the total number of stoves to be distributed has decreased. The planned total number of stoves (23,033) is still much higher than the number of stoves distributed so far (9,245). Please note that although the parameter is number of stove per year, the value provided in the PDD is for entire project lifetime, or maximum number of stoves that can be distributed under this project.                                                                                     |
| 4  | $EF_{af,co2}$ – CO <sub>2</sub> emission factor arising from use of alternative fuel: justification corrected                                      | Justification in the original approved PDD referred that no alternative fuels were observed. However, this is not correct, as baseline KS as well as MKS showed that there is some residual use of other fuels but kitchen tests were designed in a way that measures only use of primary fuel (households are told to cook as usual including use of other fuels) and other fuel consumption is treated as zero. As justification in previous PDD was not correct, this was corrected in the revised PDD                                                                                                                                                                                      |
| 5  | $EF_{af,non-co2}$ – Non-CO <sub>2</sub> emission factor arising from use of alternative fuel: justification corrected                              | Please refer to validation of changes to $EF_{af,co2}$ above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6  | $EF_{af,prod,co2}$ – CO <sub>2</sub> emission factor arising from production of alternative fuel: justification corrected                          | Please refer to validation of changes to $EF_{af,co2}$ above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7  | $EF_{af,prod,non-co2}$ – Non-CO <sub>2</sub> emission factor arising from production of alternative fuel: justification corrected                  | Please refer to validation of changes to $EF_{af,co2}$ above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 8  | Revised information on KPT results and revised ex-ante ER calculations in section B.6.3 of the PDD and summary of ER calculations in section B.6.4 | <p>ERM CVS reviewed changes in the revised PDD and the revised spreadsheet with PDD supplementary data /3/ and can confirm that changes in section B.6.3 are a result of :</p> <ul style="list-style-type: none"> <li>• Changes to the values of baseline fuelwood consumption (<math>B_{bl}</math>) and project fuelwood consumption (<math>B_{pj}</math>) based on results of new KPTs – validated in line 1 of this table; and</li> <li>• Calculations of baseline emissions and project emissions separately – validated in line 2 of this table</li> </ul> <p>The calculations are in line with the applied methodology and can be re-produced using the values in the revised PDD. .</p> |
| 9  | L – leakage: value adjusted according to revised value of $N_y$                                                                                    | Value was correctly adjusted based on revised value of $N_y$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 10 | $B_{bl,y}$ and $B_{pj,y}$ – Mass of woody biomass combusted in the baseline in year y and Mass of woody biomass combusted in the project in year y | As described above, because the new KPTs were done on independent samples, separate parameters of $B_{bl}$ (mass of woody biomass combusted in the baseline) and $B_{pj}$ (mass of woody biomass combusted in the project) are used. Their values for ex-ante calculations in the revised PDD have been validated against revised KPT results spreadsheet /36/.                                                                                                                                                                                                                                                                                                                                |

## Conclusion

Based on the verifier's site visit, it can be confirmed that all physical features of the project activity have been fully implemented in accordance with the PDD /3/. The project activity was also confirmed to be fully operational in accordance with the PDD /3/.

The information provided in the monitoring report sections A and B correctly states the implementation and operational status of the project activity.

Corrections to the PDD are appropriate, revised values are correct and revisions are in accordance with the applied methodology /8/

ERM CVS confirmed during the site visit that

- no component has been added nor the technology has been extended;
- the scale of the project has not changed.

### 4.3. Compliance of the monitoring plan with the monitoring methodology

As per VVM section D.2, ERM CVS evaluated whether the carbon monitoring plan complies with the requirements of the applied methodology.

According to the methodology, a Total Sales Record, Detailed Customer Database, and Project Database are maintained continuously, while periodic KS's and KPTs are required to measure or estimate parameter values and review and revise the cluster lists held in the Project Database; emission reduction calculations are carried out on the basis of the KT results most applicable to each stove according to its age.

| Compliance question                                                | Verification activities undertaken                                                                                                        | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Draft OK/ CAR/CL | Final OK/ Not OK |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
| Is the monitoring plan in compliance with the applied methodology? | The verification team reviewed the monitoring plan in the PDD /3/ and compared it against the requirements of the applied methodology /8/ | <p>ERM CVS confirms that appropriate provisions are included for the monitoring and reporting procedures, data management, and QA/QC procedures, including maintaining the detailed customer database and project database.</p> <p>Monitoring processes for the data and parameters, which are required to be monitored by the methodology, are included in the monitoring plan.</p> <p>The application of the monitoring methodology was found to be appropriate and ERM CVS confirms that the monitoring plan is consistent with the requirements of Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes Version 2 /8/.</p> | OK               | OK               |

## Conclusion

ERM CVS confirms that the monitoring plan in the Gold Standard registry is in accordance with the methodology applied for this Gold Standard project activity.

#### 4.4. Compliance of monitoring with the monitoring plan

As per VVM section D.3, ERM CVS evaluated whether the monitoring of emission reductions has been implemented in accordance with the monitoring plan /4/. The verification team evaluated whether the monitoring plan and the applied methodology have been properly implemented and followed by the PPs, in particular, whether:

- All parameters stated in the monitoring plan and the applied methodology have been sufficiently monitored and updated as applicable, including:
  - Project, baseline and leakage emission parameters (see sections 4.4.2 and 4.4.3);
  - Management and operational system (see section 4.4.4);
- The surveys were implemented and data were analysed in a way that minimises errors and bias and ensures conservative estimate of emission reductions (see section 4.4.1).

##### 4.4.1. Overview of monitoring system

The project monitoring consists of the following main parts:

- establishing and maintaining a total sales record, detailed customer database and project database;
- conducting quarterly monitoring kitchen surveys (MKS) for checking cluster definitions, monitoring sustainability indicators, and assessing if there is an indication of changed baseline parameters;
- conducting biennial kitchen performance tests (KPTs) on ageing stoves for estimating parameter values for emission reduction calculations and sustainability indicators, as well as baseline KPTs for estimating baseline parameters; if new stove models are introduced, new stove KPTs have to be conducted;
- third party studies are used for some parameters

Prior to the main distribution campaign, kitchen surveys were conducted for defining clusters. Only one uniform cluster was defined, as stated in the approved PDD and validation report /3, 5/.

The paired KPTs (for both baseline and project stoves) were then carried out in Oct 2010, before the main distribution campaign, and before the start of the crediting period. As explained in section 4.2.2, the new KPTs were then conducted in July and August 2012 and baseline was revised in a revised PDD /31, 04/.

The MKSs were carried out from the start of the verification period, in March, June, September 2011 and January 2012.

Usage survey for identifying drop-off rates was carried out in June 2012, after the end of the first monitoring/verification period.

As the PP and verification team found that some project stoves have been modified by breaking the secondary air inlet (or broken unintentionally), a separate survey was also carried out in May 2012 to find the proportion of project stoves that have been modified.

The table below outlines when various surveys and kitchen tests were carried out:

| Month    | Number of stoves constructed | Survey / test     | Comment |
|----------|------------------------------|-------------------|---------|
| Jun 2010 | 149                          |                   |         |
| Jul 2010 | 0                            |                   |         |
| Aug 2010 | 0                            |                   |         |
| Sep 2010 | 0                            | KS (for baseline) |         |
| Oct 2010 | 0                            | KPTs              |         |
| Nov 2010 | 0                            |                   |         |

|                  |      |                        |                                                                                        |
|------------------|------|------------------------|----------------------------------------------------------------------------------------|
| Dec 2010         | 1720 |                        |                                                                                        |
| Jan 2011         | 996  |                        | 01 Dec 2010 – start of the crediting period and of this monitoring/verification period |
| Feb 2011         | 3480 |                        |                                                                                        |
| Mar 2011         | 1567 | MKS 1                  |                                                                                        |
| Apr 2011         | 569  |                        |                                                                                        |
| May 2011         | 755  |                        |                                                                                        |
| Jun 2011         | 0    | MKS 2                  |                                                                                        |
| Jul 2011         | 0    |                        |                                                                                        |
| Aug 2011         | 0    |                        |                                                                                        |
| Sep 2011         | 0    | MKS 3                  |                                                                                        |
| Oct 2011         | 0    |                        |                                                                                        |
| Nov 2011         | 0    |                        |                                                                                        |
| Dec 2011         | 0    |                        |                                                                                        |
| Jan 2012         | 0    | MKS 4                  |                                                                                        |
| Feb 2012         | 0    |                        |                                                                                        |
| Mar 2012         | 0    |                        | 31 March 2012 – end of this monitoring period                                          |
| April 2012       | 0    |                        |                                                                                        |
| May 2012         | 0    | Modified stoves survey |                                                                                        |
| June 2012        | 0    | Usage Survey           |                                                                                        |
| July-August 2012 | 0    | New KPTs               |                                                                                        |

| Compliance question                                                                                                                                  | Verification activities undertaken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Draft OK/ CAR/CL | Final OK/ Not OK                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------|
| <b>Were surveys implemented and data collected in a way that minimises errors and bias and ensures conservative estimate of emission reductions?</b> | <p>During the ERM CVS site visit, the verification team:</p> <ul style="list-style-type: none"> <li>Interviewed staff responsible for monitoring one of surveyors, and a builder</li> <li>Reviewed MKS survey sheets, builders forms, upload forms, MKS master spreadsheet, and detailed customer database.</li> </ul> <p>After the site visit, during reconciliation of open issues, the verification team:</p> <ul style="list-style-type: none"> <li>Reviewed usage survey questionnaires and results and</li> </ul> | <p>Distribution data was collected by contractors and builders using paper forms. This included builders noting recipient details and builder supervisors filling in builders' forms /22/. The data was then transposed by co2balance personnel to excel spreadsheets, and then uploaded to the electronic detailed customer database /20/. I.e. data collection included manual data handling on 3 levels (builders, their supervisors, and co2balance office personnel). As explained in section 4.4.2 below, ERM CVS has found discrepancies in building dates between the builder forms and data in the detailed customer database. The errors were identified and corrected but this indicates the need to reduce the level of manual data handling and strengthen quality checks on the collected data. Hence, <b>FAR 1</b> was raised.</p> <p>Data from the MKSs was collected by surveyors employed by co2balance using</p> | <i>FAR 1</i>     | <p><i>FAR 1</i></p> <p><i>FAR 5</i></p> |

| Compliance question | Verification activities undertaken                                                                                                                          | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Draft OK/ CAR/CL | Final OK/ Not OK |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
|                     | <p>modified stove survey results</p> <ul style="list-style-type: none"> <li>Reviewed revised baseline study and underlying data and calculations</li> </ul> | <p>hardcopy forms, and this was then later transposed from the paper forms to excel spreadsheets by co2balance personnel in Nairobi office and then collated to a master MKS spreadsheet /23/. ERM CVS has compared records of a sample of surveys in original paper forms /24/ and master Excel spreadsheets /23/ and has found a small amount of inconsistencies (1% of all records). The few inconsistencies found are minor data entry errors which do not affect conclusions drawn from MKS results.</p> <p>Based on review of the MKS questionnaires /11, 12/ and interviews with community and education liaison officers and an external surveyor, ERM CVS can confirm that MKS surveys were designed appropriately to minimise bias and errors.</p> <p>The usage survey was conducted in response to FAR 3 from Gold Standard's 4-week review period and CAR 2 of this verification report. ERM CVS reviewed questionnaire used for usage surveys as well as the spreadsheet with results /30, 35/. The questionnaire was translated into Swahili languages to minimise interpretation differences among surveyors. Sample size was 100, which complies with the minimum sample size requirements provided in the methodology /8/. The sample was selected randomly from the distribution record. ERM CVS can confirm that the usage factor was calculated correctly. The calculated usage factor shows that 5% of the constructed stoves are not used and emission reductions were adjusted accordingly /01/ /02/</p> <p>Some results from the usage survey are contradictory: 99% of respondents responded that their stove is working correctly but 87% responded yes to a question "Is your stove damaged?" and 69% responded positively to a question "Would you like us to repair your stove and provide further training on how to use it (for free)?" This may be because questions were misunderstood or because of beneficiary wish to be kept in the programme. Although these contradictions do not affect usage factor, they should be further investigated in the next verification period and questionnaire for usage survey modified if needed – <b>FAR 5</b> was raised.</p> <p>443 beneficiary households were visited to check the proportion of modified and non-modified stoves. This does not require questionnaires as the stove can be assessed visually. The calculated proportion (60% modified stoves and 40% non-modified) is similar to what verification team found during the visit of a sample of households. The new KPTs are validated in section 4.2.2 above.</p> |                  |                  |

| Compliance question | Verification activities undertaken | Verification findings (including justification/substantiation of information, data and evidence) | Draft OK/ CAR/CL | Final OK/ Not OK |
|---------------------|------------------------------------|--------------------------------------------------------------------------------------------------|------------------|------------------|
|                     |                                    |                                                                                                  |                  |                  |

#### 4.4.2. Completeness of the total sales record and detailed customer database

The verification team evaluated whether the establishment and maintenance of the total sales records and detailed customer database was conducted in accordance with the methodology and whether the records are accurate.

| Compliance question                                                                                                           | Verification activities undertaken                                                                                                                                                                                                                                                                                                                                                                                | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Draft OK/ CAR/CL                                                                              | Final OK/ Not OK |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|
| <b>Was the Total Sales Record collected accurately and in accordance with the methodology and registered monitoring plan?</b> | <p>During the site visit, the verification team:</p> <ul style="list-style-type: none"> <li>Interviewed staff responsible for distribution and education campaigns and day to day operations, including monitoring coordinator, community and education liaison officer, and a mason employed by one of the contractors for the CZS installation.</li> <li>Reviewed the relevant distribution records.</li> </ul> | <p>The stoves were given for free, in exchange for carbon rights, therefore instead of the sales record, the documentation refers to distribution records. The following information was collected:</p> <ul style="list-style-type: none"> <li>Stove serial number</li> <li>Stove Model</li> <li>Project region</li> <li>Builder's company name</li> <li>Name of builder's trainer (co2balance in all cases)</li> <li>Stove building date</li> <li>Resident's name</li> <li>Resident address (where possible)</li> <li>Resident phone number (where possible)</li> <li>Mode of use (domestic in all cases)</li> <li>Type of fuel used</li> <li>Pilot stove (Y/N)</li> <li>GPS Coordinates</li> <li>Carbon rights handover signed (Y/N)</li> </ul> <p>Each stove was marked with a unique identification number by the manufacturer. Contractors were given stoves with their identification numbers and paper copies of builders forms for filling in the GPS coordinates and beneficiary details. Builders were noting recipient details and builder supervisors were filling in the builders forms. Information from builders forms was then</p> | <p><del>CL-2</del></p> <p><del>CAR-4</del></p> <p><del>CAR-3</del></p> <p><del>CL-1</del></p> | <b>FAR 1</b>     |

