



VALIDATION REPORT Co2BALANCE UK LTD

VALIDATION OF THE ABERDARES IMPROVED COOK STOVES

REPORT No. KENYA-GSval/007/2010

REVISION No. 02

BUREAU VERITAS CERTIFICATION

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VALIDATION REPORT

Date of first issue: 04/08/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Co2balance UK	Client ref.: Ms. Suzanne Longworth

Summary:

Bureau Veritas Certification has made the Gold Standard validation of the Aberdares Improved Cook Stoves project of Co2balance UK Ltd located at 1 Discovery House, Cook Way, Bindon Rd. Taunton TA2 6BJ and project location in Lari and Gatamaiyu divisions, Lari District, Central Province of the Republic of Kenya, and applying the methodology 'Methodology for improved cook-stoves and kitchen regimes V.02' on the basis of requirements for Voluntary offset project under Gold Standard version 2.1, UNFCCC/GS criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology for improved cook-stoves and kitchen regimes V.02 and meets the relevant UNFCCC and GS requirements for the GS and the relevant host country criteria.

Report No.: KENYA-GSval/007/2010	Subject Group: GS –VER 2.1	
Project title: Aberdares Improved Cook Stoves		
Work carried out by: Andrew Kinyanjui - Lead Verifier Edgar Ambaza – Verifier		
Internal Technical Review carried out by: HB Muralidhar		
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Work approved by:

Flavio Gomes

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1 INTRODUCTION

Co2balance UK Ltd has commissioned Bureau Veritas Certification to validate its CDM project Aberdares Improved Cook Stoves (hereafter called "the project") at 1 Discovery House, Cook Way, Bindon Rd. Taunton TA2 6BJ, United Kingdom.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC/GS criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant Gold Standard Version 2.1, UNFCCC/GS and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Validation is a requirement for all GS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of voluntary emissions emission reductions (VERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, Gold Standard Version 2.1, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, requirements for Voluntary Offset Projects under the Gold Standard Ver2.1, UNFCCC rules and associated interpretations.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.



1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	ANDREW KINYANJUI	☒ Yes ☐ No	☒ DR ☒ SV ☒ RI
Verifier	EDGAR AMBAZA	☐ Yes ☒ No	☒ DR ☒ SV ☐ RI
Verifier Specialist		☐ Yes ☐ No	☐ DR ☐ SV ☐ RI
Financial Specialist	N/A	☐ Yes ☐ No	☐ DR ☐ SV ☐ RI
Internal Technical Reviewer (ITR)	HB Muralidhar	☒ Yes ☐ No	☒ DR ☐ SV ☐ RI
Specialist supporting ITR		☐ Yes ☐ No	☐ DR ☐ SV ☐ RI

*DR = Document Review; SV = Site Visit; RI = Report issuance

2 METHODOLOGY

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

In order to ensure transparency, a validation protocol was customized for the project, according to the GS-VER Validation and Verification Manual, Version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55th meeting on 30/07/2010. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a GS project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The Gold Standard Voluntary Emission Reductions Project Design Document (GS-VER PDD) submitted by Co2balance UK Ltd and additional background documents related to the project design and baseline, i.e. country Law, GS Passport, Guidelines for Completing the Gold Standard Voluntary Emission Reductions Project Design Document (GS-VER PDD),



Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Co2balance UK Ltd revised the GS-VER PDD and resubmitted it on 05/04/2011.

The validation findings presented in this report relate to the project as described in the PDD V0.5-Aberdares OCH 25 10 11 (hereafter PDD)

2.2 Follow-up Interviews

On 17th – 18th January 2011, Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Co2balance UK Ltd were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Co2balance UK Ltd	➤ Staff Training, ➤ Sales Records ➤ Production Records ➤ Project operation ➤ GS sustainability ➤ GS Passport ➤ Project Design and implementation ➤ Monitoring Plan and management procedures ➤ Monitoring data ➤ GHG Calculation ➤ Data uncertainty and residual risks (QA/QC) ➤ Environmental Impacts ➤ Compliance with National Laws and Regulations
LOCAL Stakeholder	➤ Relevance of Sustainability Criteria ➤ Stakeholder engagement ➤ Fuel savings ➤ Fuel Costs ➤ Compliance with National Laws and Regulations
Local Chief and Community leaders	➤ GS sustainability ➤ Compliance with National Laws and Regulations ➤ GS sustainability

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that



needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

- (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- (b) The GS requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

2.4 Internal Quality Control

The validation report underwent a Technical Review (TR) before requesting registration of the project activity.

The TR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

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

When performing a Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the GS/CDM rules and requirements.

The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the



stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing.

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 9 Corrective Action Requests (CARs) and 26 Clarification Requests (CLs).

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

3.1 Approval (49-50)

The project is voluntary hence there is no need for a Letter of Approval (LoA) Co2balance UK is the project participant.

3.2 Participation (54)

The project is voluntary hence there is no need for a Letter of Approval (LoA) Co2balance UK is the project participant.

3.3 Project design document (57)

The validation team hereby confirms that the PDD complies with the latest forms of the guidance documents for completion of PDD.

3.4 Changes in the Project Activity

During the site visit no changes were observed in project as compared to details mentioned in PDD:



3.5 Project description (64)

The Aberdares Improved Cook Stove project entails distribution of domestic wood-burning improved cook stoves known as “the Carbon Zero Kenya or CZK stove” in households within the project area. Recipients will receive stoves for free and will trade in exchange for carbon rights. The Carbon Zero stove is expected to result in an improved living environment for recipients and reduced pressure on local forests, with a reduction of wood being burnt annually as a result of the project CO₂ emissions from combustion of non-renewable biomass will be reduced.

The Carbon Zero Stove will replace a baseline “3-stone stove” widely used in Aberdares. The improved stoves are constructed of an inner ceramic liner surrounded by clay bricks and mortar, using a ‘rocket’ style design. This consists of a horizontal fuel and air intake, terminating in a firebox with a vertical outlet on which the cooking pot rests. An upward draft is created by the temperature difference between the low inlet and the outlet, and the hot combustion gasses allow higher combustion temperatures to be reached resulting in reduction in amount of smoke produced.

The process undertaken to validate the accuracy and completeness of the project description was including the document review, interview with project participants, Stove beneficiaries and site visit.

The DOE hereby confirms that the project description in PDD “PDD V0.5-Aberdares OCH 25 10 11 ” is accurate and complete in all respects.

3.6 Baseline and monitoring methodology

3.6.1 General requirement (76-77)

The steps taken to assess the relevant information contained in the PDD against each applicability condition are described below.

Applicability condition (a): The methodology is applicable to programs or activities introducing improved cook-stoves

Project Scenario; the project activity is introducing improved cook-stoves to households within Aberdares (Project boundary)

Applicability condition (b): The project activity is implemented by a project coordinator who acts as project participant.

Project Scenario; The Implementer of project activity is Co2balance UK Ltd, who is also a project participant.

Applicability condition (c): The individual households and institutions will not act as project participants.



Project Scenario; The individual household stove recipients in this project are not project participants, each recipient receives a free stove for use and agrees to sign away CO2e rights, this was confirmed at interviews

Applicability condition (d): The methodology addresses the switch from cook-stoves and kitchen regimes used in institutions or domestic homes having significant green-house gas emission to those having considerably less or zero emissions

Project Scenario; proposed project activity will replace 3-stone wood stoves that have higher GHG emissions with improved stoves having less GHG emissions. The project baseline was confirmed at site visit

Applicability condition (e): Kitchen regimes with significant green-house gas emissions may involve the use of more than one fuel type and more than one stove type

Project Scenario; Wood is the main fuel used in the area, other fuels are also used in households, site visit and interviews confirmed main fuel used in project location

Applicability condition (f): The shift may occur in a phased manner, a program or project comprising a progressive increase over the project years in adoption of an improved fuel mix, improved stoves and/or water treatment technology.

Project Scenario; It is intended that the improved cook stoves will be progressively introduced to the kitchens over the first crediting year of the project activity.

Applicability condition (g): The project boundary can be clearly identified, and the stoves counted in the project are not included in another voluntary market or CDM project (i.e. no double-counting takes place)

Project Scenario; the project boundary has been demarcated using political divisions recognized in Kenya and confirmed at site visit. The stoves counted are individually marked and updated in project database.

Applicability condition (h): The project is located in a single country

Project Scenario; the project is located in Kenya and no other country.