| Compliance question | Verification activities undertaken | Verification findings<br>(including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
|---------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
|                     |                                    | <p>manually transferred by co2balance staff to the detailed customer database (online).</p> <p>ERM CVS reviewed a sample of builders' forms and checked against the records in the project database. A gap of about one month was noted in the date of stove building: builders' forms had dates in July 2010, whilst project database showed June 2010. <b>CL 2</b> was raised to clarify this discrepancy.</p> <p>After investigation the PP found that there was a recording error and the distribution record and Monitoring Report have been revised accordingly and are now consistent with the builders' forms /21/01/20/. This has, however, highlighted the need for reducing manual data handling and strengthening quality checks, as raised in <b>FAR 1</b>.</p> <p>Based on review of the detailed customer database and its export file during the time of the site visit (as of 30 April 2012) /20, 21/, GPS coordinates were missing for 1,323 CZS units. This is not in accordance with the PDD and monitoring plan. <b>CAR 4</b> was raised.</p> <p>Part of the households that have GPS coordinates missing in the distribution record, have signed carbon rights transfer forms (CTFs) uploaded. The CTFs have beneficiary name and contact details and are therefore one of proofs that stoves were constructed at real households. Verification team checked response from the Gold Standard, which clarified that the distribution record should contain contact details for 10 times the amount of survey sample size /34/. The distribution record has CTFs for 7,773 households, thus comfortably satisfying minimum requirements Based on this guidance the PP has not removed any households that have a CTF but are missing GPS coordinates. <b>CAR 4</b> was closed.</p> <p>Also please refer to issues raised in section 4.2.1:</p> <p><b>CAR 3:</b> record of signed carbon rights transfer notes was missing for 2,122 stove beneficiaries in the online database of total distribution record. Missing signed forms have to be transferred to the database before the issuance.</p> <p>In response to CAR 3, 650 additional carbon right transfer notes were uploaded by the PP, resulting in 1472 forms still outstanding. The verification team confirmed that after uploading some of the missing carbon rights transfer forms, the households with missing</p> |                        |                        |

| Compliance question                                                                                     | Verification activities undertaken                                | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Draft OK/ CAR/CL                                                      | Final OK/ Not OK              |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------|
|                                                                                                         |                                                                   | <p>forms were correctly removed from ER calculations for this period. The details of validation are provided in section 4.2.1. <b>CAR 3</b> was closed.</p> <p><b>CL 1:</b> ERM CVS noted that stoves constructed during the main distribution campaign have a slightly different appearance to the stoves constructed in the pilot phase. However, the monitoring report does not depict or explain the difference in stove appearances/models and does not justify whether the differences affect the performance of the stove. Explanation is needed on the difference in the stove appearances, justification whether they are of the same model or different models, and whether the differences affect performance of the stove.</p> <p>The revised Monitoring Report (Version 2) uses a picture and description of the CZK stove, which is the primary stove type used in the project area. The stoves installed during the pilot phase have essentially the same design (structure), only are plastered around, therefore performance is not affected. This is in line with what the verification team saw during the site visit and has been checked against pictures in the electronic distribution record.. <b>CL 1</b> was closed.</p> <p>The remaining data were recorded in accordance with the PDD and the methodology, and the records appear to be accurate.</p> |                                                                       |                               |
| <b>Has the PP maintained the detailed customer database in accordance with the methodology and PDD?</b> | Review of the database and spreadsheets with MKS and KPT results. | <p>Although the monitoring report stated that the detailed customer database includes results of the KS, MKSs and KPTs, verification team found that results of the surveys and KPTs are held in separate Excel spreadsheets /23, 25/. The detailed database only included distribution record and the MR needed correction accordingly. <b>CAR 5</b> was raised.</p> <p>Section C of the monitoring report has been revised and is now consistent with the actual monitoring and data records observed during the site visit. <b>CAR 5</b> was closed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <del><b>CAR 5</b></del>                                               | OK                            |
| <b>Has the PP maintained the Project Database in accordance with the methodology and PDD?</b>           | Review of the database and spreadsheet with ER calculations       | <p>Although the monitoring report stated that the conclusions drawn from MKSs and KPTs have been recorded in the project database, the results of the surveys and KPTs are held in separate spreadsheets. Please refer to <b>CAR 5</b>.</p> <p>Section C of the monitoring report has been revised and is now consistent with the actual monitoring and data records observed during the site visit: total distribution record is held in an online database (which includes stove numbers, beneficiary names and contact</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>CAR-5</b></p> <p><b>CAR-6</b></p> <p><del><b>CL-3</b></del></p> | <p>OK</p> <p>OK</p> <p>OK</p> |

| Compliance question | Verification activities undertaken | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Draft OK/ CAR/CL | Final OK/ Not OK |
|---------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
|                     |                                    | <p>details, GPS coordinates and CTFs), while spreadsheets with detailed results of MKS, KPTs and usage survey are held in excel spreadsheets on a server. <b>CAR 5</b> was closed.</p> <p>Further, the monitoring report does not include discussion on how results of MKSs support continuation of retaining one uniform cluster. MR needs revision. <b>CAR 6</b> was raised.</p> <p>In the revised MR, the PP included a section where potential reasons for re-clustering were discussed in line with the recommendations of the independent consultant. The section was reviewed against MKS results and ERM CVS can confirm that MKS results support retaining one single cluster. Additionally, the PP conducted a survey to identify proportion of modified cookstoves and then conducted KPTs on both sets, modified and unmodified stoves. ERM CVS reviewed the new baseline study and spreadsheet with detailed results of the KPTs and can confirm that the different in woodfuel savings between modified and unmodified stoves is not statistically significant. Furthermore, identifying new cluster for modified stoves would be not practical as any undamaged stove can at any time be modified or become damaged unintentionally, and categorising the records in the distribution database into modified and unmodified stoves is not practically possible. As KPTs were done on a sample that has similar proportions of modified versus unmodified stoves as the proportion identified in modified stove survey, the woodfuel savings for the total project stove sample effectively take into account effect of modified stoves. Based on this. <b>CAR 6</b> was closed.</p> <p>MKS dates in the MR are inconsistent between tables in pages 8 and 11. <b>CL 3</b> was raised.</p> <p>The dates of the monitoring kitchen surveys in the revised monitoring report are now consistent between Page 8 and Page 11 /01/ and consistent with the MKS results /22/. <b>CL 3</b> was closed.</p> |                  |                  |

#### 4.4.3. Completeness of carbon monitoring parameters

The verification team evaluated the monitoring of each parameter stated in the monitoring plan /4/. The parameters included in the monitoring plan are listed below and a full description of each parameter and the verification activities associated with monitoring of each one is included in Section 4.4.3.

#### Monitored parameter in monitoring plan

| Parameter       | Description                                                                            | Included in the Monitoring Report? | Draft OK/ CAR/CL | Final OK/ Not OK |
|-----------------|----------------------------------------------------------------------------------------|------------------------------------|------------------|------------------|
| $X_{nrb,pj,y}$  | Non-renewability of woody biomass fuel in year y in project scenario                   | Yes, included                      | OK               | OK               |
| $X_{re,pj,y}$   | Woody biomass combustion avoided due to renewable energy form in year y in project     | Yes, included                      | OK               | OK               |
| $X_{af,pj,y}$   | Woody biomass combustion avoided due to alternative fuels in year y in project         | Yes, included                      | OK               | OK               |
| $LE_y$          | Leakage; potential GHG emissions outside project boundary caused by project activity   | Yes, included                      | OK               | OK               |
| $B_{bl,y}$      | Mass of woody biomass combusted in the baseline in year y                              | Yes, included                      | OK               | OK               |
| $B_{pj,y}$      | Mass of woody biomass combusted in the project in year y                               | Yes, included                      | OK               | OK               |
| $AF_{pi,i,y}$   | Mass of alternative fuel i combusted in the project in year y                          | Yes, included                      | OK               | OK               |
| Usage in year y | Percentage of stoves of age x remaining in use in year y                               | Yes, included                      | OK               | OK               |
| Age             | Adjustment to values of $B_{pj,y}$ and $AF_{pi,i,y}$ for stoves of age x               | Yes, included                      | OK               | OK               |
| New Stove       | Adjustment to values of $(B_{bl,y} - B_{pj,y})$ and $AF_{pi,i,y}$ for new stove models | Yes, included                      | OK               | OK               |

#### 4.4.4. Data and parameters monitored

The verification findings for the monitoring of each parameter are set out below

|                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                        |                        |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|------------------------|
| Data / Parameter:                                                                                         | $X_{nrb,pi,y}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Project Emissions |                        |                        |
| Data unit:                                                                                                | Fraction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                        |                        |
| Description:                                                                                              | Non-renewability of woody biomass fuel in year y in project scenario                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                        |                        |
| Measured/calculated/default                                                                               | Calculated based on a study 'Calculation of the Non-Renewable Biomass usage for project areas in accordance with the Gold Standard methodology (Version 02)', prepared by C4EcoSolutions for co2balance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |                        |                        |
| Compliance question                                                                                       | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied? | a) Monitoring procedure<br><br>The NRB fraction was calculated at the validation stage based on a study by C4Ecosolutions, which was reviewed by ERM CVS /26/. The study was commissioned to determine the fraction of Non-Renewable Biomass in areas of a project proposed by co2balance: Aberdares, Kisumu, Likoni, Maungu/Kasigau, Meru, Mombasa and Shimoni. The verification is concerned with the NRB values for the Aberdares region. The study methodology followed the requirements and guidance contained in Annex 1 of the applied methodology /8/.<br><br>However, as raised by the Gold Standard during its 8 week review the WISDOM methodology employed in the study indicates a surplus renewable biomass /27/, however the PP ultimately claims an NRB of 95%. GS issued FAR 1 for the PP to provide further justification for the NRB fraction. No further evidence has been provided to ERM CVS and the issue was not discussed in the monitoring report. Please refer to <b>CAR 1</b> .<br><br>The PP provided further information to support NRB fraction as well as |                   | CAR-1                  | OK                     |

|                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |           |
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|                                                                                                                                                                                        | <p>explanation on differences in methodologies used by the studies. Please refer to section 5.2, CAR 1 for further details. Based on additional information and explanations, CAR 1 was closed.</p> <p><b>b) Monitoring/recording frequency</b></p> <p>The MR specifies that the NRB fraction needs to be updated at least bi-annually /1/.</p> <p><b>c) Check of QA/QC procedures</b></p> <p>N/A as it is a third party study conducted by C4Ecosolutions.</p> <p><b>d) Cross checks</b></p> <p>ERM CVS checked other projects in Kenya on the Gold Standard registry.</p> <p>At the time of this report, there had been three efficient cook stove projects developed by project participants other than co2balance available on the GS registry. These projects calculated the value of the NRB fraction using a combination of studies in the area, and the results of their kitchen tests. The studies used in other projects include Habermehl (1994) and Kituyi (2001), which synthesized several studies on fuel-wood use in Kenya, particularly in the Kakamega region. While another project used Mugo, Fridah and Chin Ong. "Lessons from Eastern Africa's Unsustainable Charcoal Trade." 2006.</p> <p>These Kenya cook stove projects utilised NRB fractions that varied between 0.94 and 0.89 in Kenya.</p> <p><b>e) Check of information flow</b></p> <p>ERM CVS checked and verified the flow of information from original study to the emission reduction calculations spreadsheet and confirms it is correct.</p>                                                                                    |              |           |
| <p><b>Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period?</b></p> | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter in the monitoring report is accurate and consistent with the actual monitoring undertaken during this verification period. However, the FAR 1 on this parameter raised by the Gold Standard was not discussed – please refer to <b>CAR 1</b>.</p> <p>The project developer provided explanation by the author of the NRB report about the differences in methodologies used by WISDOM study /26/ and NRB report used for this project /25/ - please refer to remediation form's CAR 1. The project developer also provided reference to a registered CDM Programme of Activities (PoA) (ref. number 5336). The methodology used for estimating fraction of non-renewable biomass in this PoA follows CDM methodology AMS-II.G. version 3 and is not the same as the methodology for calculating NRB fraction specified in the Gold Standard methodology /08/. Nonetheless it does support a high value of NRB fraction. The value used for this verification period is acceptable but should be updated in the next verification period. <b>CAR 1</b> was closed..</p> <p><b>CDM registered PoA (ref. number 5336):</b><br/> <a href="http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/GND0CTW7MQ6ZJ2IE5XA4KL3SF1YP9U/view">http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/GND0CTW7MQ6ZJ2IE5XA4KL3SF1YP9U/view</a></p> | <b>CAR-1</b> | <b>OK</b> |
| <b>Conclusion</b>                                                                                                                                                                      | ERM CVS confirmed that the parameter did not have to be monitored in this verification period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |           |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| Data / Parameter:                                                                                                                                                        | X <sub>re,pj,y</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Project Emissions      |                        |
| Data unit:                                                                                                                                                               | Fraction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                        |
| Description:                                                                                                                                                             | Woody biomass combustion avoided due to renewable energy form in year y in project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                        |
| Measured/calculated/default                                                                                                                                              | No renewable fuel use by project beneficiaries was identified by the initial kitchen surveys, monitoring kitchen surveys are used to identify any change in this situation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                        |
| Compliance question                                                                                                                                                      | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?                                                                | <p>MKS questionnaires included a question on what types of fuel households are using for cooking, with options including 'other' and 'husks'. The MKS did not identify any use of renewable fuels apart from some use of husks for starting the fire. This was confirmed by reviewing MKS results and based on visit of a sample of beneficiary households.</p> <p>The monitoring plan states that monitoring kitchen surveys would be overseen by an independent third party as a QA/QC procedure, and that the MKS questionnaire was translated into the local language to ensure that responses were consistent and not based on the subjective interpretation of the document by individuals conducting the survey. However, ERM CVS did not find evidence that these measures were implemented. <b>CAR 7</b> was raised and PP is asked to clarify what quality control measures were implemented.</p> <p>In response, the PP has provided verification team with the monitoring protocol, which includes templates of the MKS in English and Swahili, and shows that the Centre for Research in Environment Kenya worked as an independent consultant between July 2010 and April 2011 and was responsible for capacity building activities relating to a range of activities including monitoring and data collection. /34/. During this time with co2balance, the consultant witnessed the activities described in the protocol being implemented and provided input into refining the processes. This shows that quality control measures were implemented. <b>CAR 7</b> was closed.</p> | <b>CAR 7</b>           | OK                     |
| Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period? | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | OK                     | OK                     |
| Conclusion                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"><li>The parameter has been monitored appropriately, in accordance with the monitoring plan and methodology /4, 8/.</li><li>The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/.</li><li>QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                        |

|                             |                                                                                                |                                 |  |
|-----------------------------|------------------------------------------------------------------------------------------------|---------------------------------|--|
| <b>Data / Parameter:</b>    | X <sub>af,pj,y</sub>                                                                           | <b><i>Project Emissions</i></b> |  |
| <b>Data unit:</b>           | Fraction                                                                                       |                                 |  |
| <b>Description:</b>         | Woody biomass combustion avoided due to alternative fuels in year y in project                 |                                 |  |
| <b>Measured/calculated/</b> | KPTs were designed in a way that estimates baseline by subsuming alternative fuel consumption. |                                 |  |

|                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|
| <b>default</b>                                                                                                                                                                  | Monitoring kitchen surveys are used to identify any change that could inform a need to change the design of subsequent KPT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                 |                                 |
| <b>Compliance question</b>                                                                                                                                                      | <b>Verification findings<br/>(including verification activities undertaken and justification/substantiation of information, data and evidence)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Draft<br/>OK/<br/>CAR/CL</b> | <b>Final<br/>OK/<br/>Not OK</b> |
| <b>Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?</b>                                                                | <p>Quarterly MKS were conducted and included questions on other fuels including charcoal, as well as alternative cooking devices.</p> <p>During the site visit ERM CVS has confirmed that some charcoal use is retained for cooking in parallel to the CZK stove. Reduction in charcoal use can be noted compared to the pre-project situation. Several beneficiaries explained that they used to cook on charcoal for part of the meals before receiving the CZK stove but do not use it anymore because CZK allows cooking with less fuel wood, and because charcoal has become too expensive. I.e., it appears that proportion of wood fuel and charcoal use has shifted due to a coupled effect of increased charcoal price on the one hand, and having a CZK that allows cooking with less firewood on the other hand.</p> <p>Please also refer to <b>CAR 7</b> on quality control measures.</p> <p>Subsequently the PP has provided evidence that quality control measures were undertaken – please refer to section 5 for details. <b>CAR 7</b> was closed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>CAR 7</b>                    | <b>OK</b>                       |
| <b>Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period?</b> | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The monitoring report states that no alternative fuel use was identified during initial surveys, which is not correct, as a degree of fuel and stove type mixing was observed already at initial KS. Further, the MR states that an increase in charcoal consumption has been observed in MKS compared with the initial KS but the table with survey results does not show comparison with initial figures. <b>CL 4</b> was raised.</p> <p>The explanation in the Monitoring Report (Version 2) has been properly corrected and is in line with the methodology and results of the baseline KS and MKS. During the site visit and interviews with beneficiary households ERM CVS has observed that families indicated reduction in charcoal use because of a coupled effect of increased charcoal prices and efficient use of woodfuel in the project stoves. This effect is difficult to quantify. However, as charcoal is more emissions intensive than fuelwood and ERs are still calculated based on fuel mix observed during baseline KPTs, this is conservative in this case. During subsequent MKS the PP should ensure that questions on charcoal use are presented clearly and are not leading towards hiding the use of charcoal. <b>CL 4</b> was closed</p> | <b>CL 4</b>                     | <b>OK</b>                       |
| <b>Conclusion</b>                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"> <li>The parameter has been monitored appropriately, in accordance with the monitoring plan and methodology /4, 8/.</li> <li>The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/.</li> <li>QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                                 |