Applicability condition (i): The improved cook-stoves do not number more than ten per kitchen and have a continuous useful energy outputs of less than 50kW (defined as total energy delivered usefully from start to end of operation divided by time of operation)

Project Scenario; A single stove only will be introduced into each kitchen with energy output estimated at 1.72kW, this was demonstrated by availability of test certificate from University Laboratory

Applicability condition (j): Examples of project technologies are improved biomass stoves



Project Scenario; project technology is an improved biomass stove this was confirmed at site visit by assessing pilot stoves

Each applicability criteria was confirmed throughout an on-site visit, interviews with the project's stakeholders and local and national regulations:

The DOE hereby confirms that the selected baseline and monitoring Methodology for Improved Cook-stoves and Kitchen Regimes V.02 – 08/02/2010, Tool for the demonstration and assessment of additionality (Version 05.2) is previously approved by the Gold Standard Technical Advisory Committee and CDM Executive Board respectively, and is applicable to the project activity, which, complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology

3.6.2 Project boundary (80)

The DOE validated the project boundary by performing a Site visit and hereby confirms that the identified boundary in accordance with the methodology defined as the location of the Target Area, and Fuel Collection Area:

Methodology requirement; The Project Boundary is defined by the domestic or institutional kitchens of the project population using the specific models of improved cook-stoves and/or water treatment technology and the specific GHG-reducing measures introduced by the project.

Project scenario; The project boundary is defined as the domestic kitchens in which each stove is installed and recorded, in the project scenario a specific stove is to be installed in a domestic kitchen, identified by unique identification codes and geo-tagged

Methodology requirement; In applying the methodology, a project will also define regions or towns within a country, or a whole country as the Target Area in which the project has a target population; this also provides an outer limit to the Project Boundary.

Project scenario; The boundary is therefore the political boundary of Lari and Gatamaiyu divisions within Lari District, this was confirmed at site visit and interview at four sub-locations within Lari District and also by touring project area to confirm GPS coordinates.



Methodology requirement; In cases where woody biomass (including charcoal) are baseline fuels, the Fuel Collection Area is the area within which this biomass is produced and supplied, or could reasonably be expected to be produced and supplied, whichever is the greater.

Project scenario; Site visit interviews with biomass fuel vendors and users confirmed that the majority of households collect their fuel from a local area by carrying it on their backs or by use of hand and donkey carts. The mode of transportation of wood fuel in the area reasonably confirms the defined fuel collection area.

Based on the above assessment, the DOE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.6.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below:

The baseline scenario is the one experienced by each household purchasing an improved stove, prior to installation of the new stove.

In a project where all stoves are installed at the start, or in which conditions are unchanging during the project period, the project proponent may establish a single baseline fixed in time (the pre-project situation) of the type “fixed baseline”.

Aberdares Project participants have opted to apply fixed baseline, 28,594 stoves will be built and be in operation by October 2011, Co2Balance UK has contracted a manufacturing company to supply stove components. Documents were available at site visit

To determine Clusters CO2Balance UK have contracted Household energy & development (HED) to carry out an assessment and presented in “CONFIDENTIAL GS883 Baseline Report-Aberdares-Final V01.pdf” by site visit and interviewing households, it is agreed that determination of existence of one cluster is plausible as recommended by HED

Based on the above assessment, the DOE hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;



- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below:

Methodology requirement; The overall reductions of GHG induced by the project are calculated as follows:

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

Within each cluster the emissions are calculated:

$$BE_{i,y} = N_{i,y} \cdot PE_y$$

$$PE_{i,y} = N_{i,y} \cdot BE_y$$

Methodology requirement; According to the methodology it is legitimate to derive emission reduction values on a per Unit basis directly from the KT tests, and modify the mode of calculation of project emission reductions (and of baseline and project emissions) accordingly, in cases where this results in the most transparent and clear mode of calculation, and where this is consistent with the calculations above.

Project Emission reduction calculation is on per unit basis as below;

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

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

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

$$BE_y = X_{nrb,bl,y} \times B_{bl,y} \times EF_{bl,bio,CO_2} + \sum (B_{bl,y} \times EF_{bl,bio,non-co_2,i})$$

$$PE_y = X_{nrb,pj,y} \times B_{pj,y} \times EF_{pj,bio,CO_2} + \sum (B_{pj,y} \times EF_{pj,bio,non-co_2,i})$$

And

$$X_{nrb,bl,y} = X_{nrb,pj,y}$$

$$EF_{bl,bio,CO_2} = EF_{pj,bio,CO_2}$$

$$EF_{bl,bio,non-co_2,i} = EF_{pj,bio,non-co_2,i}$$

$$ER_y = ((B_{bl,y} - B_{pj,y}) \times X_{nrb,y} \times EF_{bio,CO_2} + \sum (B_{bl,y} - B_{pj,y}) \times EF_{bio,non-co_2,i} \times N_y) - (LE_y \times N_y)$$

To account for emissions due to CH₄ & (N₂O) & (CO₂) Hence;

$$ER_{stove,y} = (((B_{bl,y} - B_{pj,y}) \times X_{nrb,y} \times EF_{bio,CO_2} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,CH_4} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,N_2O})) \div 365) \times \text{days operated}$$

a) Values for;

EF_{bl,bio,co_2} , EF_{pj,bio,co_2} , $EF_{bl,bio,non-co_2}$, $EF_{pj,bio,non-co_2}$, $EF_{bio,prod,co_2}$, $EF_{bio,prod,non-co_2}$, were determined at validation and derived from default IPCC values and presented to BVC for review.

b) Values for;

$X_{nrb,bl,y}$, was determined through an independent assessment by an expert from C4 EcoSolutions (Pty) Ltd., Cape Town, South Africa

c) Values for;

$X_{re,bl,y}$, $X_{af,bl,y}$ and $AF_{bl,i,y}$ were determined by performing baseline surveys in line with Improved Cook-Stoves and Kitchen Regimes v.02

d) Value for leakage factor;

Leakage is 0.0179 tCO₂/stove for the first year (during construction and mobilization of appliances)

According to the estimated fuel savings per stove in each year of the crediting period, the estimated emission reductions of the Project in each year during the crediting period represents a reasonable estimation using the assumptions given by the Project. The estimated net fuel saved and estimated emission reductions of the Project in each year during the

crediting period are shown as the Table 2 below. The average emission reductions over seven years crediting period is 64,685tonnes CO₂e

Table 2 the estimated emission reductions

Year	ER - Estimation of annual emissions reductions in tonnes CO ₂ e
2010	-3
2011	31,850
2012	70,158
2013	70,158
2014	70,158
2015	70,158
2016	70,158
2017	70,158
Total estimated reductions (tonnes CO₂e)	452,798
Total number of crediting years	7
Annual average of the estimated reductions over the crediting period	64,685

All PDD calculation formulae and spreadsheets were presented to BVC for validation, spreadsheet input values have been confirmed as reasonable, traceable and applicable to the project and contribute to a conservative estimate of the emission reductions

Based on the above assessment, the DOE hereby confirms that:

- (a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- (c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- (d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.7 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PDD on this matter are described below:

Methodology requires that the most recent version of the UNFCCC “Tool for the Demonstration and Assessment of Additionality” is applied, PDD has applied version 05.2 of the tool and is the most recent version of the tool. The possible alternative baseline scenarios are the following:

Sub-step 1a: define alternatives to the project activity:

Alternative 1: Stoves are designed, marketed, built and distributed by a stove builder without registering as a Gold Standard VER project.



Alternative 2: Continuation of the current situation – use of traditional cooking with 3-stone fireplaces.

The two scenarios are credible alternatives that provide outputs or services comparable with the proposed GS project activity

At site visit witness of baseline scenario confirmed the said “current situation”

Additionality is therefore demonstrated by assessing two plausible alternatives via simple cost analysis, barrier analysis, and common practice analysis.

Sub-step 2a: Determine appropriate analysis method - the simple cost analysis is applied hence;

Alternative 1

Under this alternative scenario the project would be implemented as per the proposed activity and thus would incur the same build costs of €17 per stove.

Calculations for Simple cost analysis were reviewed at site visit and compared to appliance manufacturer quotation and purchase order. The values are reasonable and calculations are accurate.

There are no costs associated with the continuation of cooking on a 3 stone fire, which makes this alternative to be less costly than the proposed activity.

3.7.1 Prior consideration of the Gold Standard (104)

The DOE validated the project activity start date provided in the PDD by reviewing evidence for improved cook stoves construction, to begin with, 150 pilot stoves (of which 149 were installed) were contracted to ZESAK-Kenya on 30/06/2010, and the intended purpose of pilot stoves was to gather Baseline data is therefore not considered as project start date.