|                          |                             |                |
|--------------------------|-----------------------------|----------------|
| <b>Data / Parameter:</b> | Leakage                     | <b>Leakage</b> |
| <b>Data unit:</b>        | t_CO <sub>2e</sub> per year |                |

|                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                 |                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|
| <b>Description:</b>                                                                                                                                                             | Potential GHG emissions outside project boundary caused by project activity                                                                                                                                                                                                                                                                                                                                                                                    |                                 |                                 |
| <b>Measured/calculated/default</b>                                                                                                                                              | Calculated                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |                                 |
| <b>Compliance question</b>                                                                                                                                                      | <b>Verification findings<br/>(including verification activities undertaken and justification/substantiation of information, data and evidence)</b>                                                                                                                                                                                                                                                                                                             | <b>Draft<br/>OK/<br/>CAR/CL</b> | <b>Final<br/>OK/<br/>Not OK</b> |
| <b>Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?</b>                                                                | <p>In accordance with the PDD and the monitoring plan, leakage factor per stove was estimated in the PDD and is applied in the first verification period when stoves are constructed; possible leakage sources have to be reviewed biennially.</p> <p>Leakage for this verification period was correctly calculated using that leakage factor and number of stoves constructed. . No other assessment of leakage was required in this verification period.</p> | OK                              | OK                              |
| <b>Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period?</b> | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p>                                                                        | OK                              | OK                              |
| <b>Conclusion</b>                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"> <li>The parameter has been monitored appropriately, in accordance with the monitoring plan /4/.</li> <li>The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/. QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li> </ul>                                                                           |                                 |                                 |

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| Data / Parameter:                                                                                         | B <sub>pj,y</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Project Emissions |                        |                        |
| Data unit:                                                                                                | t_biomass/stove/year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                        |                        |
| Description:                                                                                              | Mass of woody biomass combusted in the project in year y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                        |                        |
| Measured/calculated/default                                                                               | Kitchen Surveys and Kitchen Performance tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                        |                        |
| Compliance question                                                                                       | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied? | New KPTs did not have to be undertaken during this verification period. This is in line with the monitoring plan /3/ and methodology /8/. However, as explained in section 4.2.2, the PP decided to do new KPTs and revise the baseline in the PDD.<br><br>Based on visiting a sample of beneficiary households and review of the detailed customer database /20/, verification team noted that stoves built in the pilot phase looked slightly different to the ones that were distributed in the main distribution campaign and that were used for assessing the mass of woody biomass saved during the KPTs. Please refer to <b>CL 1</b> : the monitoring report does not depict or explain the difference in stove appearances/models and does not justify whether the differences affect the performance of the |                   | CAR-7                  | OK                     |
|                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | CL-1                   | OK                     |
|                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | CL-5                   | OK                     |

|                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
|                                                                                                                                                                                 | <p>stove.</p> <p>The revised Monitoring Report (Version 2) uses a picture and description of the CZK stove, which is the primary stove type used in the project area. The stoves installed during the pilot phase have essentially the same design (structure), only are plastered around, therefore there is no difference in performance of the pilot phase and main construction phase stoves. This is in line with what the verification team saw during the site visit and has been checked against pictures in the electronic distribution record. <b>CL 1</b> was closed.</p> <p>During the site visit the verification team also observed that some cookstoves have the secondary air inlet broken. The PP has confirmed that they are aware of this. The first version of the monitoring report did not refer to this observation and did not explain and justify whether this affects the efficiency of stove and woodfuel savings, and whether/how KPT results can be applied to the stoves with the broken secondary air inlet. <b>CL 5</b> was therefore raised.</p> <p>The revised monitoring report explains about the “modified” stoves. Based on the site visit interviews with households and project staff, ERM CVS can confirm that it is likely that in many cases the secondary air inlet may be intentionally broken to allow using larger sticks/logs. However, the project beneficiaries would not admit it because of the fear of losing the stove. It is also possible that inlets can break unintentionally during use. Although the stoves with broken inlet may have had it either broken or intentionally modified, herein they are referred to as modified stoves for simplicity. The PP proposed in the revised monitoring report that during future construction phases extra care will be taken to promote co2balance educational material relating to fuel wood preparation and management.</p> <p>Modification of the stove could affect efficiency of burning and thus fuelwood savings. The PP conducted a survey to identify proportion of modified cookstoves and then conducted KPTs on both sets, modified and unmodified stoves. Please refer to section 4.2.2 for validation of the new KPTs and their results. ERM CVS reviewed the new baseline study /31/ and spreadsheet with detailed results of the KPTs /35/ and can confirm that the difference in woodfuel savings between modified and un-modified stoves is not statistically significant: the p-value is 0.9710 at significance level of 10% (0.1). As KPTs were done on a sample that has similar proportions of modified versus unmodified stoves as the proportion identified in modified stove survey (60% of modified stoves and 40% unmodified) /32/, the woodfuel savings for the total project stove sample effectively take into account effect of modified stoves. The proportion of modified stoves found in the modified stove survey is similar to the proportion observed by the verification team during visit of a sample of project households. <b>CL 5</b> was closed.</p> <p>Please also refer to <b>CAR 7</b> on quality control measures. After the PP provided evidence that quality control measures were undertaken, <b>CAR 7</b> was closed. please refer to section 5 for details.</p> <p>Please refer to section 4.2.2 for validation of the new KPTs and revised value for the parameter.</p> |           |           |
| <b>Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period?</b> | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>OK</b> | <b>OK</b> |
| <b>Conclusion</b>                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"> <li>The parameter has been monitored appropriately, in accordance with the monitoring plan</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |           |

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|--|----------------------------------------------------------------------------------------------------------------------------------|
|  | and methodology /4, 8/.                                                                                                          |
|  | <ul style="list-style-type: none"> <li>QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li> </ul> |

|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                         |                        |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| Data / Parameter:                                                                                                                                                        | B <sub>bl,y</sub>                                                                                                                                                                                                                                                                                                                                                                       | Baseline Emissions     |                        |
| Data unit:                                                                                                                                                               | t_biomass/stove/year                                                                                                                                                                                                                                                                                                                                                                    |                        |                        |
| Description:                                                                                                                                                             | Mass of woody biomass combusted in the baseline in year y                                                                                                                                                                                                                                                                                                                               |                        |                        |
| Measured/calculated/default                                                                                                                                              | Kitchen Surveys and Kitchen Performance tests                                                                                                                                                                                                                                                                                                                                           |                        |                        |
| Compliance question                                                                                                                                                      | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                              | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?                                                                | <p>New KPTs did not have to be undertaken during this verification period. This is in line with the monitoring plan /3/ and methodology /8/. However, as explained in section 4.2.2, the PP decided to do new KPTs and revise the baseline in the PDD.</p> <p>Please refer to section 4.2.2 for validation of the new KPTs and revised value for the parameter.</p>                     | n/a                    | OK                     |
| Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period? | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p> | OK                     | OK                     |
| Conclusion                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"><li>The parameter has been monitored appropriately, in accordance with the monitoring plan and methodology /4, 8/.</li><li>QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li></ul>                                                                                                     |                        |                        |

|                             |                                                                                                                                                                                                                            |                   |                        |                        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|------------------------|
| Data / Parameter:           | AF <sub>pj,i,y</sub>                                                                                                                                                                                                       | Project Emissions |                        |                        |
| Data unit:                  | t_fuel/unit-year                                                                                                                                                                                                           |                   |                        |                        |
| Description:                | Mass of alternative fuel i combusted in the project in year y                                                                                                                                                              |                   |                        |                        |
| Measured/calculated/default | KPTs were designed in a way that estimates baseline by subsuming alternative fuel consumption. Monitoring kitchen surveys are used to identify any change that could inform a need to change the design of subsequent KPT. |                   |                        |                        |
| Compliance question         | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                 |                   | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |

|                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----|
| <b>Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?</b>                                                                | <p>Quarterly MKS were conducted and included questions on other fuels including charcoal, as well as alternative cooking devices.</p> <p>During the site visit ERM CVS has confirmed that some charcoal use is retained for cooking in parallel to the CZK stove. Reduction in charcoal use can be noted compared to the pre-project situation. Several beneficiaries explained that they used to cook on charcoal for part of the meals before receiving the CZK stove but do not use it anymore because CZK allows cooking with less fuel wood, and charcoal has become too expensive. I.e., it appears that proportion of wood fuel and charcoal use has shifted due to a coupled effect of increased charcoal price on the one hand, and having a CZK that allows cooking with less firewood on the other hand.</p> <p>Please also refer to <b>CAR 7</b> on quality control measures. After the PP provided evidence that quality control measures were undertaken, <b>CAR 7</b> was closed. Please refer to section 5 for details.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>CAR 7</b> | OK |
| <b>Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period?</b> | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>Please refer to CL 4: The monitoring report states that no alternative fuel use was identified during initial surveys, which is not correct, as a degree of fuel and stove type mixing was observed already at initial KS. Further, the MR states that an increase in charcoal consumption has been observed in MKS compared with the initial KS but the table with survey results does not show comparison with initial figures.</p> <p>The explanation in the Monitoring Report (Version 2) has been properly corrected and is in line with the methodology and results of the baseline KS and MKS. During the site visit and interviews with beneficiary households ERM CVS has observed that families indicated reduction in charcoal use because of a coupled effect of increased charcoal prices and efficient use of woodfuel in the project stoves. This effect is difficult to quantify. However, as charcoal is more emissions intensive than fuelwood and ERs are still calculated based on fuel mix observed during baseline KPTs, this is conservative in this case. During subsequent MKS the PP should ensure that questions on charcoal use are presented clearly and are not leading towards hiding the use of charcoal. <b>CL 4</b> was closed</p> | <b>CL 4</b>  | OK |
| <b>Conclusion</b>                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"> <li>• The parameter has been monitored appropriately, in accordance with the monitoring plan and methodology /4, 8/.</li> <li>• The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/.</li> <li>• QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |    |

|                                    |                                                          |                          |
|------------------------------------|----------------------------------------------------------|--------------------------|
| <b>Data / Parameter:</b>           | Usage in year y                                          | <b>Project Emissions</b> |
| <b>Data unit:</b>                  | Fraction                                                 |                          |
| <b>Description:</b>                | Percentage of stoves of age x remaining in use in year y |                          |
| <b>Measured/calculated/default</b> | Usage surveys carried out by PP every two years.         |                          |

| Compliance question                                                                                                                                                      | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Draft<br>OK/<br>CAR/CL           | Final<br>OK/<br>Not OK        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------|
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?                                                                | <p>Please refer to <b>CAR 2</b>: usage surveys were not conducted, although the GS 4-week review raised a FAR that the PP shall conduct usage surveys prior to next issuance.</p> <p>The revised ER spread sheet now includes a “usage factor” of 95%, determined from the usage survey in June 2012, where the ERs have been reduced proportionally. ERM CVS reviewed questionnaire used for usage surveys as well as the spreadsheet with results /30, 35/. The questionnaire was translated into Swahili languages to minimise interpretation differences among surveyors. Sample size was 100, which complies with the minimum sample size requirements provided in the methodology /8/. The sample was selected randomly from the distribution record. ERM CVS can confirm that the usage factor was calculated correctly. <b>CAR 2</b> was closed</p> <p>However, some results are contradictory: 99% of respondents responded that their stove is working correctly but 87% responded yes to a question “Is your stove damaged?” and 69% responded positively to a question “Would you like us to repair your stove and provide further training on how to use it (for free)?” This may be because questions were misunderstood or because of beneficiary wish to be kept in the programme. The contradictory responses should be further investigated in the next verification period and questionnaire for usage survey modified if needed – <b>FAR 5</b> was raised. Therefore, the PP has provided sufficient evidence that <b>FAR 3</b> has been addressed.</p> <p>Please also refer to <b>CAR 7</b> on quality control measures. After the PP provided evidence that quality control measures were undertaken, <b>CAR 7</b> was closed. Please refer to section 5 for details.</p> | <b>CAR 2</b><br><br><b>CAR 7</b> | <b>FAR 5</b><br><br><b>OK</b> |
| Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period? | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>OK</b>                        | <b>OK</b>                     |
| Conclusion                                                                                                                                                               | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"> <li>The parameter has been monitored appropriately, in accordance with the monitoring plan and methodology /4, 8/.</li> <li>The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/.</li> <li>QA/QC procedures have been applied in accordance with the monitoring plan /4/.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                               |

|                             |                                                                          |                          |
|-----------------------------|--------------------------------------------------------------------------|--------------------------|
| Data / Parameter:           | Age                                                                      | <b>Project Emissions</b> |
| Data unit:                  | Fraction                                                                 |                          |
| Description:                | Adjustment to values of $B_{p,i,y}$ and $AF_{p,i,y}$ for stoves of age x |                          |
| Measured/calculated/default | -                                                                        |                          |

| Compliance question                                                                                                                                                      | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?                                                                | <p>ERM CVS did not find any evidence that the PP had recorded, or considered, the age of the CZK, although the GS 4-week review raised a FAR that the PP shall consider the ageing of stoves prior to next issuance. Please refer to <b>CAR 2</b>.</p> <p>The PP has decided to revise the baseline and new set of KPTs were conducted for this purpose. As the new KPTs were conducted on stoves that have aged since implementation (no new stoves have been constructed since July 2011), this effectively considers the ageing of stoves. The new KPTs are validated in section 4.2.2 of the report. <b>CAR 2</b> was closed.</p> | <b>CAR-2</b>           | <b>OK</b>              |
| Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period? | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p>                                                                                                                                                                                                                                               | <b>OK</b>              | <b>OK</b>              |
| Conclusion                                                                                                                                                               | ERM CVS confirmed that the parameter did not have to be monitored in this verification period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |                        |

|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| Data / Parameter:                                                                                                                                                        | New Stove                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Project Emissions      |                        |
| Data unit:                                                                                                                                                               | Fraction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                        |
| Description:                                                                                                                                                             | Adjustment to values of $(B_{bl,y} - B_{pi,y})$ and $AF_{pi,i,y}$ for new stove models                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                        |
| Measured/calculated/default                                                                                                                                              | New stove KPT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                        |
| Compliance question                                                                                                                                                      | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
| Has the monitoring procedure been followed appropriately? Are the QA/QC procedures appropriately applied?                                                                | <p>According to the monitoring report /1/, no new stove models were introduced. However, please refer to <b>CL 1</b>: verification team noted that the stoves constructed after the pilot phase were of a slightly different appearance. The monitoring report does not depict or explain the difference in stove appearances, and does not justify whether the stoves distributed during the main distribution campaign can be considered as being of the same model as the pilot stoves, including justification whether the differences affect the performance of the stove.</p> <p>Refer to <b>CL 1</b>. Following clarification from the PP and revision of the monitoring report, CL 1 was closed. Please refer to section 5 for details.</p> | <b>CL 1</b>            | <b>OK</b>              |
| Does the monitoring report (parameter tables) correctly state all relevant information and data relating to the monitoring of parameters during the verification period? | <p>ERM CVS reviewed the content of the monitoring report section with monitoring parameter tables and evaluated its alignment with the actual monitoring observed during the site visit and document review.</p> <p>The presentation of information relating to the monitoring parameter is accurate and consistent with the monitoring undertaken during this verification period.</p>                                                                                                                                                                                                                                                                                                                                                             | <b>OK</b>              | <b>OK</b>              |
| Conclusion                                                                                                                                                               | ERM CVS confirmed that the parameter did not have to be monitored in this verification period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                        |