The main volume of project stoves was contracted to the contractor in April 2011.

Evidenced by contractor agreement was signed with ICS component manufacturer in April 2010

Co2Balance is a firm that provides Consultancy services and invests in projects that save energy emissions (efficiency-based offsets) or that absorb atmospheric CO₂ (forestry-based offsets) The project involves distribution of ICS for free, the only revenues generated by the project would be from VER credits, BVC deems that the GS-VER benefits were considered necessary in the decision to undertake the project as a proposed GS-VER project activity.

3.7.1.1 Historical information on project timeline

- LSC was held: 27th April 2010
- LSC report was submitted to the Gold Standard Registry 25th June 2010



- The pilot project that involved construction and installation of 149 stoves was commenced on 30/06/2010
- Kitchen Surveys were performed in September 2010
- Kitchen Performance Tests were performed in October 2010
- Bulk of project stoves to be constructed starting Q2-Q4 2011

3.7.2 Identification of alternatives (107)

The DOE considers the listed alternatives to be credible and complete.

Alternative 1: Stoves are designed, marketed, built and distributed by a stove builder without registering as a Gold Standard VER project.

Alternative 2: Continuation of the current situation – use of traditional cooking with 3-stone fireplaces

3.7.3 Investment analysis (114)

As the proposed project activity generates no financial or economic benefits other than the VER revenues, the simple cost analysis (option I) is applied. Two alternatives are assessed;

Alternative 1 Under this alternative scenario the project would be implemented as per the proposed activity and thus would incur build costs of €17 each whereas in **Alternative 2** there are no costs associated with the continuation of cooking on a 3 stone fire.

The DOE, based on the assessment result, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

Table 3 Validation values

	Parameter	Value	Means of validation
1	Stove unit cost	€ 17	Material Fired Clay Bricks Liner Metal Plate Normal Cement Sodium silicate Lime Sand Vermiculite Contractors (design/ supervision) Mason The cost is estimated through a combination of direct raw material expenses and labour, the values used are based on material/labour costs in Kenya currency and at an exchange rate of 111.86Kshs to Euro. BVC validated the currency by visiting Central Bank of Kenya website to verify correctness of exchange rate in October 2010. BVC also validated the actual cost analysis of building 150 stoves in pilot project "268 Actual Cost analysis for the Pilot



			_project_in_Aberdares" which works out to Euro 23 per stove. Therefore value applied at Euro17 (Kshs 2,588/-) per stove is deemed reasonable Review of cost analysis factors VAT and cost of new stove liners from manufacturer BVC compared purchase documents and proposal from manufacturer to arrive at conclusion that the values applied are reasonable. Labour cost of Euro5 is validated by comparing contractor costs incurred at pilot stove construction where contractor Zesac – K was paid Kshs 599.72 (5Euro) to construct each stove refer "269_contractor_agreement_construction priceethics"
2	Mass of woody biomass combusted in the baseline in year y – Mass of woody biomass combusted in the project in year y (Bbl,y - Bpj,y) (t wood/stove/year)	1.45	During site visit, BVC verified the fulfilled KT questionnaires and cross checked accuracy of data as represented on Jonathan Rouse and Kirstie Jagoe, HED Consulting Ltd - Final V01 dated 19 November 2010 The value is adjusted for lower bound of 90% confidence
3	EFbio,co2 (tco2/t biomass) CO2 emission factor arising from use of wood-fuel in baseline scenario	1.7472	Validated by crosschecking source of data from 2006 IPCC Guidelines for National Greenhouse Gas Inventories "Default Emissions factor (t_CO2e/TJNCV)
4	EFbio,CH4 (tco2e/t_wood)	0.009828	
5	EFbio,N2O (tco2e/t_wood)	0.019344	
6	N,y	28,594	Based on the Project limiting factor of 180 GWh_{th} the project can therefore save a maximum of 41,538 tonnes of wood per year at 1.45 per each stove. Therefore thermal output of annual savings calculated from NCV of wood will limit the project to a type II SSC

3.7.4 Barrier analysis (118)

The steps taken to assess the relevant information contained in the PDD against each barrier are described below.

Investment barriers from private and Government funding are therefore discussed given the risk of investing in Kenya. This is evidenced in study carried out by the World Bank that found access to finance as a major business constraint, ranking it in the host country as the second largest obstacle, 83% of small



businesses rely on internal funding/returns for investment. Due to the prevailing difficulties in accessing finance, it is unlikely that a source of funding could be found internally. Thus there is no or insufficient private capital due to the actual or perceived risk of conducting business in the host country, Kenya.

Technological barriers discusses barriers overcoming diffusion of the project technology in view of limited expertise in Kenya as there are no formal capacity building of the type of technology. Heavy investment is required in: researching, developing and testing the design; financing construction materials; transportation of materials; education programme, amongst other things. This is due to the fact that there exists ceramic manufacturing capacity within the host country and financing is required for specific components that have been developed for the project. Currently communities are used to the three stone set up which have been found to be inefficient as lot of wood is consumed and much heat goes to waste due to the poor design. This is also the main contributor to deforestation activities in the host country. The three

Barriers due to prevailing practice; prevailing practices among households particularly in the way a users approach cooking imposes a very strong influence on the baseline scenario, resulting in continuation of use of traditional three stone fires, which therefore limits widespread adoption of ICS. Traditional stoves impose a very strong influence on the baseline scenario, resulting in continuation of use of traditional three stone fires especially in the rural communities more so those located in rural areas as they can easily access to forests. Thus without community-based staff to provide education and guidance on stove use it is unlikely that widespread adoption would occur.

Table 4

Barrier	Prevents scenario 1?	Prevents scenario 2?
Investment – private funding	Yes – not available	No
Technological - development	Yes – funding required	No
Technological - Barriers	Yes – consistent funding required	No
Technological - training	Yes – funding required	No
Prevailing practice - education	Yes – funding required	No

Hence it is accepted that none of the identified barriers discussed above prevent alternative 2, continuation of cooking on three stone fires, from occurring.



The DOE hereby confirms that the barrier analysis performed is credible.

3.7.5 Common practice analysis (121)

Analyze other activities similar to the proposed project activity:

As the proposed project type is not first-of-its kind, the above generic additionality tests are complemented with an analysis of the extent to which the proposed project type is already diffused in the sector and region of Aberdares.

Hence existing practice comprises; Upesi Stoves, Kuni Mbili stove, The Kenyan Ceramic Jiko, Jiko Kisasa.

During site visit of households and interviews it was deemed reasonable that clear distinction in project and other similar activities exist in that none of the households visited had similar quality to the proposed activities technology and that low income households such as those targeted by the proposed activity had low diffusion of ICS. In the proposed activity stoves are distributed for free in exchange for legal entitlement to the co2e rights, and in the poorest rural communities, thus reaching those unlikely even to buy a subsidized stove.

The DOE hereby confirms that the proposed CDM project activity is not common practice.

3.8 Monitoring plan (124)

The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology which requires that a Total Sales Record, Detailed Customer Database, and Project Database are maintained continuously, while periodic KS's and KT's 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.

Applicability of this methodology is justified in PDD as it involves programs or activities introducing improved cook-stoves. Applicability has been discussed in Section 3.6.1 above.

Operational management for the Project is comprehensively detailed in PDD and the description of responsibility, training, procedure reference, equipment details, calibration frequency and maintenance needs are clearly mentioned. The project proponents will supervise and assist stove contractors in generating the appropriate records during the construction phase of the project and undertake monitoring tasks to ensure project data is gleaned at pertinent phases i.e. ICS deployment, ICS usage, ICS monitoring and calculation of emissions reductions.

Achievement of the records was indicated and BVC believes that the retrievability of relevant CDM project activity records is pro-actively considered.



Complying with para.123/VVM, BVC hereby confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design and the project participants are able to implement the monitoring plan. The parameters to be monitored are discussed below as per the monitoring methodology V02:

Table 5 Monitoring values

	Parameter	Value	Means of validation
1	Non-renewability of woody biomass fuel in year y in project scenario	Fraction 0.95	Validated by cross check the correctness of all parameters used to calculate quantitative approach referenced in Annex and cross check of sources in Imagery from Africover multipurpose database comprising; LANDSATTM images, Atlas of resources from the World Resources Institute, ESRI. (2009) ArcView 9.3. Environmental Systems Research Institute, Kenya National Bureau of Statistics (KNBS) (2010) Kenya: 2009 Population and Housing Census Highlights. WISDOM - East Africa: Spatial fuelwood production and consumption analysis of selected African countries. FAO Data Monitoring - This will be carried out biannually by an independent third party
2	Leakage	t_CO ₂ e per year L ₁ =434, L ₂ =0,	Validated by cross check the correctness of first years crediting estimate for L1- the project utilizes fixed baseline, hence subsequent years will be zero <u>Components production</u> Cross check of IPPC 2006 Source/Sink, primary energy consumed during resource extraction, transportation, manufacturing and fabrication of a product from “Embodied Energy & Carbon” website above data sources are inputs to “PDD Supplementary Data Aberdares v0.4 OCH 28 09 11-1” spreadsheet to estimate leakage <u>Transport Emissions;</u> World Resources Institute 2008. GHG



			Protocol mobile combustion. IPCC 2006 Guidelines for National Greenhouse Gas Inventories. Monitoring - Each new set of Kitchen Survey data which is desk based will be analyzed to determine if fuel switching is taking place. Value stated is to be applied in year one only, no further leakage is anticipated, however this will be reviewed biennially
3	Mass of woody biomass combusted in the baseline in year y – Mass of woody biomass combusted in the project in year y	t_biomass/stove /year value 1.45	Value is derived from Kitchen tests Surveys and Kitchen Performance tests performed by a third party consultant “CONFIDENTIAL GS883 Baseline Report-Aberdares-Final V01” to determine the baseline the value is adjusted for lower bound of 90% confidence During site visit, BVC verified the fulfilled KT questionnaires and cross checked accuracy of data as represented on Jonathan Rouse and Kirstie Jagoe, HED Consulting Ltd. Final V01 dated 19 November 2010
4	Mass of alternative fuel i combusted in the project in year y.	t_fuel/unit-year	AF_{pi,y} – Monitoring surveys will be overseen by an independent third party will be carried out quarterly, as required by the methodology.
5	Usage in year y	Fraction -	The Percentage of stoves of age x remaining in use in year y will be monitored on every two years by the organization personnel under the control of third party consultant.
6	New Stove	Fraction -	To monitor new stove performance when a new model or adjustments is added. No new models had been added so far at the time of verification on site visit.

Based on the above assessment, the DOE hereby confirms that:

- a. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;



- b. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- c. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- d. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- e. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.9 Sustainable development (127)

As this is a Voluntary Project it was not necessary to obtain approval of Sustainable Development from Host party DNA.

3.10 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation (LSC) are described below.

During 27th April 2010, the Project was introduced to local stakeholders and comments were invited from the local stakeholders at a meeting in Kinale. The LSC were comprehensive, including public meetings, household visits, focus group discussion and surveys. The consulted local stakeholder included local residents, council members, and local government.

Comments from the above consultation were compiled and categorized into issues/concerns, for each issue/concern, due actions that have been taken are also described. BVC interviewed the local stakeholders during the on-site visit of the validation process and responses are satisfactory (in Appendix, the persons interviewed are listed). Furthermore, BVC verified the adequacy of the consultation process by assessing the questionnaires answered by the stakeholders.

The stakeholders have recognized the contribution of the Project to local environment and social economy. Their views were endorsed by the local stakeholders interviewed during the site visit of the validation activity.

During the on-site visit, BVC has conducted an interview with local stakeholders and confirms that the stakeholders impacted had been invited in a transparent manner. The interview with stakeholders and review of returned questionnaires shows that the summary of the comments received has been completely provided in the PDD and due account of the comments has been described in the PDD. BVC hereby confirms that the process of local stakeholder consultation is observed to be adequate.



In January 2011, the LSCR, PDD and passport were webhosted on www.carbonzerofederation.com/projects and were available for public review and comments up to 30 march 2011

Complying with GS Version 2.1 LSC requirements, BVC hereby confirms that the local stakeholder consultation was properly performed. According to the findings, the Project is beneficial to the local sustainable development and negative effects on the local stakeholders have been properly resolved.

The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.11 Environmental impacts (133)

The project participants have enquired from host party on the need for an Environmental Impact Assessment and determined that it is not required for this type of ICS project, BVC has checked PP correspondence with host country and confirmed that EIA is not required to be undertaken.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

From LSC carried out in April 2010, and attended by 91 people and comments received from 69 people.

Following a public call for comments on PP website in January 2011 for webhosted documents LSCR, PDD, Passport no comments were received through web based SFR.

Hard copies of LSCR, PDD and Passport were placed in local area chiefs', Community leaders' offices within the project boundary, during site visit it was witnessed presence of these hard copies, and 16 feedback comments were received and analyzed.

The project participant provided response to these comments. Validation team took due account of these comments and the respective responses while making the validation opinion. The details of the comments received, responses by the project participant/s and the explanation of how due account of these is taken by the validation team are attached as Appendix B (Passport Checklist) with this validation report.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Aberdares Improved Cook Stoves Project in Kenya. The validation was performed on the basis of UNFCCC and GS criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.



The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant/s used the latest tool for the assessment and demonstration of the additionality version 05.2 In line with this tool, the PDD provides analysis of investment, technological and common practice barriers to determine that the project activity itself is not the baseline scenario.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment and other technological barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions of 64,685 tonnes CO₂e per year.

The review of the project design documentation PDD V0.5-Aberdares OCH 25 10 11 and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and GS requirements and the relevant host country criteria. Bureau Veritas Certification thus requests registration of Aberdares Improved Cook Stoves as Gold Standard project activity.



6 REFERENCES

Category 1 Documents:

Documents provided by Type the name of the company that relate directly to the GHG components of the project.

- /1/ PDD V0.1-Aberdares-EGA-15-11-10-BV
- /2/ PDD V0.5-Aberdares OCH 25 10 11
- /3/ Aberdares GSv2.1_Passport_161110
- /4/ Aberdares Passport v2 -MVH-12-04-11.pdf
- /5/ Local Stakeholder Consultation Report

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /1/ PDD Supplementary Data Aberdares v0.2 MVH-05-04-11.xlsx
- /2/ CONFIDENTIAL GS883 KS1 results looking at fuel split.xlsx
- /3/ CONFIDENTIAL GS883 NRB study.pdf
- /4/ GS_General_Protocol_Small_Scale_rev02_Abadares[2]
- /5/ CONFIDENTIAL GS883 Aberdares financial commitment.pdf
- /6/ CONFIDENTIAL GS883 Baseline Report-Aberdares-Final V01.pdf
- /7/ CONFIDENTIAL GS883 Details of stove components developed.pdf
- /8/ CONFIDENTIAL GS883 Details of stove components developed.pdf
- /9/ CONFIDENTIAL GS883 KS1 results looking at fuel split.xls
- /10/ Details of components developed.docx
- /11/ safe and sound tech reference.pdf
- /12/ Stove parts LPO 1.jpg
- /13/ Stove transport LPO 1.jpg
- /14/ co2balance_GS2_NRB_calculation_final_12Nov.pdf
- /15/ Aberdares preliminary findings table 1.pdf
- /16/ 257_KS_KT_Baseline_Report_CO2B_Aberdares_Final_V01.pdf
- /17/ 262_Aberdares_KPT_2.xls
- /18/ 263_Aberdares_KS_1_results.xls
- /19/ 264_Aberdares_KS_2_results-1.xls
- /20/ 265_LSCR_Aberdares_co2balance.pdf
- /21/ 268_Actual_Cost_analysis_for_the_Pilot_project_in_Aberdares.pdf
- /22/ 269_contractor_agreement_constructionpriceethics.pdf
- /23/ 270_Maintenancefault_stove_process.pdf
- /24/ 271_Training_procedure_stove_users.pdf
- /25/ 272_exemption_letter_EIA_Aberdares.jpg
- /26/ Project-Database.xls

**Persons interviewed: Magina Sublocation**

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- /1/ STEPHENE KASERU – PROJECT AREA CONTACT PERSON
- /2/ NGUGI JUSTUS – ASSISTANT CHIEF KAMBAA
- /3/ JOSEPH GATUNGU – COMMUNITY ELDER
- /4/ ROSEMARY WANJIRU – OWNER STOVE NO. 45
- /5/ SAMUEL NDUNGU & REHAB WANJIRU – OWNER STOVE NO. 44
- /6/ RUTH MWERU– OWNER STOVE NO. 48

Persons interviewed: Kamae Sub location

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- /7/ JOHNSON KABIRU – PROJECT AREA CONTACT PERSON
- /8/ JACINTA NJOKI – OWNER STOVE NO. 145
- /9/ JOSEPHINE WANJA – OWNER STOVE NO. 147
- /10/ MARY MUTHONI – OWNER STOVE NO. 146

Persons interviewed: Kinale Sub location

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- /11/ MRS. KUNGU WANJIRU BETH - OWNER STOVE NO. 78

Persons interviewed: Kambaa Sub location

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- /12/ JANE MUTHONI - OWNER STOVE NO. 18
- /13/ LUCY KAMAU - OWNER STOVE NO. 01

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7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Bureau Veritas Certification - Lead Verifier and team leader – Andrew Kinyanjui

Andrew Kinyanjui – holds Diploma in Chemical Engineering. He had 5 yrs experience in Industrial production before joining BV. He has obtained 7 years experience in management systems audits and training and two years experience in CDM validation / verification at BV. He obtained the certificate of CDM Lead Verifier certificate and Lead auditor for ISO 14001 He conducted Validation / Verification for more than 4 CDM/GS Projects.