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#### 4.4.5. Management and operational system

ERM CVS evaluated the management systems in place to implement the monitoring of the project activity. This included the organisational structure, roles and responsibilities, data collection, transfer and aggregation procedures, training of personnel, data storage and archiving and emergency procedures for the monitoring system.

| Compliance question                                                                                                                                                                            | Verification activities undertaken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Draft OK/ CAR/CL                       | Final OK/ Not OK                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------|
| <b>Has an appropriate management and operational system for monitoring and reporting, including responsibilities and authorities, been established in accordance with the monitoring plan?</b> | <p>ERM CVS carried out the following activities:</p> <ul style="list-style-type: none"> <li>Reviewed the: <ul style="list-style-type: none"> <li>Organigrams /28/</li> <li>Contractors training material (stove construction manual) /16/</li> <li>Surveyors training material /29/</li> <li>Employment contracts for role descriptions of the project staff /30/</li> <li>Detailed customer database /20/</li> </ul> </li> <li>Conducted interviews during the site visit with: <ul style="list-style-type: none"> <li>The projects coordinator</li> <li>The monitoring coordinator in co2balance Kenya</li> <li>Community Projects Officer</li> <li>Education and Community Liaison officer</li> <li>One of Surveyors</li> <li>One of masons</li> </ul> </li> </ul> | <p>Although the coordination of the project suffered from staff turnover, which impacted continuity and transfer of the detailed knowledge, the operational system at the project level was found to be sufficient for carrying out distribution and construction of stoves and monitoring tasks.</p> <p>Based on interviews with the personnel and temporary workers (mason and surveyor) it is evident that they received appropriate training. However, training records are not kept: please also refer to <b>CL 8</b> raised below. The PP has confirmed that they were not able to find records of training undertaken. Relevant sustainability indicators were therefore scored as neutral for this verification period <b>FAR 4</b> is raised in order for the PP to revise the monitoring plan in the next verification. As it was evident during the site visit that staff involved in surveys and other data gathering have been trained, CL 8 was closed.</p> <p>However, keeping training records would give a picture of how many people were trained, and would present verifiable evidence. As such <b>FAR 2</b> was raised to ensure full training records are kept in future verification periods.</p> | <p><b>CL-8</b></p> <p><b>FAR 2</b></p> | <p><b>FAR 4</b></p> <p><b>FAR 2</b></p> |

#### Conclusion

ERM CVS confirmed that the monitoring of all relevant parameters has been carried out in accordance with the monitoring plan /4/. It is confirmed that data acquisition process, data transferring process, archiving process and reporting process occur as required by the monitoring plan. The final monitoring report provides an accurate description of the monitoring for all parameters throughout the verification period.

#### 4.5. Data and parameters determined at registration and not monitored

The verification team evaluated the status of data and parameters that were determined at registration and not monitored during the verification period, including default values and factors, and confirmed whether they were applied correctly in the emission reduction calculations.

| Data and parameters that were determined at registration and not monitored during the verification period |                                                                                                                                  |                                                                                                 |                  |                  |
|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------|------------------|
| Parameter                                                                                                 | Description                                                                                                                      | Presented and applied correctly in the emission reduction calculations?                         | Draft OK/ CAR/CL | Final OK/ Not OK |
| EF <sub>bl.bio,co2</sub>                                                                                  | CO2 emission factor arising from use of wood-fuel in baseline scenario                                                           | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>pj.bio,co2</sub>                                                                                  | CO2 emission factor arising from use of wood-fuel in project scenario                                                            | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>bl.bio,non-co2</sub>                                                                              | Non-CO2 emission factor arising from use of wood-fuel in baseline scenario                                                       | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>pj.bio,non-co2</sub>                                                                              | Non-CO2 emission factor arising from use of wood-fuel in project scenario                                                        | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| X <sub>nrb,bl,y</sub>                                                                                     | Non-renewability status of woody biomass fuel in year in baseline scenario                                                       | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>bio,prod,co2</sub>                                                                                | CO2 emission factor arising from production of wood-fuel                                                                         | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>bio,prod,non-co2</sub>                                                                            | Non-CO2 emission factor arising from production of wood-fuel                                                                     | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>af,co2</sub>                                                                                      | CO2 emission factor arising from use of alternative fuel                                                                         | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>af, non-co2</sub>                                                                                 | Non-CO2 emission factor arising from use of alternative fuel                                                                     | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>af,prod,co2</sub>                                                                                 | CO2 emission factor arising from production of alternative fuel                                                                  | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| EF <sub>af,prod,non-co2</sub>                                                                             | Non-CO2 emission factor arising from production of alternative fuel                                                              | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| X <sub>re,bl,y</sub>                                                                                      | Woody biomass combustion avoided due to renewable energy fuels in baseline year (i.e. solar cookers, agricultural residues, etc) | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| X <sub>af,bl,y</sub>                                                                                      | Woody biomass combustion avoided due to alternative fuels in baseline                                                            | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |
| AF <sub>bl,i,y</sub>                                                                                      | The mass of alternative fuel i combusted in the baseline year                                                                    | Yes, this parameter was presented and applied correctly in the emission reduction calculations. | OK               | OK               |

#### 4.6. Assessment of data and calculation of GHG emission reductions

As per VVM section D.4, ERM CVS evaluated the calculations applied to determine the emission reductions during the verification period resulting from implementation of the project activity. In conducting this evaluation, the verification team evaluated whether:

- A complete set of data for the verification period was available, and whether the most conservative assumption has been applied in any case where only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the monitoring plan unless a deviation has been approved
- Information provided in the monitoring report has been cross checked with other sources such as log books, inventories, purchase records, laboratory analysis
- Calculations of baseline, project and leakage emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology.
- Any assumptions used in the emission calculations have been justified
- Appropriate emission factors, IPCC default factors and other reference values have been correctly applied.

ERM CVS reviewed the emission reduction calculations in the monitoring report.

In accordance with the methodology applied in this project, Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes Version 2, the GHG emission reductions achieved by the project activity are calculated using the following equation:

$$ER_y \text{ (tCO}_2\text{e/yr)} = BE_y - PE_y - LE_y$$

Where:

|        |                                                                     |
|--------|---------------------------------------------------------------------|
| $ER_y$ | Baseline emissions in year y (in tonnes CO <sub>2</sub> e per year) |
| $BE_y$ | Baseline emissions of in year y (tCO <sub>2</sub> e/yr)             |
| $PE_y$ | Project emissions of in year y (tCO <sub>2</sub> e/yr)              |
| $LE_y$ | Leakage in year y (tCO <sub>2</sub> e/yr)                           |

Within each cluster emissions are calculated thus:

$$BE_{i,y} = N_{i,y} \times BE_y$$

$$PE_{i,y} = N_{i,y} \times PE_y$$

Where:

$N_{i,y}$  = the number of Units in cluster i

The GHG emission reductions achieved by the project activity are calculated as follows:

$$BE_y = X_{nrb,bl,y} \times B_{bl,y} \times EF_{bl,bio,CO_2} + \sum (AF_{bl,i,y} \times EF_{af,CO_2,i}) + \sum (\text{Non-CO}_2 \text{ emissions during cooking}) + \sum (\text{GHG emissions during production of the fuels})$$

Where:

$BE_y$  = baseline emissions in year y (in tonnes CO<sub>2</sub>e per year) specific to cluster and Unit chosen

$X_{nrb,bl,y}$  = the non-renewable fraction of the woody biomass harvested in the project collection area in year y in the baseline scenario

$B_{bl,y}$  = the mass of woody biomass consumed during cooking in the baseline in year y (tonnes/year)

$EF_{bl,bio,CO_2}$  = the CO<sub>2</sub> emission factor for use of the biomass fuel in the baseline scenario in tonnes CO<sub>2</sub> per tonne fuel

$AF_{bl,i,y}$  = The mass of alternative fuel i in the baseline in year y in accordance with trends projected throughout the project period, in tonnes. This mass can be set to zero in cases where the KT is appropriately designed to subsume alternative fuels (approach 3).

$EF_{af,CO_2,i}$  = The CO<sub>2</sub> emission factor for use of the alternative fuel i in the baseline in tonnes of CO<sub>2</sub> per tonne fuel.

$$\text{Non-CO2 emissions during cooking} = \sum (B_{bl,y} \times EF_{bl,bio,non-co2,i}) + \sum (AF_{bl,i,y} \times EF_{af,i,non-co2\_gas\_i})$$

$$\text{GHG emissions during production of the fuels} = X_{nrb} \times B_{bl,y} \times EF_{bio,prod,co2} + \sum (AF_{bl,i,y} \times EF_{af,prod,co2,i}) + \sum (B_{bl,y} \times EF_{bio,prod,non-co2\_gas\_i}) + \sum (AF_{bl,i,y} \times EF_{af,i,prod,non-co2\_gas\_i})$$

Where:

$EF_{bl,bio,non-co2,i}$  = Emission factor for GHG gas i in the baseline scenario in units of tonnes gas per tonne wood-fuel

$EF_{af,non-co2\_gas\_i}$  = Non-CO2 emission factor during cooking for alternative fuel i for GHG gas i in tonnes gas per tonnes fuel

$EF_{bio,prod,co2}$  = CO2 emission factor for wood-fuel during production in tonnes gas per tonnes fuel

$EF_{af,prod,co2,i}$  = CO2 emission factor for fuel i during production in tonnes gas per tonnes fuel

$EF_{bio,prod,non-co2\_gas\_i}$  = Non-CO2 emission factor for wood-fuel during production in tonnes gas per tonne fuel

$EF_{af,prod,non-co2\_gas\_i}$  = Non-CO2 emission factor for alternative fuel i for GHG gas i during production in tonnes gas per tonnes fuel

The project emissions are calculated as follows:

$$PE_y = X_{nrb,pj,y} \times B_{pj,y} \times EF_{pj,bio,CO2} + \sum (AF_{pj,i,y} \times EF_{af,CO2,i}) + \sum (\text{Non-CO2 emissions during cooking}) + \sum (\text{GHG emissions during production of the fuels})$$

Where:

$BE_y$  = project emissions in year y (in tonnes CO2e per year) specific to cluster and Unit chosen

$X_{nrb,pj,y}$  = the non-renewable fraction of the woody biomass harvested in the project collection area in year y in the project scenario

$B_{pj,y}$  = the mass of woody biomass consumed during cooking in the project each year (tonnes/year)

$AF_{pj,i,y}$  = The mass of alternative fuel i in the project in year y in accordance with trends projected throughout the project period, in tonnes. This mass can be set to zero in cases where the KT is appropriately designed to subsume alternative fuels (approach 3).

Non-CO2 emissions during cooking

$$= \sum (B_{pj,y} \times EF_{pj,bio,non-co2,i}) + \sum (AF_{pj,i,y} \times EF_{af,i,non-co2\_gas\_i})$$

GHG emissions during production of the fuels

$$\begin{aligned} &= X_{nrb} \times B_{pj,y} \times EF_{bio,prod,co2} \\ &+ \sum (AF_{pj,i,y} \times EF_{af,prod,co2,i}) \\ &+ \sum (B_{pj,y} \times EF_{bio,prod,non-co2\_gas\_i}) \\ &+ \sum (AF_{pj,i,y} \times EF_{af,i,prod,non-co2\_gas\_i}) \end{aligned}$$

As stoves are being constructed progressively, the equations used in the proponent's database will account for this as follows:

For each stove the following calculation is made:

$$ER_{stove, month} = (ER_y / 12)$$

$$ER_{stove, monitoring period} = (ER_{stove, month} * Monthsoperational)$$

This is then summed for each vintage, and the leakage subtracted based on the number built during that vintage.

### Leakage

The approach for determining leakage is described in the registered PDD and was validated. The leakage was adjusted in this verification period according to the number of stoves distributed.

| Compliance question                                                                                                               | Verification activities undertaken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Verification findings (including justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                               | Draft OK/ CAR/CL | Final OK/ Not OK |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
| <b>Were data available throughout the verification period in accordance with the monitoring plan and methodology?</b>             | <p>In order to verify whether data was available throughout the entire verification period in accordance with the monitoring plan and methodology, the verification team:</p> <ul style="list-style-type: none"> <li>Reviewed data presented in the emissions reduction calculation spreadsheet /2/</li> <li>Reviewed detailed customer database /20/</li> <li>Reviewed MKS results /23/</li> <li>Checked against the PDD, validation report and results of KPTS /1, 5, 25/</li> <li>Cross checked the survey results with household interviews</li> </ul> | As shown in the emission reduction calculation spreadsheet /2/ and confirmed by ERM CVS during the site visit, data were available throughout the verification period in accordance with the monitoring plan and methodology.                                                                                                                                                                                                  | OK               | OK               |
| <b>Has the project participant used appropriate methods and formulae for calculating baseline, project and leakage emissions?</b> | <p>In order to verify whether the project participant used appropriate methods and formulae to calculate the baseline project and leakage emissions in line with the monitoring plan and methodology, the verification team reviewed the formulae used in the emissions reduction calculation spreadsheet /2/ and the monitoring report /1/ against the revised PDD /3/, spreadsheet with PDD supplementary data /38/ and the methodology /8/</p>                                                                                                          | <p>The ER calculations spreadsheet was difficult to navigate and track the calculations, and included large amount of information that is not relevant for the verification. <b>CL 6</b> was raised.</p> <p>PP has simplified the ER calculations spreadsheet and reconciled the emissions calculations /2/. The calculations are in accordance with the methodology and the revised PDD /08, 03/. <b>CL 6</b> was closed.</p> | <b>CL-6</b>      | OK               |

|                                                                                                                                                                           |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                      |             |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----|
| <b>Has the project participant justified all assumptions, emission factors and default values that have been applied?</b>                                                 | ERM CVS evaluated the emission reduction calculation spreadsheet /2/ and reviewed all assumptions, emission factors and default factors that have been applied against the revised PDD /3/ and the methodology /8/ | Please refer to <b>CL 6</b> – the ER calculations spreadsheet is difficult to track the calculations and relate values to the sources. PP has subsequently simplified the ER calculations spreadsheet and reconciled the emissions calculations/2/. Values and calculations can now be tracked. <b>CL 6</b> was closed.                                                              | <b>CL-6</b> | OK |
| <b>Do the monitoring report and associated emission reduction spreadsheet correctly present the data and formulae used to calculate the reported emission reductions?</b> | ERM CVS reviewed the emission reduction spreadsheet /2/ and monitoring report section to evaluate whether the data and formulae to calculate the emission reductions have been correctly presented.                | To be confirmed following closure of <b>CL 6</b><br><br>The monitoring report and associated emission reduction spreadsheet are in accordance with the Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes. The calculations made to determine the emission reductions are correctly used and presented. <b>CL 6</b> was closed. | <b>CL-6</b> | OK |

### Conclusion

Emission reductions have been calculated in accordance with the monitoring plan and the applied methodology, and it was determined that the data processing and emission reductions calculations resulted in real and measurable emission reductions. Where there was any unavailability of data, conservative assumptions have been made. All assumptions, emission factors and default values have been justified and the information has been cross checked with other sources.