Verifier – Edgar Ambaza

Edgar Ambaza – holds BSc Environmental Management. He is a safety, health and Environmental expert and has worked in manufacturing sectors for 8 years before joining BV. He has gained 2 years experience in management systems audits and training and one year experience in CDM validation / verification at BV. He obtained the certificate of CDM Lead Verifier certificate and Lead auditor for ISO 14001

Internal Reviewer – HB Muralidhar

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Graduate in Electrical Engineering with 25 years of experience power generation and distribution related fields as well as in management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism. He is the technical expert & conducted Validation / Verification for more than 50 CDM Projects.



VALIDATION REPORT

APPENDIX A: ABERDARES CDM PROJECT VALIDATION PROTOCOL

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
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VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			COUNTRY A Kenya	COUNTRY B United Kingdom		
a. Have all Parties involved approved the project activity?	VVM	44	The project is GS VER project. No Kyoto Party has been indicated as project participant, which is not requested for voluntary carbon offset projects so far. Kenya is the host country	The project is GS VER project. No Kyoto Party has been indicated as project participant, which is not requested for voluntary carbon offset projects so far.	Ok	Ok
b. Has the DNA of each Party indicated as being involved in the proposed project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participant or directly from the DNA)	VVM	45	No Kyoto Party has been indicated as Project participant. The project is voluntary; there is no need for LoA co2balance UK is the project participant	No Kyoto Party has been indicated as Project participant. The project is voluntary; there is no need for LoA	Ok	Ok
c. Does the letter of approval from DNA of each Party involved:	VVM	45	As above	As above		
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	As above	As above		
ii. confirm that participation is voluntary?	VVM	45.b	As above	As above		
iii. confirm that, in the case of the host Party, the proposed project activity contributes to the sustainable development of the country?	VVM	45.c	As above	As above		
iv. Refers to the precise proposed project activity title in the PDD being submitted for registration?	VVM	45.d	As above	As above		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	As above	As above	Ok	Ok
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA)?	VVM	47	As above	As above	Ok	Ok
f. If there is doubt with respect to (e) above, was verified with the DNA that the letter of approval is valid for the proposed project activity under validation?	VVM	47	As above	As above	Ok	Ok
g. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	As above	As above	Ok	Ok
h. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	As above	As above	Ok	Ok
2. Participation			<i>PP1 (Co2balance UK)</i>	<i>PP2 (insert PP2 name)</i>		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes hence co2balance UK is PP		Ok	Ok
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Not required		Ok	Ok
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes		Ok	Ok
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes		Ok	Ok
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	As above			



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52			
g. Has the approval of participation issued from the relevant DNA?	VVM	53	As above	Ok	Ok
h. Is there doubt with respect to (g) above? I	VVM	53	As above	Ok	Ok
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	As above	Ok	Ok
3. Project design document					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC website?	VVM	55	Yes, the PDD was prepared based on Version 03 – and is the most current version	Ok	Ok
b. Is the PDD in accordance with the applicable requirements for completing the PDD?	VVM	56	Yes, all information required has been provided by the PP	Ok	Ok
c. In CDM-SSC-PDD section A.1 are following provided?	EB 34	Ann 09			
i. Title of project	EB 34	Ann 09	Yes, Aberdares Improved Cook Stoves	Ok	Ok
ii. Current version number and date of document	EB 34	Ann 09	Version: 0.1 (Pré-validation) Complétion date: 15/11/2010	Ok	Ok
d. In CDM-SSC-PDD section A.2 are following provided (max. one page)?	EB 34	Ann 09			
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline	EB 34	Ann 09	Yes, and covers Sustainability, Technology to be employed and Background to and purpose of project	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Explanation how the GHG emission reductions are effected	EB 34	Ann 09	Yes, under the technology to be employed	Ok	Ok
iii. The PP's view on the contribution of project activity to sustainable development	EB 34	Ann 09	Yes, hence - Reducing householders exposure to health damaging biomass smoke - Reducing pressure on local woodland and hence biodiversity - Improved livelihood of the poor - Increased rate of technology transfer - Also contained in GSD passport	Ok	Ok
e. In CDM-SSC-PDD section A.3 are following provided in the tabular format?	EB 34	Ann 09			
i. List of project participants and Party(ies)	EB 34	Ann 09	Yes,	Ok	Ok
ii. Identification of host party	EB 34	Ann 09	Yes, Kenya	Ok	Ok
iii. Indication whether the Party wishes to be considered as project participant	EB 34	Ann 09	Yes, and answer provided is no.	Ok	Ok
f. In CDM-SSC-PDD section A.4.1 are following provided?	EB 34	Ann 09			
i. Technical description, location, host party(ies) and address as required?	EB 34	Ann 09	Yes, central Kenya, Lari and Gatamaiyu divisions.	Ok	Ok
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 34	Ann 09	Yes, however the longitude and latitude details not provided.	CL 1.	Ok
g. In CDM-SSC-PDD section A.4.2 are following provided	EB 34	Ann 09			
i. the list of categories of project activities as per	EB	Ann	Yes, hence The project falls under the Energy	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the latest categorization of Appendix B to the simplified modalities and procedures for small-scale CDM project activities, hereafter referred to as Appendix B. (refer http://cdm.unfccc.int/methodologies/SSCmethodologies)	34	09	Efficiency – Domestic type and category according to the GSV2.1 toolkit.		
ii. A description of how environmentally safe and sound technology and know how is being applied by the project activity interalia technology transfer to the Host Party(ies) for application in the project activity	EB 34	Ann 09	Detail in this section description of how environmentally safe and sound technology and knowhow is being applied by the project activity interalia technology transfer to the Host Party(ies) for application in the project activity is not provided	CAR 1.	Ok
h. In CDM-SSC-PDD section A.4.3 is the estimation of emission reductions provided, as requested, in a tabular format?	EB 34	Ann 09	Yes, annual estimates over a 7 years crediting period given as 67,338 tonnes CO ₂ e However years summed in tableA.4.3 are not corresponding to crediting period	CAR 2.	Ok
i. In CDM-SSC-PDD section A.4.4 is information regarding Public funding provided?	EB 34	Ann 09	Yes, there is no public or ODA funding for this project activity, all revenue for the project will be derived from the sales of VERs.	Ok	Ok
j. In CDM-SSC-PDD section A.4.5 are following provided?	EB 34	Ann 09			
i. Confirmation that the small-scale project activity is not a debundled component of a	EB 34	Ann 09	Yes, the proposed small-scale project activity is not a debundled component of a large-scale project activity	Ok	Ok
ii. Indication if there is a registered small-scale project activity under the CDM or an application to register another small-scale project activity under the CDM	EB 34	Ann 09	Yes	Ok	Ok
a. With the same project participants	EB 34	Ann 09	Yes, the project proponent is developing a number of similar projects within the host country, however	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			none of these conflict with the debundling requirements.		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Registered within the period of 2 years	EB 34	Ann 09	N/A		
c. Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity under the CDM at the closest point.	EB 34	Ann 09	N/A		
k. In CDM-SSC-PDD section B.1 is the approved baseline and monitoring methodology and version no provided?	EB 34	Ann 09	Yes, Methodology for improved cook-stoves and kitchen regimes V.02'	Ok	Ok
l. In CDM-SSC-PDD section B.2 are the following provided?	EB 34	Ann 09			
i. Justification of the choice of project activity and category?	EB 34	Ann 09	Yes.	Ok	Ok
ii. Demonstration that the project activity qualifies as a small-scale project activity and that it will remain under the limits of small-scale project activity types during every year of the crediting period as per the following: For Type I : the capacity of the proposed project activity will not exceed 15 MW (or an appropriate equivalent); For Type II: the annual energy savings on account of efficiency improvements will not exceed 60 GWh (or an appropriate equivalent) in any year of the crediting period; For Type III: the estimated emission reductions of the project activity will not exceed 60 ktCO ₂ e in any year of the crediting period.	EB 34	Ann 09	Yes, The project will be classified as small scale in accordance with the Gold Standard rules, which coincides with the same small scale typology under the CDM scheme. Small scale energy efficiency projects are defined by the Gold Standard/CDM EB as producing average annual energy savings of <60GWh _e or <180GWh _{th} per annum.	Ok	Ok
m. In CDM-SSC-PDD section B.3 is the project boundary of the project activity, based on the guidance of the applicable project category,	EB 34	Ann 09	Yes,	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided?					
n. In CDM-SSC-PDD section B.4 are following provided?	EB 34	Ann 09			
i. The baseline for the proposed project activity with reference to the chosen project category	EB 34	Ann 09	Baseline for the proposed project activity with reference to the chosen project category in B.4 is not provided	CAR 3.	Ok
ii. Justification of key assumptions and rationales	EB 34	Ann 09	Pending CAR 3 Justification for baseline now provided	Ok	Ok
iii. Transparent illustration of all data used to determine the baseline emissions (variables, parameters, data sources etc)	EB 34	Ann 09	Pending CAR 3 Illustration of data now provided	Ok	Ok
o. In CDM-SSC-PDD section B.5 are following provided?	EB 34	Ann 09			
i. Explanation that the proposed project activity is additional as per options provided under attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities	EB 34	Ann 09	Yes, Additionality is demonstrated using the UNFCCC Tool for the demonstration and assessment of additionality (Version 05.2) which shows that the project would not be possible without VER revenues.	Ok	Ok
ii. National policies and circumstances relevant to the baseline of the proposed project activity	EB 34	Ann 09			
iii. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation.	EB 34	Ann 09	evidence that the incentive from the GS was seriously considered in the decision to proceed with the project activity is not provided	CL 2.	Ok
p. In CDM-SSC-PDD section B.6.1 are following	EB	Ann		Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided?	34	09			
i. Explanation on how the procedures, in the approved project category to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity.	EB 34	Ann 09	Yes, all the relevant equations provided with explanation. Hence $ER_y = \sum BE_{i,y} - \sum PE_{i,y} - \sum LE_{i,y} \dots \dots \dots \text{Eqn ER.1a}$ Where: ER_y = Emissions reductions in total project population in year y (tCO₂e/yr) $BE_{i,y}$ = Baseline emissions of cluster i in year y (tCO₂e/yr) $PE_{i,y}$ = Project emissions of cluster i in year y (tCO₂e/yr) $LE_{i,y}$ = Leakage of cluster i in year y (tCO₂e/yr)	Ok	Ok
ii. Clearly stating of which equations will be used in calculating emission reductions.	EB 34	Ann 09	Yes, hence $ER_{stove,y} = ((B_{bl,y} - B_{pj,y}) \times X_{nrb,y} \times EF_{bio,CO2} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,CH4} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,N2O})) \div 365) \times \text{days operational}$	Ok	Ok
iii. Explanation and justification of all relevant methodological choices, including: where the category provides different options to choose	EB 34	Ann 09	Yes, as the project proponent has elected to use a fixed baseline, in line with the chosen methodology.	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
from; where the category provides for different default values					
q. In CDM-SSC-PDD section B.6.2 are following provided?	EB 34	Ann 09			
i. A compilation of information on the data and parameters that are not monitored but determined upfront so as to be available for validation	EB 34	Ann 09	Yes, a number of parameters have been identified and available at validation but will not monitored: $EF_{bl,bio,co2}$, $EF_{pj,bio,co2}$, $EF_{af,co2}$, $EF_{bl,bio,non-co2}$, $EF_{pj,bio,non-co2}$, $EF_{af,non-co2}$, $EF_{bio,prod,co2}$, $EF_{af,prod,co2}$, $EF_{bio,prod,non-co2}$, $EF_{af,prod,non-co2}$, $X_{nrb,bl,y}$, $X_{re,bl,y}$, $X_{af,bl,y}$, $EF_{af,prod,non-co2}$, $AF_{bl,i,y}$	Ok	Ok
ii. The actual value applied	EB 34	Ann 09	Yes	Ok	Ok
iii. Explanation and justification for the choice of the source of data	EB 34	Ann 09	Yes	Ok	Ok
iv. Clear and transparent references or additional documentation in Annex 3	EB 34	Ann 09	Yes, supplementary files for the NRB study & supplementary files for the baseline report are referenced	Ok	Ok
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 34	Ann 09	The project proponent has selected to use a fixed baseline, in line with the chosen methodology, and hence the parameters to be monitored were available at validation but not monitored: The responsibilities have been allocated to specific personnel for monitoring in all the areas covered by the project.	Ok	Ok
r. In CDM-SSC-PDD section B.6.3 are following provided?	EB 34	Ann 09			
i. A transparent ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission	EB 34	Ann 09	The total leakage associated with transportation and construction has been assessed to be 0.0161tCO₂/stove , for the whole life span of the	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology			stove. Materials are transported from Mombasa which is about 700km away from the project area		
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 34	Ann 09	Yes,	Ok	Ok
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 34	Ann 09	Yes, all the calculations performed have been developed and available in the supplementary excel info sheet. Additional information on leakage in material production and transportation provided in annex 3. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets) are not correctly referenced	CL 3.	Ok
iv. Emission reduction calculations for each component are provided separately if more than one component activity is applied	EB 34	Ann 09	Average fuel saving per stove per year to the lower bound of 90% confidence was used to calculate emissions per stove per year. KPT data was available for review with emission reduction data for each component	Ok	Ok
s. In CDM-SSC-PDD section B.6.4 are the results of the ex ante estimation of emission reductions for all years of the crediting period, in a tabular format, provided?	EB 34	Ann 09	Pending on CAR 2	Ok	Ok
t. In CDM-SSC-PDD section B.7.1 are following provided?	EB 34	Ann 09			
i. Specific information on how the data and parameters that need to be monitored would	EB 34	Ann 09	Yes, kitchen surveys, kitchen tests, biannual monitoring, 3 rd party expert	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
actually be collected during monitoring for the project activity					
ii. For each below parameter the following information, using the table provided:	EB 34	Ann 09			
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred	EB 34	Ann 09	The sources of data include local forestry office i.e. Kenya Forestry Service and Kenya Forestry Research Institute	Ok	Ok
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.	EB 34	Ann 09	Pending on CAR 3 baseline study Specific frequency of monitoring e.g. kitchen surveys is not provided	CAR 4.	Ok
iii. A detailed description of the monitoring plan.	EB 34	Ann 09			