#### 4.7. Comparison of emission reductions with those predicted in the PDD

ERM CVS reviewed the monitoring report to confirm that the PP has compared the emission reductions with the number of emission reductions estimated in the PDD for an equivalent number of days as the verification period.

Emission reductions for this verification period predicted in the registered PDD = **58,356 tCO<sub>2</sub>e**

Emission reductions reported in the monitoring report for this verification period = **25,465 tCO<sub>2</sub>e**

| <b>Compliance question</b>                                                                                                                                                                                                                       | <b>Verification findings<br/>(including justification/substantiation of information, data and evidence)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Draft<br/>OK/<br/>CAR/CL</b> | <b>Final<br/>OK/<br/>Not OK</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|
| <b>Has the PP included (in section E.6 of the monitoring report) a comparison of the emission reductions for this verification period with the emission reductions for an equivalent length of monitoring based on the estimates in the PDD?</b> | <p>The first version of the monitoring report compared ERs estimated in the PDD for 1-year period, with the monitored emission reductions over the period of 16 months. The values are not comparable, therefore <b>CL 7</b> was raised.</p> <p>The revised Monitoring Report has been correctly amended to compare the monitored emission reductions with ex-ante estimations pro-rated to the same period of time (16 months). <b>CL 7</b> was closed.</p> <p>After the baseline was revised, ex-ante estimation of emission reductions was also revised. ERM CVS reviewed revised ex-ante ER calculations /ref/ and calculations of pro-rated ex-ante estimation /02/ and can confirm that calculations are correct.</p> <p>Emission reductions per stove have increased because of the revised baseline based on new KPTs (please refer to section on changes to the PDD)</p> | <b>CL-7</b>                     | OK                              |
| <b>Has the PP provided appropriate explanation for any increase in emission reductions compared with the prediction made in the PDD?</b>                                                                                                         | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>OK</b>                       | OK                              |

## Conclusion

The PP has appropriately presented the emission reductions for the verification period. Actual emission reductions are lower than estimated in the PDD because fewer stoves were constructed.

### 4.8. Other observations

N/A

### 4.9. Assessment of sustainability monitoring

#### 4.9.1. Overview of sustainability monitoring system

The monitoring of sustainability indicators is closely linked with carbon monitoring, as number of the CZK units distributed and their usage are used as indicators of a number of sustainability indicators. Hence, the MKSs were used to determine the trend of many of the sustainability indicators /23/, and the remaining indicators were measured using both the developer's database and the contractors' records.

#### 4.9.2. Completeness of sustainability monitoring parameters

The verification team evaluated the monitoring of each sustainability indicator stated in the Gold Standard passport /6/. The parameters included in the Gold Standard passport are listed below and a full description of each parameter and the verification activities associated with monitoring of each one is included in Section 4.4.3.

| Monitored sustainability indicators |                                                     |                                         |                  |                  |
|-------------------------------------|-----------------------------------------------------|-----------------------------------------|------------------|------------------|
| Number                              | Description                                         | Included in Monitoring Report?          | Draft OK/ CAR/CL | Final OK/ Not OK |
| 1                                   | Air Quality                                         | Yes                                     | OK               | OK               |
| 2                                   | Quality of Employment                               | Yes                                     | OK               | FAR 4            |
| 3                                   | Livelihood of the Poor                              | Yes                                     | OK               | OK               |
| 4                                   | Access to affordable and clean energy services      | Yes                                     | OK               | OK               |
| 5                                   | Quantitative employment and income generation       | Yes                                     | OK               | OK               |
| 6                                   | Technology transfer and technological self-reliance | Yes                                     | OK               | FAR 4            |
| 7                                   | Other Pollutants                                    | No, as it does not need to be monitored | OK               | OK               |
| 8                                   | Biodiversity                                        | No, as it does not need to be monitored | OK               | OK               |
| 9                                   | Human and institutional capacity                    | No, as it does not need to be monitored | OK               | OK               |
| 10                                  | Soil Condition                                      | No, as it does not need to be monitored | OK               | OK               |
| 11                                  | Balance of payments and investment                  | No, as it does not need to be monitored | OK               | OK               |
| 12                                  | Water Quality and Quantity                          | No, as it does not need to be monitored | OK               | OK               |

## 4.9.3. Sustainability indicators monitored

The verification findings for the monitoring of each sustainability parameter are set out below. Note that only those sustainability parameters monitored for this verification period are presented (see table above).

|                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                 |                                 |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|
| <b>Number:</b>                                                                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                                 |
| <b>Indicator:</b>                                                                          | Air Quality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                 |                                 |
| <b>Target:</b>                                                                             | The project aims to reduce wood consumption and hence make a reduction in the defined parameter.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                                 |
| <b>Monitoring:</b>                                                                         | Kitchen Performance Tests & Kitchen Surveys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                 |                                 |
| <b>Compliance question</b>                                                                 | <b>Verification findings<br/>(including verification activities undertaken and justification/substantiation of information, data and evidence)</b>                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Draft<br/>OK/<br/>CAR/CL</b> | <b>Final<br/>OK/<br/>Not OK</b> |
| <b>Has the monitoring procedure been followed appropriately?</b>                           | MKS questionnaires included qualitative questions on difference in wood consumption between post-intervention and before-intervention; and a question on the difference in smoke level. The team has noted that the question on the difference in smoke level leads to either "more" or "less" response, potentially discouraging respondents to give a response "no difference". <b>FAR 3</b> was raised to ensure future surveys address this issue.                                                                                                         | <b>FAR 3</b>                    | <b>FAR 3</b>                    |
| <b>Has the trend of the indicator been appropriately assessed and presented in the MR?</b> | The trend is assessed and discussed in the MR: a decrease in wood consumption has been observed. This is also confirmed by a recorded decrease in smoke levels.<br><br>ERM CVS has confirmed the findings based on the interviews with a sample of beneficiary households: interviewees reported both decrease of woodfuel consumption and decrease in smoke levels. Some of the visited beneficiaries had moved cooking place from a separate kitchen outside the house into a kitchen inside the house – this is a clear evidence of decreased smoke levels. | <b>OK</b>                       | <b>OK</b>                       |
| <b>Conclusion</b>                                                                          | ERM CVS confirmed that <ul style="list-style-type: none"> <li>The indicator has been monitored appropriately in accordance with the monitoring plan /4/</li> <li>The scoring of the indicator presented in the MR is appropriate</li> </ul>                                                                                                                                                                                                                                                                                                                    |                                 |                                 |

|                                                                  |                                                                                                                                                                                                                                                                                                  |                                 |                                 |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|
| <b>Number:</b>                                                   | 2                                                                                                                                                                                                                                                                                                |                                 |                                 |
| <b>Indicator:</b>                                                | Quality of employment                                                                                                                                                                                                                                                                            |                                 |                                 |
| <b>Chosen parameter(s):</b>                                      | Number of training workshops organised, number of attendees.                                                                                                                                                                                                                                     |                                 |                                 |
| <b>Target:</b>                                                   | 3                                                                                                                                                                                                                                                                                                |                                 |                                 |
| <b>Monitoring:</b>                                               | Stove contractor/project developer records – collated                                                                                                                                                                                                                                            |                                 |                                 |
| <b>Compliance question</b>                                       | <b>Verification findings<br/>(including verification activities undertaken and justification/substantiation of information, data and evidence)</b>                                                                                                                                               | <b>Draft<br/>OK/<br/>CAR/CL</b> | <b>Final<br/>OK/<br/>Not OK</b> |
| <b>Has the monitoring procedure been followed appropriately?</b> | Interviews with the masons that worked on the project indicated that training had occurred. However, no other evidence or documentation was provided by the PP to substantiate this claim, hence <b>CL 8</b> was raised.<br><br>The PP provided evidence of a sound employment contract with the | <b>CL 8</b><br><br><b>CL 9</b>  | <b>FAR 4</b>                    |

|                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |              |
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|                                                                                            | <p>construction companies but did not provide contractual evidence of a good quality employment with the surveyors and masons, hence <b>CL 9</b> was raised.</p> <p>For both CLs, the PP has confirmed that evidence was not located, although MR has been amended to provide further discussion why it is evident that training was provided, and that contracts with construction companies include clauses on working conditions. While based on interviews ERM CVS can confirm that training was provided to masons and both masons and surveyors were satisfied with working conditions, and contracts with builder contractors indeed include clauses of working conditions, evidence has not been provided to substantiate that monitoring was undertaken in accordance with the sustainability monitoring plan. Therefore the parameter "Quality of employment" has been scored as 'neutral', and verification team considers this appropriate, CL 8 and CL 9 were closed but <b>FAR 4</b> is raised in order for the PP to revise the monitoring plan in the GS passport before next verification..</p> |                  |              |
| <b>Has the trend of the indicator been appropriately assessed and presented in the MR?</b> | <p>Although the chosen parameter for this sustainability indicator is number of training workshops organised and number of attendees, the MR discusses code of conduct in the contracts between co2balance and stove building contractors. The MR does not discuss training and does include a clear scoring of this sustainability indicator compared to the baseline indicator situation. <b>CL 10</b> was raised asking to explain the results of the indicator. Please refer to explanation above: as evidence has not been provided, the parameter "Quality of employment" has been scored as 'neutral', <b>FAR 4</b> is raised in order for the PP to revise the monitoring plan in the GS passport before next verification. <b>CL 10</b> was closed.</p>                                                                                                                                                                                                                                                                                                                                                 | <del>CL 10</del> | <b>FAR 4</b> |
| <b>Conclusion</b>                                                                          | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"> <li>The indicator has been monitored appropriately in accordance with the monitoring plan /4/</li> <li>The scoring of the indicator presented in the MR is appropriate</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |              |

|                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                         |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|
| <b>Number:</b>                                                                             | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                         |
| <b>Indicator:</b>                                                                          | Livelihood of the poor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                         |
| <b>Chosen parameter(s):</b>                                                                | Wood consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                         |
| <b>Target:</b>                                                                             | It is anticipated that wood consumption amongst stove beneficiaries will be reduced by at least 50%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                         |
| <b>Monitoring:</b>                                                                         | Kitchen Performance and Tests & Kitchen Surveys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                         |
| <b>Compliance question</b>                                                                 | <b>Verification findings (including verification activities undertaken and justification/substantiation of information, data and evidence)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Draft OK/ CAR/CL</b> | <b>Final OK/ Not OK</b> |
| <b>Has the monitoring procedure been followed appropriately?</b>                           | Please refer to validation of indicator 1 (Air Quality), where chosen parameter is also wood consumption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>OK</b>               | <b>OK</b>               |
| <b>Has the trend of the indicator been appropriately assessed and presented in the MR?</b> | <p>Although the chosen parameter for this indicator is wood consumption, the description of monitoring of this indicator in the first version of the MR does not discuss wood consumption and only discusses the length of time households spend collecting fuel and distance they have to travel. In addition, the table does not show comparison of the monitored values in project situation with the pre-intervention values; and the MR does not include a clear scoring of this sustainability indicator compared to the baseline indicator situation. Therefore <b>CL 11</b> was raised.</p> <p>The description of the sustainability indicator "Livelihood of the poor" has been correctly modified to be in line with the monitoring plan in the Gold Standard</p> | <del>CL 11</del>        | <b>OK</b>               |

|                   |                                                                                                                                                                                                                                                                                                                                                         |  |  |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|                   | Passport. Changes in woodfuel consumption are discussed and baseline wood collection figures are included as a comparison. MKS results on trends in time spent for woodfuel collection are used to support the monitoring result. <b>CL 11</b> was closed. The figures and discussion were confirmed based on review of the MKS master spreadsheet /22/ |  |  |
| <b>Conclusion</b> | ERM CVS confirmed that <ul style="list-style-type: none"> <li>The indicator has been monitored appropriately in accordance with the monitoring plan /4/</li> <li>The scoring of this indicator was not clearly presented and there is no discussion of the results in the monitoring report /4/.</li> </ul>                                             |  |  |

|                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                         |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|
| <b>Number:</b>                                                                             | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                         |
| <b>Indicator:</b>                                                                          | Access to affordable and clean energy services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |                         |
| <b>Chosen parameter(s):</b>                                                                | Change in volume of traditional fuel consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                         |                         |
| <b>Target:</b>                                                                             | It is anticipated that wood consumption amongst stove beneficiaries will be reduced by at least 50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                         |
| <b>Monitoring:</b>                                                                         | Kitchen Performance and Tests & Kitchen Surveys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                         |
| <b>Compliance question</b>                                                                 | <b>Verification findings (including verification activities undertaken and justification/substantiation of information, data and evidence)</b>                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Draft OK/ CAR/CL</b> | <b>Final OK/ Not OK</b> |
| <b>Has the monitoring procedure been followed appropriately?</b>                           | Please refer to validation of indicator 1 (Air Quality), where chosen parameter is also wood consumption.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | OK                      | OK                      |
| <b>Has the trend of the indicator been appropriately assessed and presented in the MR?</b> | <p>The trend is assessed and discussed in the MR: a decrease in wood consumption has been observed. This is also confirmed by a recorded decrease in smoke levels.</p> <p>ERM CVS has confirmed the findings based on the interviews with a sample of beneficiary households: interviewees reported both decrease of woodfuel consumption and decrease in smoke levels. Some of the visited beneficiaries had moved cooking place from a separate kitchen outside the house into a kitchen inside the house – this is a clear evidence of decreased smoke levels</p> | OK                      | OK                      |
| <b>Conclusion</b>                                                                          | ERM CVS confirmed that <ul style="list-style-type: none"> <li>The indicator has been monitored appropriately in accordance with the monitoring plan /4/</li> <li>The scoring of this indicator was not clearly presented and there is no discussion of the results in the monitoring report /4/.</li> </ul>                                                                                                                                                                                                                                                          |                         |                         |

|                             |                                                                     |  |
|-----------------------------|---------------------------------------------------------------------|--|
| <b>Number:</b>              | 5                                                                   |  |
| <b>Indicator:</b>           | Quantitative employment and income generation                       |  |
| <b>Chosen parameter(s):</b> | Household income generated from employment generated by the project |  |
| <b>Target:</b>              | 4,615,500Ksh                                                        |  |
| <b>Monitoring:</b>          | Stove contractor/project developer records – collated               |  |

| Compliance question                                                                 | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| Has the monitoring procedure been followed appropriately?                           | The direct parameter used to measure the indicator is household income generated from employment created by the project. At the end of the current crediting period 3,824,000Ksh had been paid out in salaries to permanent members of staff located in the project area. The verification team reviewed the breakdown of this data in the 'Monitoring Report 1 Supplementary Data v1'. This figure is less than the target proposed, but may be considered sufficient, as neither the stove builders employed by contractors, nor the full time Nairobi-based staffs were included in this calculation. | OK                     | OK                     |
| Has the trend of the indicator been appropriately assessed and presented in the MR? | The trend of the indicator has been discussed and presented in the MR /1/.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | OK                     | OK                     |
| Conclusion                                                                          | ERM CVS confirmed that <ul style="list-style-type: none"> <li>The indicator has been monitored appropriately in accordance with the monitoring plan /4/</li> <li>The scoring of this indicator was not clearly presented and there is no discussion of the results in the monitoring report /4/.</li> </ul>                                                                                                                                                                                                                                                                                              |                        |                        |

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |                        |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
| Number:                                                                             | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |                        |
| Indicator:                                                                          | Technology transfer and self-reliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                        |
| Chosen parameter(s):                                                                | Number of training workshops organised to teach people to build the stove                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |                        |
| Target:                                                                             | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                        |
| Monitoring:                                                                         | Stove contractor/project developer records – collated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                        |
| Compliance question                                                                 | Verification findings<br>(including verification activities undertaken and justification/substantiation of information, data and evidence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Draft<br>OK/<br>CAR/CL | Final<br>OK/<br>Not OK |
| Has the monitoring procedure been followed appropriately?                           | <p>As clarified by the Gold Standard during the 4-week review, this indicator can only be scored positively if general public is trained. ERM CVS has not seen evidence that general public was trained as part of the project. The MR, however, discusses training sessions provided to stove contractors. This is not in line with the GS review feedback and PP response to the GS request 2 /7/. MR needs correction, therefore <b>CAR 8</b> was raised.</p> <p>The PP has scored this parameter as neutral, which is appropriate. <b>FAR 4</b> is raised in order for the PP to revise the monitoring plan in the GS passport before next verification. <b>CAR 8</b> was closed.</p> | <b>CAR 8</b>           | <b>FAR 4</b>           |
| Has the trend of the indicator been appropriately assessed and presented in the MR? | <p>Please refer to <b>CAR 8</b>.</p> <p>The PP has scored this parameter as neutral. <b>FAR 4</b> is raised in order for the PP to revise the monitoring plan in the GS passport before next verification. <b>CAR 8</b> was closed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>CAR 8</b>           | <b>OK</b>              |
| Conclusion                                                                          | <p>ERM CVS confirmed that</p> <ul style="list-style-type: none"><li>• The indicator has been monitored appropriately in accordance with the monitoring plan /4/</li><li>• The scoring of this indicator was not clearly presented and there is no discussion of the results in the monitoring report /4/.</li></ul>                                                                                                                                                                                                                                                                                                                                                                       |                        |                        |

## 5. Remediation Requests

### 5.1. Clarification Requests

Where information was insufficient or not clear enough to determine whether the applicable CDM requirements have been met ERM CVS raised a Clarification Request (CL). The CLs raised, and a description of how each was resolved are set out below.

| CL 1                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                         | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               | ERM CVS noted that stoves constructed during the main distribution campaign have a slightly different appearance to the stoves constructed in the pilot phase. However, the monitoring report does not depict or explain the difference in stove appearances/models and does not justify whether the differences affect the performance of the stove.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Clarification Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                               | Please explain the difference in the stove appearances, justify whether they are of the same model or different models, and whether the differences affect the performance of the stove.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     | The PP has changed the picture in the Monitoring Report. The stove in use in the project area is the CZK stove as now depicted in the MR. The stoves in the Aberdares project area are all known as CZK stoves however there is a difference in the construction technique. Early stoves were fabricated in situ whereas more recent stoves were centrally manufactured – it was found to be more cost effective to centrally manufacture. All components are identical throughout the project area. This includes all the components that have a significant impact on stove efficiency. The hot plate is identical and sits at the same height above the liner in both stoves. The liner is made using the same blend of materials within the clay and to the same size specification in both stoves and the fuel feed opening and air vent are exactly the same size. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                               | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Reviewed revised Monitoring Report                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| The revised Monitoring Report uses a picture and description of the CZK stove, which is the primary stove type used in the project area. The stoves installed during the pilot phase have essentially the same design (structure), only are plastered around, therefore performance is not affected. This is in line with what the verification team saw during the site visit and has been checked against pictures in the electronic distribution record. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CL 1 closed.                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| CL 2                          |                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date Issued:</b>           | 07 June 2012                                                                                                                                                                                                                                                                                                                                        |
| <b>Issue:</b>                 | ERM CVS reviewed a sample of builders' forms and checked against the records in the project database. A gap of about one month was noted in the date of stove building: builders' forms had dates in July 2010, whilst project database showed June 2010.                                                                                           |
| <b>Clarification Request:</b> | Please clarify the discrepancy in the CZK build dates between the builders' records and the project database.                                                                                                                                                                                                                                       |
| <b>Client Response:</b>       | Upon further investigation the PP has discovered that there was a data entry error related to the pilot stoves. The correct date of installation was July 2010. The MR has now been updated. This does not, however affect any ER calculations as these pilot stoves, although credited, were built a number of months before the crediting period. |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The PP has now rectified this. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |
| Reviewed revised Monitoring Report and online database of total distribution record and its export file /20/                                                                                                                                                                                                                                                                                                                                                                          |                                |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| <p>Information in the revised Monitoring Report has been corrected, and is consistent with the builder's forms. This recording error does not affect emission reductions as it relates to pilot stoves, which were constructed months before the start of the crediting period. However, it reinforces the need for FAR 1: the PP should consider reducing the level of manual data handling and transfer and improving quality checks on the collected data.</p> <p>CL 2 closed.</p> |                                |

| CL 3                                                                                                                                                                                                |                                                                                                                                                                                                                              |
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| <b>Date Issued:</b>                                                                                                                                                                                 | 07 June 2012                                                                                                                                                                                                                 |
| <b>Issue:</b>                                                                                                                                                                                       | MKS dates in the MR are inconsistent between tables in pages 8 and 11.                                                                                                                                                       |
| <b>Clarification Request:</b>                                                                                                                                                                       | Please clarify inconsistencies of the MKS dates in the monitoring report                                                                                                                                                     |
| <b>Client Response:</b>                                                                                                                                                                             | <p>PP has amended the dates in the table on Page 11 to match those on Page 8 as these were correct</p> <p>This has now been updated, the difference was due to more CTFs being uploaded since the first draft of the MR.</p> |
| <b>Documentation Provided</b>                                                                                                                                                                       |                                                                                                                                                                                                                              |
| <b>Verification activity</b>                                                                                                                                                                        |                                                                                                                                                                                                                              |
| Reviewed the revised Monitoring Report , MKS results spreadsheet /22/, and online database of total distribution record and its export file /20/                                                    |                                                                                                                                                                                                                              |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                       |                                                                                                                                                                                                                              |
| <p>The dates of the monitoring kitchen surveys in the revised MR are now consistent between Page 8 and Page 11 and consistent with the MKS results master spreadsheet /22/.</p> <p>CL 3 closed.</p> |                                                                                                                                                                                                                              |

| CL 4                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b>Date Issued:</b>           | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Issue:</b>                 | The monitoring report states that no alternative fuel use was identified during initial surveys, which is not correct, as a degree of fuel and stove type mixing was observed already at initial KS. Further, the MR states that an increase in charcoal consumption has been observed in MKS compared with the initial KS but the table with survey results does not show comparison with initial figures.                                                          |
| <b>Clarification Request:</b> | Please clarify description in the MR about the use of alternative fuels and parameters $X_{af,pj,y}$ and $AF_{pj,i,y}$                                                                                                                                                                                                                                                                                                                                               |
| <b>Client Response:</b>       | PP has changed the explanation in the 'Additional Comments' section for parameters $X_{re,pj,y}$ , $X_{af,pj,y}$ and $AF_{pj,i,y}$ to address the initial and ongoing degree of fuel and stove type mixing observed; which has been accounted for by the KPT design. Table A has also been updated to include data from the Baseline KS. When viewed alongside Figures 1 and 2 it can be seen that fuel and stove type mixing has remained at a similar level to, or |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | below, initial Baseline findings. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                   |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |
| Reviewed revised Monitoring Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                   |
| <p>The explanation in the revised Monitoring Report has been properly corrected and is in line with the methodology and results of the baseline KS and MKS. During the site visit and interviews with beneficiary households ERM CVS has observed that families indicated reduction in charcoal use because of a coupled effect of increased charcoal prices and efficient use of woodfuel in the project stoves. This effect is difficult to quantify. However, as new emission reductions are calculated based on new KPT results, where project scenario is measured after this presumed reduction of charcoal, the possible effect is now internalised</p> <p>CL 4 is closed</p> |                                   |

| CL 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 07 June 2012                                                                                                                                                                                                                                                                                                                                              |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | During the site visit the verification team observed that some cookstoves have the secondary air inlet broken, i.e. it effectively does not function fully according to the design. The PP has confirmed that they are aware of this. The monitoring report does not refer to this observation                                                            |
| <b>Clarification Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Please clarify and explain in the MR how the broken secondary air inlet affects the stove efficiency and woodfuel savings, and justify how KPT results can be applied to the stoves with the broken secondary air inlet                                                                                                                                   |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The PP has conducted KPTs on Modified and Unmodified CZK stoves and found no statistical difference between the fuel use of the two groups. Further, the PP has re-submitted the Baseline which has been calculated to include KPT values from Modified stoves. Please see updated KPT report and clarified description in the revised monitoring report. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                           |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                           |
| Reviewed the revised baseline report /31/, detailed results of the new KPTs /35/, results of the modified stove survey /32/, and revised MR /1/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                           |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                           |
| <p>The revised monitoring report explains about the “modified” stoves. Based on the site visit interviews with households and project staff, ERM CVS can confirm that it is likely that in many cases the secondary air inlet may be intentionally broken to allow using larger sticks/logs. However, the project beneficiaries would not admit it because of the fear of losing the stove. It is also possible that inlets can break unintentionally during use. Although the stoves with broken inlet may have had it either broken or intentionally modified, herein they are referred to as modified stoves for simplicity. The PP proposed in the revised monitoring report that during future construction phases extra care will be taken to promote co2balance educational material relating to fuel wood preparation and management.</p> <p>Modification of the stove could affect efficiency of burning and thus fuelwood savings. The PP conducted a survey to identify proportion of modified cookstoves and then conducted KPTs on both sets, modified and unmodified stoves. Please refer to section 4.2.2 for validation of the new KPTs and their results. ERM CVS reviewed the new baseline study /31/ and spreadsheet with detailed results of the KPTs /35/ and can confirm that the different in woodfuel savings between modified and un-modified stoves is not statistically significant: the p-value is 0.9710 at significance level of 10% (0.1). As KPTs were done on a sample that has similar proportions of modified versus unmodified stoves as the proportion identified in modified stove survey (60% of modified stoves and 40% unmodified) /32/, the woodfuel savings for the total project stove sample effectively take into account effect of modified stoves. The proportion of modified stoves found in the modified stove survey is similar to the proportion observed by the verification team during visit of a sample of project households.</p> <p>Please refer to FAR 6 for the PP to modify the MKS questionnaire or its information collection sheet to ensure it allows recording if a stove is damaged or modified.</p> |                                                                                                                                                                                                                                                                                                                                                           |

CL 5 closed.

| CL 6                                                                                                                                                           |                                                                                                                                                                                                                       |
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| <b>Date Issued:</b>                                                                                                                                            | 07 June 2012                                                                                                                                                                                                          |
| <b>Issue:</b>                                                                                                                                                  | The ER calculations spreadsheet is difficult to navigate and track the calculations: it includes large amount of information that is not relevant for the verification, and sources are not always clearly referenced |
| <b>Clarification Request:</b>                                                                                                                                  | Please modify the emission reduction calculations spreadsheet to include only data used calculating ERs achieved in this verification period and include sources of the data                                          |
| <b>Client Response:</b>                                                                                                                                        | PP has simplified the ER calculations spreadsheet and reconciled the emissions calculations                                                                                                                           |
| <b>Documentation Provided</b>                                                                                                                                  |                                                                                                                                                                                                                       |
| <b>Verification activity</b>                                                                                                                                   |                                                                                                                                                                                                                       |
| Reviewed revised ER spreadsheet /2/                                                                                                                            |                                                                                                                                                                                                                       |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                  |                                                                                                                                                                                                                       |
| Version 04 of the ER spread sheet is sufficiently clear, ER calculations are in line with the revised PDD /03/ and the methodology /08/ and can be reproduced. |                                                                                                                                                                                                                       |
| CL 6 closed.                                                                                                                                                   |                                                                                                                                                                                                                       |

| CL 7                                                                                                                                                                              |                                                                                                                                                                                |
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| <b>Date Issued:</b>                                                                                                                                                               | 07 June 2012                                                                                                                                                                   |
| <b>Issue:</b>                                                                                                                                                                     | Monitoring report compares ERs estimated in the PDD for 1-year period, with the monitored emission reductions over the period of 16 months.                                    |
| <b>Clarification Request:</b>                                                                                                                                                     | Please modify comparison of monitored emission reductions with ex-ante estimation to ensure ex-ante estimation is pro-rated according to the length of the verification period |
| <b>Client Response:</b>                                                                                                                                                           |                                                                                                                                                                                |
| <b>Documentation Provided</b>                                                                                                                                                     | The PP has amended the ex-ante estimation to cover a period of 16 months instead of 12 as calculated in the PDD<br>Revised Monitoring Report                                   |
| <b>Verification activity</b>                                                                                                                                                      |                                                                                                                                                                                |
| Reviewed revised Monitoring Report /01/                                                                                                                                           |                                                                                                                                                                                |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                     |                                                                                                                                                                                |
| The reviewed Monitoring Report has been correctly amended to compare the monitored emission reductions with ex-ante estimations pro-rated to the same period of time (16 months). |                                                                                                                                                                                |
| CL 7 closed.                                                                                                                                                                      |                                                                                                                                                                                |

| CL 8                |                                                                                                                                                                                                                                                                                                                                                        |
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| <b>Date Issued:</b> | 07 June 2012                                                                                                                                                                                                                                                                                                                                           |
| <b>Issue:</b>       | Interviews with the masons that worked on the project indicated that training had occurred. However, no other evidence or documentation was provided by the PP to substantiate this claim. This is not in line with the monitoring plan for sustainability indicators, which states that the chosen parameter for this indicator is number of training |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | workshops organised and number of attendees.                                                                     |
| <b>Clarification Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Please clarify what evidence is available to support scoring of sustainability indicator "Quality of employment" |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | The PP cannot currently locate records and has therefore scored this parameter as neutral.                       |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | revised Monitoring Report                                                                                        |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |
| Reviewed revised Monitoring Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                  |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                  |
| <p>The revised Monitoring Report has been amended with the inclusion of an explanation for monitoring conducted for Parameter 5.2. The PP has discussed that training was provided and ERM CVS can confirm that based on interviews it can be seen that training to masons was provided. However, as evidence is missing and in effect actual monitoring is not in line with the monitoring plan in the GS passport, the PP has scored this parameter as neutral. This is appropriate.</p> <p>The PP proposes an alternative measure of "Working Conditions", FAR 4 is raised in order for the PP to revise the monitoring plan in the GS passport before next verification.</p> <p>CL 8 closed.</p> |                                                                                                                  |