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 34	Ann 09	Yes, the organizational responsibilities for the monitoring plan provided and show the flow of monitoring information. Responsibilities have been allocated to specific personnel who have been allocated sublocations to monitor and report the the coordinator at the central office in Nairobi	Ok	Ok
b. The responsibilities for and institutional arrangements for data collection and archiving	EB 34	Ann 09	Yes, as a detailed customer database will be kept, containing the results of all Kitchen Surveys (KS's) and Kitchen Performance Tests (KPT's). Initially the baseline KS & KPT data will be entered; following this the results of monitoring KS's & monitoring KPT's will be added.	Ok	Ok
c. Does the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 34	Ann 09	Yes as monitoring KS's will be carried out for 25 randomly selected beneficiaries from the TDR, per cluster, every quarter according to the methodology rules.	Ok	Ok
d. Relevant further background information in Annex 4	EB 34	Ann 09	Yes, as provided in the passport version 02	Ok	Ok
u. In CDM-SSC-PDD section B.8 are following provided	EB 34	Ann 09		Ok	Ok
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 34	Ann 09	Yes, it was completed on the 12/11/2010.	Ok	Ok
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 34	Ann 09	Yes, as Project proponent), co2balance UK Ltd, 1 Discovery House, Cook Way, Bindon Rd, Taunton TA2 6BJ, +44 (0) 1823 332233, enquiries@co2balance.com ,	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			(Independent consultant), Jonathan Rouse, HED Consulting, +44 (0) 207 193 4314, j.r.rouse@gmail.com		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Indicated if the person/entity is also a project participant listed in Annex 1	EB 34	Ann 09	Yes, co2balance UK Ltd,	Ok	Ok
v. In CDM-SSC-PDD section C.1.1 are following provided?	EB 34	Ann 09			
i. The starting date of a CDM project activity is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 34	Ann 09	This is GS project with start date selected as 01/12/2010	Ok	Ok
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 34	Ann 09	In accordance with the Gold Standard Requirements, section V, requirements V.a.2.1 & V.a.2.4, the starting date is set to 01/12/2010	Ok	Ok
iii. If this starting date is earlier than the date of publication of the CDM-SSC-PDD for global stakeholder consultation by a DOE, does Section B.5 above contain a description of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).? (though this is in guideline for large scale projects, it is advisable to maintain this for small scale projects as well)	EB 34	Ann 09	Pending on CL above	Ok	Ok
w. In CDM-SSC-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 34	Ann 09	Expected operational lifetime of the project activity is not in years and months	CL 4.	Ok
x. In CDM-SSC-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and completed C.2.1 or C.2.2 accordingly?	EB 34	Ann 09	Yes, renewable crediting period.	Ok	Ok
y. In CDM-SSC-PDD section C.2.1 is it indicated	EB	Ann	7 years	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
thath each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	34	09			
z. In CDM-SSC-PDD section C.2.1.1 are the dates in the following format: (DD/MM/YYYY) provided?	EB 34	Ann 09	Yes, 01/12/2010	Ok	Ok
aa. In CDM-SSC-PDD section C.2.1.2 is the length of the first crediting period in years and months?	EB 34	Ann 09	length of the first crediting period is not in years and months	CL 5.	Ok
bb. In CDM-SSC-PDD section C.2.2 is it indicated fixed crediting period at most ten (10) years	EB 34	Ann 09	Not Applicable.	Ok	Ok
cc. In CDM-SSC-PDD section C.2.2.1 are the dates in the format (DD/MM/YYYY) provided?	EB 34	Ann 09	Not Applicable.	Ok	Ok
dd. In CDM-SSC-PDD section C.2.2.2 is the length of the crediting period in years and months provided?	EB 34	Ann 09	Not Applicable.	Ok	Ok
ee. In CDM-SSC-PDD section D.1 is the documentation on the analysis of the environmental impacts, if required by Host Party, provided?	EB 34	Ann 09	The Designated National Authority of the host party has provided confirmation that the project does not require an Environmental Impact Assessment to be carried out. Evidenced at site visit	Ok	Ok
ff. In CDM-SSC-PDD section E.1 are following provided?	EB 34	Ann 09			
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local	EB 34	Ann 09	Yes, local stakeholders were identified by local women's groups and church groups who invited stakeholders by word of mouth, relevant NGOs and	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
stakeholders shall be made in an open and transparent manner, in a way that facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted			the Gold Standard were invited by email and a public invitation was placed in The Daily Nation Newspaper. All stakeholders receiving a personal invitation were provided with a brief summary of the project as well. Evidenced at site visit		
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures	EB 34	Ann 09	Evidenced at site visit	Ok	Ok
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation	EB 34	Ann 09	SFR pending Minutes of stakeholder meeting was held at the Rhino Ark, Kinale, Forest Road Office Aberdares, 27th of April 2010 at 11am were reviewed and found to be inclusive and conclusive.	Ok	Ok
gg. In CDM-SSC-PDD section E.2 are following provided?	EB 34	Ann 09		Ok	Ok
i. Local stakeholders that have made comments identified	EB 34	Ann 09	Yes, as posted on the questionnaires.	Ok	Ok
ii. A summary of these comments	EB 34	Ann 09	Yes, as a selection of comments representative of those received at the end of the meeting are provided in the PDD. Original evaluation forms (in original language) are located in Annex 2 of the Stakeholder Report. The 69 feedback sheets were	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			also analyzed and report provided on a graph.		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
hh. In CDM-SSC-PDD section E.3 is and explanation of how due account have been taken of comments received from local stakeholders provided?	EB 34	Ann 09	No stakeholder comments needed to be taken into account leading to no modifications of any aspects of the project. Reviewed at Site visit	Ok	Ok
ii. In CDM-SSC-PDD Annex 1 are following provided?	EB 34	Ann 09			
i. Contact information of project participants	EB 34	Ann 09	Yes,	Ok	Ok
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 34	Ann 09	Yes, provided as co2balance, Elisabeth Gomez, Cook Way, Taunton, TA2 6BJ, UK, +44 (0)1823 33 22 33, +44 (0)1823 33 67 76 respectively	Ok	Ok
jj. In CDM-SSC-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 34	Ann 09	Yes, as per the proof letter. Provided in the passport.	Ok	Ok
kk. In CDM-SSC-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 34	Ann 09	Yes, the background information used in the application of the baseline methodology provided	Ok	Ok
ll. In CDM-SSC-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 34	Ann 09	Yes, gold standard passport	Ok	Ok
4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the	VVM	58	Yes, The Aberdares Improved Cook Stove project' will construct domestic wood-burning 'improved cook stoves' in households within the project area.	Ok	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity and the technical aspects of its implementation?			Recipients will receive stoves free of charge thanks to the carbon revenues expected and be trained in correct use of the stove. By reducing fuel consumption, CO2 emissions from combustion of non-renewable biomass will be correspondingly reduced.		
b. Is the description of the proposed project activity as contained in the PDD:	VVM	59			
i. sufficiently covering all relevant elements?	VVM	59	Description of project activity has sufficiently covered - the purpose of the project activity; - explanation how the proposed project activity reduces greenhouse gas emissions - the view of the project participants on the contribution of the project activity to sustainable development	Ok	Ok
ii. accurate?	VVM	59			
iii. providing the reader with a clear understanding of the nature of the proposed project activity?	VVM	59	Yes	Ok	Ok
c. Is the proposed project activity in existing facilities or or utilizing existing equipments?	VVM	60	No	Ok	Ok
d. Is the project activity one of the following types:	VVM	60			
i. Large scale?	VVM	60	No	Ok	Ok
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	Yes, The project activities will take place within the Kenyan country as follows: Province: Central Province District: Lari District Divisions: Lari and Gatamaiyu (Total of 30,779 HRS)	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	No	Ok	Ok
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed project activity, unless other means are specified in the methodology?	VVM	60	Yes site visit carried out on 17 th – 18 th January 2011	Ok	Ok
f. If yes to (d.iii) above, was the number of physical site visits base on sampling?	VVM	60	N0	Ok	Ok
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	N/A		
h. For all other proposed project activities not referred to in paragraphs 59 – 60, and for other individual proposed small scale project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	62	N/A		
i. If no:	VVM	62	N/A		
i. Was the validation undertaken by reviewing available designs and feasibility studies, conducting comparison analysis to equivalent projects, as appropriate?	VVM	62	N/A		
ii. Was it appropriately justified?	VVM	62	N/A		
j. Does the proposed project activity involve the alteration of an existing installation or process?	VVM	63	No	Ok	Ok
k. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	N/A		
5. Baseline and monitoring methodology					



**BUREAU
VERITAS**

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes, the small-scale project activity falls within the 'Energy Efficiency – Domestic' category and will utilise the Gold Standard 'Methodology for improved cook-stoves and kitchen regimes V.02'. This is the most up to date version of the methodology	Ok	Ok
b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b.a) below	-	-
c. Had the selected methodology been correctly applied?	VVM	66	Refer to (5.b.c) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.c) below	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.d) below	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.e) below	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67			
i. Specific questions per methodology regarding application of the methodology with respect to additionality.	VVM	67			
ii. Is the applied methodology considered the most appropriate one?	VVM	67	Yes. The applied version is correct and is still applicable.	Ok	Ok
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	See 5(b) below		
i. Specific questions per methodology regarding application of the methodology with respect to monitoring methodology.	VVM	67	See 5(b) below		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<i>b. Applicability of the selected methodology to the project activity</i>					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity?	VVM	68			
i. Specific questions per methodology regarding applicability.					
b. Is the methodology correctly quoted?	VVM	69	Yes, hence 'Methodology for improved cook-stoves and kitchen regimes V.02'	Ok	Ok
c. Are the applicability conditions of the methodology met?	VVM	70	Yes, applicability conditions of the methodology are detailed in PDD and are met	Ok	Ok
ii. Specific questions per methodology regarding applicability conditions.					
iii. Does methodology require use of tools and procedures			Additionality tools applied are not mentioned in section B.1	CL 6.	Ok
iv. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?			PP has not considered each applicability criterion in turn and explained in a transparent manner how the project fulfils each of them.	CL 7.	Ok
v. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?			Yes	Ok	Ok
d. Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	70	No, hence CO ₂ , CH ₄ and N ₂ O	Ok	Ok
e. Is the choice of the methodology justified?	VVM	70	Yes	Ok	Ok
f. Have the project participants shown that the	VVM	70	Refer to (5.b.c) above	-	-