| CL 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The PP provided evidence of a sound employment contract with the construction companies but did not provide contractual evidence of a good quality employment with the surveyors and masons                                                                                                                                                                                                                                                                                                                  |
| <b>Clarification Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Please clarify how the PP has ensured quality of employment for masons and surveyors                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>The PP can provide contractual evidence of good quality employment with surveyors as they are directly employed by co2balance. However, the PP cannot provide contractual evidence of employment for masons as they are directly employed by the construction company, not co2balance. The construction companies are bound contractually to provide a suitable working environment for their employees as already evidenced.</p> <p>Please refer to CL 8 – the PP has scored this parameter neutral.</p> |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | revised Monitoring Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>Reviewed the PP response.</p> <p>Reviewed the revised Monitoring Report</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>According to the sustainability monitoring plan, the parameter for this indicator is number of training workshops organised and number of attendees. As evidence has not been provided to substantiate that monitoring was undertaken in accordance with the sustainability monitoring plan, the parameter "Quality of employment" has been scored as 'neutral'. It is clear from interviews with masons and that they were trained but this records are not available and the parameter does not sufficiently reflect on the quality of employment. ERM CVS checked letters sent to co2balance Kenya by the Lari district officials /17/, where officials expressed appreciation to the project for providing local employment. Interview with a mason and one of "casuals" that did MKS indicates that masons and surveyors were satisfied with the working conditions and were trained before starting work. Therefore neutral scoring for this indicator is appropriate. However, as the parameter does not sufficiently reflect the indicator, FAR 4 is raised in order for the PP to revise the monitoring plan in the GS passport before next verification.</p> <p>CL 9 closed.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| CL 10                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b>Date Issued:</b>                                                                                                                                                                                                              | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Issue:</b>                                                                                                                                                                                                                    | Although the chosen parameter for this sustainability indicator “Quality of employment” is number of training workshops organised and number of attendees, the MR discusses code of conduct in the contracts between co2balance and stove building contractors. The MR does not discuss training and does include a clear scoring of this sustainability indicator compared to the baseline indicator situation.              |
| <b>Clarification Request:</b>                                                                                                                                                                                                    | The description in the MR on the monitoring of sustainability indicator “Quality of employment” needs modification to ensure it (also) discusses monitoring results of the chosen parameter, and includes a clear scoring of this indicator achieved in the verification period                                                                                                                                               |
| <b>Client Response:</b>                                                                                                                                                                                                          | As stated above the PP cannot locate records relating to training events which must have happened as stoves have been constructed in the project area. The PP has suggested an alternative measure and feels that this provides adequate support for scoring the parameter as ‘positive.’ However as this does not conform to the sustainability monitoring plan the PP has scored this parameter as neutral (refer to CL 8). |
| <b>Documentation Provided</b>                                                                                                                                                                                                    | revised Monitoring Report                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Verification activity</b>                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Reviewed revised Monitoring Report                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Please refer to reason explained in CL 9. The parameter “Quality of employment” has been scored as ‘neutral’, and FAR 4 is raised in order for the PP to revise the monitoring plan in the GS passport before next verification. |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CL 10 closed.                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                               |

| CL 11                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                | Although the chosen parameter for the indicator “Livelihood of the poor” is wood consumption, the description of monitoring of this indicator in the MR does not discuss wood consumption and only discusses the length of time households spend collecting fuel and distance they have to travel. In addition, the table does not show comparison of the monitored values in project situation with the pre-intervention values; and the MR does not include a clear scoring of this sustainability indicator compared to the baseline indicator situation |
| <b>Clarification Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                | The description of the monitoring results of sustainability indicator “Livelihood of the poor” needs modification to ensure it is in line with the monitoring plan in the Gold Standard Passport                                                                                                                                                                                                                                                                                                                                                            |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      | The PP has explicitly mentioned the reduction in wood consumption as assessed through the Baseline KPTs. The table has been updated to include Baseline wood collection (time and distance travelled) figures as a comparison. A positive score has been applied to this criteria.                                                                                                                                                                                                                                                                          |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                | the revised Monitoring Report and spreadsheet with MKS results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Verification activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Reviewed the revised Monitoring Report /01/and spreadsheet with MKS results /22/                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The description of the sustainability indicator “Livelihood of the poor” has been correctly modified to be in line with the monitoring plan in the Gold Standard Passport. Changes in woodfuel consumption are discussed and baseline wood collection figures are included as a comparison. MKS results on trends in time spent for woodfuel collection are used to support the monitoring result. The figures and discussion were confirmed based on review |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

of the MKS master spreadsheet /22/

CL 11 is closed.

## 5.2. Corrective Action Requests

ERM CVS raised a Corrective Action Request (CAR) where:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- a Forward Action Request (FAR) during validation (or previous verification) to be verified have not been resolved by the project participant

| CAR 1                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Date Issued:</b>               | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Issue:</b>                     | No evidence has been provided to further support the NRB value used for emission reduction calculations in response to GS 8 week review FAR 1 ("PP shall provide justification for the discrepancy between the WISDOM study and NRB report provided. For the Abardares region, the WISDOM study shows surplus renewable biomass however the PP claims an NRB of 95%")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Corrective Action Request:</b> | Please provide evidence to further support the NRB value used for emission reduction calculations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Client Response:</b>           | <p>In conducting the NRB study for this project the PP has engaged an independent third party consultant (C4Eco) to carry out the study based on the guidance of the Gold Standard in their cook stove methodology entitled 'Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes.' Within this methodology there are two options for estimation of the xNRB, the most rigorous approach was chosen: 'a. Adoption of the approach described in sections A1.1 and A1.2 below.'</p> <p>In conducting this study the independent third party identified the FAO's WISDOM report and highlighted why it was not used and why it provided slightly differing final results:</p> <ul style="list-style-type: none"> <li>• "...the [WISDOM] map data was not used for this study. The primary reason for this was the lack of detail (due to the large coverage, the minimum cell size is 5 arc minutes , or approximately 9.2 km by 9.2 km). Nonetheless, the total Mean Annual Increment (MAI) values obtained for the current NRB assessment strongly correlate with the broad-scale estimates achieved by the WISDOM project."</li> <li>• "The values for the current study are higher than those of the WISDOM study, however, as a result of two factors. <ul style="list-style-type: none"> <li>○ Firstly the WISDOM methodology assumes that all firewood supply and demand is local (i.e. there is no export of fuelwood and charcoal areas of higher demand).</li> <li>○ Secondly, the WISDOM methodology does not include other uses of woody biomass, as is specified in the GS methodology."</li> </ul> </li> </ul> <p>Furthermore the WISDOM report does not conform well to other large scale studies used in the determination of NRB for carbon offset projects. The CDM have published NRB</p> |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>fractions for LDCs and although Kenya is not considered an LDC and therefore not included, when the CDM report is compared to the WISDOM report there are some substantial differences. For example the CDM EB 67 Report Annex 22 states that the Democratic republic of Congo has an NRB figure of 90% (0.90). However the FAO's WISDOM report shows the Democratic Republic of Congo as having a 'High Surplus' of wood fuel. This is almost the complete opposite and must be in part due to differences in data sources and calculation methods. Much like those between WISDOM and GS methodologies.</p> <p>So it can be seen that the WISDOM report may not conform well to the GS NRB methodology and will produce different results. It can also be seen that in certain cases it produces drastically different figures to those calculated by the UNFCCC CDM.</p> <p>The following national CDM derived NRB figure is presented to support the GS derived figure for the Aberdares region. A national NRB has been used as no project location specific figures could be found.</p> <ul style="list-style-type: none"> <li>Co2balance Ltd CDM Cook-Stove PoA: NRB = 0.97<br/> <a href="http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/GND0CTW7MQ6ZJ2IE5XA4KL3SF1YP9U/view">http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/GND0CTW7MQ6ZJ2IE5XA4KL3SF1YP9U/view</a></li> </ul> <p>The GS cook stove methodology used for this project uses a GS specific NRB calculation which differs slightly when compared to the CDM calculation. However the CDM procedure has been incorporated into the latest version of the GS cook stove methodology 'Technologies and Practices to Displace Decentralized Thermal Energy Consumption' highlighting it's acceptance by the Gold Standard.</p> <p>The main differences between the two types of methodology are as follows:</p> <ul style="list-style-type: none"> <li>Gold Standard: <ul style="list-style-type: none"> <li>Makes a conservative assessment of Mean Annual Increment (re-growth)</li> <li>Explicitly accounts for woody biomass extracted for uses other than fuel</li> <li>Determines a 'reachable collection area'</li> </ul> </li> <li>CDM <ul style="list-style-type: none"> <li>Does not account for MAI (re-growth)</li> <li>Only accounts for fuel wood use (per capita), ignoring other types of biomass use that impact on supply-demand dynamics</li> <li>Does not explicitly define a 'reachable collection area'</li> </ul> </li> </ul> <p>Based on these differences it can be seen that the Gold Standard provides a more rigorous approach to the calculation of NRB as it accounts for re-growth across the area in question, it assess all sources of biomass use (not just fuel) and it also defines what is feasibly reachable. This is in contrast to the more simplistic CDM approach. This may in part be why the NRB figure for Kenya as a whole as calculated by the CDM approach (0.97) is higher than the figure determined for the Aberdares project area using the GS approach (0.95).</p> |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Verification Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ERM CVS checked the quoted PoA-DD, its registration status, the CDM methodology AMS-II.G. ver. 3 - Energy efficiency measures in thermal applications of non-renewable biomass, the methodology applied for this project /8/, and the NRB assessment report /25/.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>The PoA "Efficient Cook Stove Programme: Kenya " has been registered as a CDM PoA, ref. number 5336. The methodology used for estimating fraction of non-renewable biomass is a bit different than the methodology specified in the Gold Standard methodology: the Gold Standard methodology aims at a more comprehensive assessment including annual regrowth of biomass on a supply side, considering other uses of woody biomass in addition to fuel on a demand side, and considers practical restraints of reachable collection area. The underlying assumptions and approaches are comparable. Therefore while the value from CDM PoA cannot be used directly in this project activity, it does support a high value of NRB fraction.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

According to the monitoring plan, the parameter will have to be checked in the next verification period, as it has to be updated biennially. The value used for this verification period is acceptable.  
CAR 1 is closed.

| CAR 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ERM CVS did not find evidence that the PP has acted on the FAR 3 raised during the GS 8 week review ("PP shall conduct usage surveys and also consider aging of stoves prior to next issuance. The usage survey and aging test shall be conducted on the first batch of stoves distributed under this project activity.")                                                                                                       |
| <b>Corrective Action Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Please provide evidence how the PP has acted to address FAR 3 raised by the GS.                                                                                                                                                                                                                                                                                                                                                 |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | The PP has conducted a Usage Survey which returned a value of 95% Usage, ERs have therefore been adjusted accordingly in the supplementary data spreadsheet. As the PP is re-submitting the Baseline at Verification and has re-done KPTs it is not possible to do an aging Stove Assessment as the baseline and 'aging' stoves are of the same age. This means that the Baseline effectively accounts for aging stoves anyway. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | revised Monitoring report and revised ER spread sheet                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Verification Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Review revised Monitoring report /01/ and revised ER spread sheet/02/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Usage survey was conducted and results are verified in section 4.4.1 of the report The revised ER spread sheet now correctly includes a usage factor of 95%, and the ERs have been reduced accordingly.</p> <p>The PP has decided to revise the baseline and new set of KPTs were conducted for this purpose. As the new KPTs were conducted on stoves that have aged since implementation (no new stoves have been constructed since July 2011), this effectively considers the ageing of stoves. The new KPTs are verified in section 4.2.2 of the report. .</p> <p>Therefore, the PP has provided sufficient evidence that FAR 3 raised by the GS has been addressed.</p> <p>However, FAR 5 was raised, as the results from the usage survey are potentially contradictory and require further investigation before the next verification.</p> <p>CAR 2 closed.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| CAR 3                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Date Issued:</b>               | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Issue:</b>                     | According to the PDD, each recipient household would sign a carbon rights transfer form as a confirmation that the rights to GHG emission reductions are transferred to the PP as payment for the improved cook stove. Based on review of the project database, ERM CVS found that carbon rights transfer notes were missing for 2,122 stove beneficiaries. This is not in line with one of the methodology's applicability criteria. While ERM CVS understands that information on some forms was not yet transferred to the project database, all signed forms should be transferred to the database before the issuance. |
| <b>Corrective Action Request:</b> | Stoves without carbon rights transfer forms cannot receive credits. Please correct ER calculations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| <b>Client Response:</b>                                                                                                                                                                                                                                                                                               | The PP has uploaded as many forms as possible in the time available. A total of 1472 CTFs are still outstanding. These households have been removed from ER calculations for this period however the PP will continue to add the missing records to the database so that all households are accounted for in the next verification period. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                         | revised Monitoring report, revised ER spread sheet                                                                                                                                                                                                                                                                                         |
| <b>Verification Activity</b>                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                            |
| Review revised Monitoring report /01/, revised ER spread sheet /02/, and export file project the project database as of 30 August 2012 /20/                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                            |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                            |
| <p>The verification team confirmed that after uploading some of the missing carbon rights transfer forms, the households with missing forms were correctly removed from ER calculations for this period. The details of validation are provided in section 4.2.1 of the verification report.</p> <p>CAR 3 closed.</p> |                                                                                                                                                                                                                                                                                                                                            |

| CAR 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | According to the detailed customer database, GPS coordinates are missing for 1323 cookstoves. This is not in accordance with the PDD and monitoring plan                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Corrective Action Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Please justify why stoves with missing coordinates are included in ER calculations                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The PP has sought guidance from the Gold Standard regarding this issue and its e-mail response has been forwarded to the DOE. The Gold Standard has advised that the database must contain contact details of at least 10x the amount of households required for each field survey type. So for example, Usage Surveys require a sample size of 100 so the database must contain at least 1000 households that have contact details. Based on this guidance the PP has not removed any households that have a CTF but are missing GPS coordinates. |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | revised Monitoring report and revised ER spread sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Verification Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Review revised Monitoring report and revised ER spread sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>Part of the households that have GPS coordinates missing in the distribution record, have signed carbon rights transfer forms (CTFs) uploaded. The CTFs have beneficiary name and contact details and are therefore one of proofs that stoves were constructed at real households. Verification team checked response from the Gold Standard, which clarified that the distribution record should contain contact details for 10 times the amount of survey sample size /34/. The distribution record has CTFs for 7773 households, thus comfortably satisfying the requirements. Based on this guidance it is correct that the PP has not removed any households that have a CTF but are missing GPS coordinates</p> <p>CAR 4 closed.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| CAR 5               |                                                                                                                                                                                                                                                             |
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| <b>Date Issued:</b> | 07 June 2012                                                                                                                                                                                                                                                |
| <b>Issue:</b>       | Although the monitoring report states that the detailed customer database includes results of the KS, MKSs and KPTs, as well as the conclusions drawn from MKSs and KPTs, results of the surveys and KPTs are actually held in separate Excel spreadsheets. |

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|                                                                                                                                                                            | The detailed database only includes distribution record. MR needs correction.                                                                                                  |
| <b>Corrective Action Request:</b>                                                                                                                                          | Please correct description of the database and data storage in the MR.                                                                                                         |
| <b>Client Response:</b>                                                                                                                                                    | The PP has removed any mention of a detailed customer database from the description and replaced it with a description of how excel spreadsheets are saved to a central server |
| <b>Documentation Provided</b>                                                                                                                                              | revised Monitoring report and revised ER spread sheet                                                                                                                          |
| <b>Verification Activity</b>                                                                                                                                               |                                                                                                                                                                                |
| Review revised Monitoring report and revised ER spread sheet                                                                                                               |                                                                                                                                                                                |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                              |                                                                                                                                                                                |
| Section C of the monitoring report has been revised and is now consistent with the actual monitoring and data records observed during the site visit.<br><br>CAR 5 closed. |                                                                                                                                                                                |

| CAR 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 07 June 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The monitoring report does not discuss whether MKS results support retaining one cluster. Recommendations on future investigation on possible needs to re-cluster that were identified in the report by independent consultant have also not been discussed. This is not in line with the methodology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Corrective Action Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MR is not in line with the methodology requirement that MR has to discuss conclusions drawn from the MKS results with regard to clustering.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The PP has directly addressed 'Future Clustering Insights' identified by the independent consultant and has also included a wider discussion of the MKS results on clustering.</p> <p>The PP has determined that around 60% of stoves are modified but there is no statistical difference (but a slight material difference) in the wood fuel consumed between modified and unmodified stoves. Based on this a new Baseline was submitted that accounted for the mix of modified and unmodified stoves. As the PP has no way of knowing the status of each stove in the project area, creating a new cluster and monitoring modified and unmodified stoves separately is not feasible. However, The PP is surveying the project area with the aim of identifying a more exact proportion of modified stoves. This will take a considerable amount of time but will hopefully allow an even more precise determination at next issuance.</p> |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | revised MR, , new baseline study and its underlying data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Verification Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Review of the revised MR, independent consultant's report /13/, MKS results /22/, new baseline study /31/ and its underlying data /35/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>In the revised MR, the PP included a section where potential reasons for re-clustering were discussed in line with the recommendations of the independent consultant. The section was reviewed against MKS results and ERM CVS can confirm that MKS results support retaining one single cluster. Additionally, the PP conducted a survey to identify proportion of modified cookstoves and then conducted KPTs on both sets, modified and unmodified stoves. ERM CVS reviewed the new baseline study and spreadsheet with detailed results of the KPTs and can confirm that the difference in woodfuel savings between modified and unmodified stoves is not statistically significant. Furthermore, identifying new cluster for modified stoves would be not practical as any undamaged stove can at any time be modified or become damaged unintentionally, and categorising the records in the distribution database into modified and unmodified stoves is not practically possible. As KPTs were done on a sample that has similar proportions of modified versus unmodified stoves as the proportion</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

identified in modified stove survey, the woodfuel savings for the total project stove sample effectively take into account effect of modified stoves  
CAR 6 closed.

| CAR 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Date Issued:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The monitoring plan states that monitoring kitchen surveys would be overseen by an independent third party as a QA/QC procedure, and that the MKS questionnaire was translated into the local language to ensure that responses were consistent and not based on the subjective interpretation of the document by individuals conducting the survey. However ERM CVS did not find evidence that these measures were implemented. This is not in line with the monitoring plan, and the MR does not explain what quality control measures were instead undertaken                                                                                                                                                                                                                                                                                                                                  |
| <b>Corrective Action Request:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Please correct the monitoring report and explain what quality control measures were implemented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Client Response:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Ethnologue (<a href="http://www.ethnologue.com/show_country.asp?name=ke">http://www.ethnologue.com/show_country.asp?name=ke</a>) lists 69 living languages in Kenya. The PP trialled the MKS in swahili however this did not prove to be a workable solution as each project area has a different dialect; the people of the Aberdares region speak the Kikuyu dialect. It was therefore not a viable option to get translations in each project area. All our staff are from the local area and speak English and are therefore in a perfect position to explain the questions to the householders in the most appropriate way for them to understand.</p> <p>The PP has provided the MKS in English and Swahili as well as a signed and verified monitoring protocol that was overseen and developed by an Independent Consultant contracted by the PP between April 2010 and July 2011.</p> |
| <b>Documentation Provided</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Monitoring Protocol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Verification Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Reviewed the Monitoring Protocol /34/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>The Monitoring Protocol includes templates of the MKS in English and Swahili, and shows that the Centre for Research in Environment Kenya worked as an independent consultant between July 2010 and April 2011 and was responsible for capacity building activities relating to a range of activities including monitoring and data collection. During this time with co2balance, the consultant witnessed the activities described in the protocol being implemented and provided input into refining the processes. This shows that quality control measures were implemented.</p> <p>CAR 7 closed.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| CAR 8                             |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date Issued:</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Issue:</b>                     | As clarified by the Gold Standard during the 4-week review, the indicator "Technology transfer and self-reliance" can only be scored positively if general public is trained. ERM CVS has not seen evidence that general public was trained as part of the project. The MR, however, discusses training sessions provided to stove contractors. This is not in line with the GS review feedback and PP response to the GS request #2. |
| <b>Corrective Action Request:</b> | Please correct description in the MR on the monitoring of the indicator "Technology transfer and self-reliance"                                                                                                                                                                                                                                                                                                                       |

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| <b>Client Response:</b>                                                                                                                                                                          | The PP has not trained the general public in stove construction but has however educated the communities on stove usage as well as climate and environmental issues related to the use of the stove. The PP has scored this parameter as neutral. |
| <b>Documentation Provided</b>                                                                                                                                                                    | revised Monitoring report and revised ER spread sheet                                                                                                                                                                                             |
| <b>Verification Activity</b>                                                                                                                                                                     |                                                                                                                                                                                                                                                   |
| Review revised Monitoring report and revised ER spread sheet                                                                                                                                     |                                                                                                                                                                                                                                                   |
| <b>Reason for acceptance / non-acceptance</b>                                                                                                                                                    |                                                                                                                                                                                                                                                   |
| As evidence has not been provided, the indicator is now correctly scored neutral. FAR 4 is raised in order for the PP to revise the monitoring plan in the GS passport before next verification. |                                                                                                                                                                                                                                                   |
| CAR 8 is closed                                                                                                                                                                                  |                                                                                                                                                                                                                                                   |

### 5.3. Forward Action Requests

Forward Action Requests (FAR) may be raised for actions if the monitoring and reporting require attention and/or adjustment for the next verification period. These have no impact upon the completion of the current verification activity.

|                                |                                                                                                                                                                                     |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FAR 1</b>                   |                                                                                                                                                                                     |
| <b>Comment:</b>                | Distribution data collection included manual data handling on 3 levels (builders, their supervisors, and co2balance office personnel). This increases risks of errors considerably. |
| <b>Forward Action Request:</b> | Please reduce the level of manual data handling and transfer and improve quality checks on the collected data                                                                       |

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| <b>FAR 2</b>                   |                                                                                                                                                                                                       |
| <b>Comment:</b>                | Although it is clear from the interviews that the personnel have been trained, keeping training records would give a picture of how many people were trained, and would present a verifiable evidence |
| <b>Forward Action Request:</b> | Please record training events and maintain training material and lists of attendees.                                                                                                                  |

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| <b>FAR 3</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Comment:</b> | MKS questionnaires included a qualitative question on the difference in smoke level. This leads to either "more" or "less" response, potentially discouraging respondents to give a response "no difference". It can hardly be expected that smoke levels would be higher than with the 3-stone fire but similar levels could be observed including but not limited to cases where cookstove is not used properly. |
| <b>Forward</b>  | Please revise questionnaire to avoid leading the beneficiaries to give a response that smoke levels are reduced.                                                                                                                                                                                                                                                                                                   |

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| <b>Action Request:</b> |  |
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| <b>FAR 4</b>                   |                                                                                                                                                                                                                                                                                                          |
| <b>Comment:</b>                | The sustainability parameters “Quality of employment” and “Technology transfer and self-reliance” have not been monitored in accordance with the sustainability monitoring plan. For this verification period, the parameters been scored as ‘neutral’, and the PP has suggested alternative monitoring. |
| <b>Forward Action Request:</b> | Please revise the monitoring plan in the GS passport accordingly before the next verification.                                                                                                                                                                                                           |

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| <b>FAR 5</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Comment:</b>                | The usage survey revealed conflicting messages, where, for example, 99% of the surveyed beneficiaries stated that their cook stoves were working correctly, but 87% also revealed that their cook stoves were damaged. Similarly confusing, 99% of beneficiaries stated that they knew how to use the stove correctly, yet 69% stated that their stove was either in need of repair, or that they were in need of training on how to use it. |
| <b>Forward Action Request:</b> | Please provide further investigation and explanation regarding these unclear results in the next monitoring period, including analysis of what kind of damage households reported, and modify questionnaire for usage survey if needed.                                                                                                                                                                                                      |

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| <b>FAR 6</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Comment:</b>                | <p>Verification team has noted that results of the first verification period indicate that MKS questionnaires may need a few additional questions or modifications:</p> <ul style="list-style-type: none"> <li>• MKS questionnaires so far have assumed that households continue either collecting or buying wood and questions ask only for trends in time or money spent. However, there is a possibility that some households would change from buying to collecting or vice versa. The questionnaire should include a way to record such change</li> <li>• A considerable share of CZK stoves got modified or damaged. MKS questionnaires or their information collection sheets so far do not include a way to record whether a stove is damaged or modified in any way</li> </ul> |
| <b>Forward Action Request:</b> | Please modify MKS questionnaire and/or its information collection sheet to include ways to record if households have changed a way of getting fuelwood, and whether stoves are modified/damaged.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Annex 1: Reference Documents and Interviews

## A.1: Documents

| Reference | Title and version                                                                                                                                                                                                 | Date              |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 1         | Monitoring Report for 'Aberdares Improved Cook Stoves', Version 01                                                                                                                                                | 29 March 2012     |
|           | Monitoring Report for 'Aberdares Improved Cook Stoves', Version 02                                                                                                                                                | 29 March 2012     |
|           | Monitoring Report for 'Aberdares Improved Cook Stoves', Version 03                                                                                                                                                | 14 August 2012    |
|           | Monitoring Report for 'Aberdares Improved Cook Stoves', Version 04                                                                                                                                                | 04 September 2012 |
|           | Monitoring Report for 'Aberdares Improved Cook Stoves', Version 05                                                                                                                                                | 18 September 2012 |
| 2         | VER calculation spreadsheet(s)                                                                                                                                                                                    |                   |
|           | Version 01                                                                                                                                                                                                        | 22 April 2012     |
|           | Version 02                                                                                                                                                                                                        | 14 August 2012    |
|           | Version 03                                                                                                                                                                                                        | 03 September 2012 |
| 3         | Version 04                                                                                                                                                                                                        | 18 September 2012 |
|           | Project Design Document                                                                                                                                                                                           |                   |
| 4         | Approved PDD for 'Aberdares Improved Cook Stoves', Version 09                                                                                                                                                     | 24 April 2012     |
|           | Revised PDD, version 10                                                                                                                                                                                           | 18 September 2012 |
| 5         | Monitoring Plan                                                                                                                                                                                                   | 24 April 2012     |
|           | Monitoring Plan included in the GS PDD                                                                                                                                                                            |                   |
| 6         | Validation Report                                                                                                                                                                                                 |                   |
|           | Validation report prepared by Bureau Veritas for project 'Aberdares Improved Cook Stoves', revision 03                                                                                                            | 04 August 2011    |
| 7         | Gold Standard Passport                                                                                                                                                                                            |                   |
|           | Gold Standard Passport for the project 'Aberdares Improved Cook Stoves'                                                                                                                                           | 13 January 2012   |
| 8         | The Gold Standard Synthesis of the 8-week registration review period                                                                                                                                              |                   |
|           | GS synthesis of the comments and requests for clarification/corrective action received during the 8-week registration review period for the project 'Aberdares Improved Cook Stoves'                              | 01 February 2012  |
| 9         | Indicative Programme, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes, version 02                                                                                               | 08 February 2010  |
|           | CDM Validation and Verification Manual                                                                                                                                                                            |                   |
| 10        | Version 01.2                                                                                                                                                                                                      | 30 July 2010      |
|           | KS Survey Questions                                                                                                                                                                                               |                   |
| 11        | MKS 1-3 Survey Questions                                                                                                                                                                                          |                   |
|           | MKS 4 Survey Questions                                                                                                                                                                                            |                   |
| 12        | co2balance Gold Standard Small Scale Project Improved Cookstoves in Aberdares, Central Province, Kenya. Kitchen Survey and Kitchen tests report. Prepared by Jonathan Rouse and Kirste Jagoe, HED Consulting Ltd. | 19 Nov 2010       |
|           | Stove building contracts with Zesac                                                                                                                                                                               |                   |
| 13        | (for 150 stoves)                                                                                                                                                                                                  | 30 June 2010      |
|           | (for 6000 stoves; revised contract nullifying agreement signed on 18 January 2011)                                                                                                                                | 26 July 2011      |
| 14        | Stove building contract with Baco Investments                                                                                                                                                                     |                   |
|           | (for 4000 stoves)                                                                                                                                                                                                 | 24 January 2011   |
| 15        | CZ Stove. Instruction Manual for Stove Users and Details of training procedure (for recipients) prior to and after receiving a stove. Prepared by co2balance                                                      |                   |
|           | Appreciation letters from the Lari District commissioner and the Chief of Kijabe location                                                                                                                         | November 2010     |
| 16        | Constructing the Stove – Builders Manual. Co2balance Kenya                                                                                                                                                        | 10 June 2011      |
|           |                                                                                                                                                                                                                   |                   |

|    |                                                                                                                                                                                                                           |                                                          |
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| 19 | Signed carbon rights transfer forms (a sample)                                                                                                                                                                            |                                                          |
| 20 | Detailed customer database / Project database                                                                                                                                                                             |                                                          |
| 21 | Builders forms from July 2010                                                                                                                                                                                             | July 2010                                                |
| 22 | MKS results master spreadsheet                                                                                                                                                                                            |                                                          |
| 23 | Filled in survey sheets (a sample)                                                                                                                                                                                        |                                                          |
| 24 | Aberdares original KPT results                                                                                                                                                                                            | 02 Nov 2010                                              |
| 25 | C4EcoSolutions. Improved cooking stove programme (Kenya). Calculation of the Non-Renewable Biomass usage for project areas in accordance with the Gold Standard methodology (Version 02). Report compiled by James Reeler | 12 Apr 2011                                              |
| 26 | R.Drigo. WISDOM – East Africa. Woodfuel Integrated Supply/Demand Overview Mapping (WISDOM) Methodology. Spatial woodfuel production and consumption analysis of selected African countries. FAO                           | August 2005                                              |
| 27 | co2balance organograms                                                                                                                                                                                                    |                                                          |
| 28 | Establishing a baseline. Part 2 – kitchen surveys. Training material for monitoring staff and surveyors. Prepared by co2balance                                                                                           |                                                          |
| 29 | Employment contracts for project staff (seen in the offices)                                                                                                                                                              |                                                          |
| 30 | Usage Survey questionnaire and results                                                                                                                                                                                    | 17 July 2012                                             |
| 31 | Revised Baseline KPT Report<br>Version 01<br>Version 02<br>Version 03                                                                                                                                                     | 15 August 2012<br>11 September 2012<br>18 September 2012 |
| 32 | Modified Stove Survey results                                                                                                                                                                                             | 20 August 2012                                           |
| 33 | GS response to PP query regarding missing GPS coordinates – e-mail                                                                                                                                                        | 14 August 2012                                           |
| 34 | Monitoring Protocol – co2balance monitoring and data collection procedure                                                                                                                                                 | 23 August 2012                                           |
| 35 | Detailed results of the new KPTs conducted by co2balance                                                                                                                                                                  | 14 August 2012                                           |
| 36 | Export file of distribution record/database as of 23 August 2012                                                                                                                                                          | 23 August 2012                                           |
| 37 | Usage survey questionnaire in Swahili language                                                                                                                                                                            |                                                          |
| 38 | PDD supplementary data Aberdares, Version 09                                                                                                                                                                              | 18 September 2012                                        |
| 39 | Gold Standard methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” version 01                                                                                                    | 11 April 2011                                            |
| 40 | Baseline KPT Results and Analysis (spread sheet)                                                                                                                                                                          | 18 September 2012                                        |

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**Annex 2: Persons interviewed**

| Reference | Name               | Title & Organisation                            |
|-----------|--------------------|-------------------------------------------------|
| IV1       | Matthew Thomas     | Projects Team Manager, co2balance               |
| IV2       | Jack Ayieko Otieno | Monitoring & Education Coordinator, co2balance  |
| IV3       | Carolyn Njoroge    | Project's Community Liaison Officer, co2balance |
| IV4       | Michael Nijhia     | Project's Education Liaison Officer, co2balance |
| IV5       | James Wakaria      | Surveyor, co2balance                            |
| IV6       | John Gakami        | Builder (Mason)                                 |

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## Document template history

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| CDM Verification Report Template |                                  |
|----------------------------------|----------------------------------|
| Date                             | History of revision              |
| 09 February 2009                 | Initial Adoption                 |
| 30 November 2009                 | Editorial and structural updates |
| 22 July 2010                     | Editorial and structural updates |
| 22 October 2011                  | Editorial and structural updates |