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity meets each of the applicability conditions or the approved methodology?					
g. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	70	No other methodology is referred to by the methodology	Ok	Ok
vi. Specific questions per methodology regarding applicability conditions of any tool or other methodology component referred to the methodology.					
vii. Does the project meet applicability criteria; Low-emission cook-stoves and regimes replace relatively high-emission baseline scenarios?			Pending on CL 7 Applicability criteria for Low-emission cook-stoves and regimes replace relatively high-emission baseline scenarios, as project proposes to introduce cook stoves with relatively lower biomass consumption than baseline stoves	Ok	Ok
viii. Does the project meet applicability criteria; The project boundaries can be clearly identified, and the stoves counted in the project are not included in another voluntary market or CDM project (i.e. no double-counting takes place)?			Pending on CL 7 Yes, the project boundaries can be clearly identified, and the stoves counted in the project are not included in another voluntary market or CDM project	Ok	Ok
ix. Does the project meet applicability criteria; The project is located in a single country			Pending on CL 7 Yes	Ok	Ok
x. Does the project meet applicability criteria; The improved cook-stoves do not number more than ten per kitchen and each have continuous useful energy outputs of less than 50kW.			Pending on CL 7 Yes, through site visit and by review of cookstove design it is concluded that The improved cook-	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			stoves do not number more than ten per kitchen and each have continuous useful energy outputs of less than 50kW		

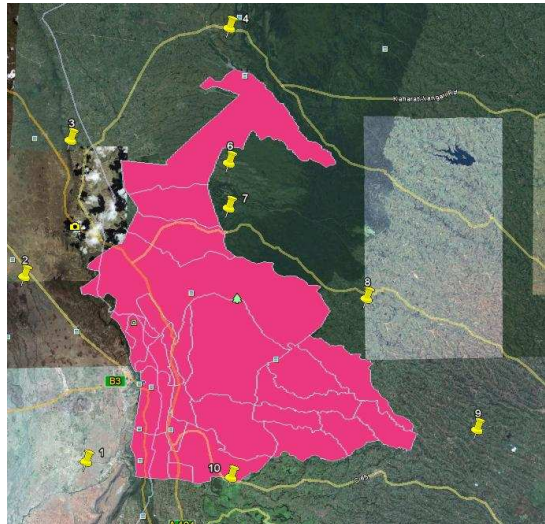


VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	70	Yes, projects of similar nature already validated and reviewed by BVC		
i. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	70	Yes	Ok	Ok
j. Can a determination regarding the applicability of the selected methodology to the proposed project activity be made?	VVM	71	Yes, project is applicable to the selected methodology	Ok	Ok
k. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	71	N/A		
l. If answer to (5.b.c) above is "no", revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N/A		
m. If yes to (5.b.k) and (5.b.l) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	73	N/A		
c. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed project activity?	VVM	77	Yes, hence a. The project boundary is defined as the domestic kitchens in which each stove is installed, recorded.	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			b. The target area as defined in section A.4.1.4. of PDD  c. The Fuel Collection Area has been defined based on the information gathered by the Kitchen Surveys.		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Specific questions per methodology regarding application of the methodology with respect to project boundary.					
ii. Is Project Boundary is defined by the domestic or institutional kitchens of the project population using the specific models of improved cook-stoves and/or water treatment technology and the specific GHG-reducing measures introduced by the project?			Yes, The project boundary is defined as the domestic kitchens in which each stove is installed, recorded.	Ok	Ok
iii. Does project define regions or towns within a country, or a whole country as the Target Area in which the project has a target population; twchich also provides an outer limit to the Project Boundary.			Yes, hence target area is Province: Central Province District: Lari District Divisions: Lari and Gatamaiyu	Ok	Ok
iv. IS the Fuel Collection Area is the area within which this biomass is produced and supplied			a) In defining the fuel collection area section B.3 of PDD, Not clear which information is referenced by footnote "For full details see annex 3." b) Footnotes through out PDD are not numbered	CL 8.	Ok
b. Is the delineation in the PDD of the project boundary correct?	VVM	78	Yes, witnessed during site visit carried out 17-18 th January 2011 However refer to CL 8	Ok	Ok
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	78	Pending on CL 8	Ok	Ok
d. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	78	Yes, hence	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS					Draft Concl	Final Concl
			Project	Source	Gas	Included?	Justification/Explanation		
				Cooking, production of fuel, and transport of fuel	CO ₂	Yes	Important source of emissions		
					CH ₄	Yes	Important source of emissions		
					N ₂ O	Yes	Can be significant in some fuels		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	78	Yes, N2O requires justification in baseline scenario and projects	Ok	Ok
f. If yes, have the project participants justified that choice?	VVM	78	Transparent justification for inclusion of gases within the project boundary is not provided	CL 9.	Ok
g. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	78	Pending on CL9	Ok	Ok
d. Baseline identification					
a. Does the PDD identify the baseline for the proposed project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed project activity?	VVM	80	Pending on CAR 3 above	Ok	Ok
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Pending Yes, as per baseline determination for Improved cook stoves	Ok	Ok
i. Specific questions per methodology regarding application of any procedure contained in the methodology to identify the most reasonable baseline scenario.	VVM	81			
ii. Has the project proponent carried out a Baseline Study and summarize its results in the PDD?	VVM	81	Yes	Ok	Ok
iii. Are the improved stoves adopted progressively through the project period?	VVM	81	No they are installed at the beginning	Ok	Ok
iv. Does project utilize a single baseline fixed in time (the pre-project situation) of the type "fixed baseline"?	VVM	81	Project utilizes a fixed baseline, a All project stoves will have been constructed by the end of the first crediting year	Ok	Ok
v. If the stoves are installed progressively, but PP has	VVM	81	N/A		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
applied a fixed-baseline approach, has PP presented a credible case to justify the application of a fixed-baseline approach?					
vi. Can it be determined that baseline conditions are changing?	VVM	81	Pending CAR 3	Ok	Ok
vii. If baseline conditions are changing in the course of the project, then the “evolving baseline” approach adopted?	VVM	81			
viii. By application of the methodology has PP divided project population (all stove customers) into groups or clusters to distinguish the characteristics which determine the emission reductions of each cluster?	VVM	81	Only one cluster for this project depending on qualitative Kitchen surveys	Ok	Ok
c. Does the selected methodology require use of tools (such as the “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?	VVM	81	Yes, methodology requires Tool for the demonstration and assessment of additionality (Version 05.2) to determine addditionality	Ok	Ok
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	81	Yes, Methodology for Improved Cook-stoves and Kitchen Regimes V.02 – 08/02/2010 The most recent version of the UNFCCC “Tool for the Demonstration and Assessment of Additionality” is to be applied	Ok	Ok
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	Yes, methodology requires baseline definition either fixed or evolving – procedure not followed as per CAR 3	Ok	Ok
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed project activity?	VVM	82	Yes	Ok	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
g. Has any reasonable alternative scenario been excluded?	VVM	82	No reasonable alternative has been excluded	Ok	Ok
h. Is the baseline scenario identified reasonably supported by:	VVM	83			
i. Assumptions?	VVM	83	Yes	Ok	Ok
ii. Calculations?	VVM	83	Yes	Ok	Ok
iii. Rationales?	VVM	83	Yes	Ok	Ok
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	83	Yes the documents and sources referred to in the PDD correctly quoted and interpreted	Ok	Ok
j. Have all applicable requirements been taken into account in the identification of the baseline scenario for the proposed project activity?	VVM	84	Yes, all applicable requirements been taken into account in the identification of the baseline scenario for the proposed project activity	Ok	Ok
k. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	84	Yes, relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the GS TAC	Ok	Ok
l. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity?	VVM	85	Yes, hence continuation of the 3stone fire is the baseline scenario	Ok	Ok
e. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	88	Yes, procedure used is hence; 1. Determine customer groups or "clusters" Step 1.1: Establish a pilot Sales Record Step 1.2: Provisionally assess fuel types, fuel mix, and kitchen regimes Step 1.3: Analyze renewability status of wood-fuels Step 1.4: Divide pilot Sales Record into customer groups or clusters	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Step 1.5: Carry out a qualitative survey (Kitchen Survey) Step 1.6: Refine demarcation of clusters and populate Project Database 2. Calculate baseline emissions Step 2.1: Estimate expected variation and improvement in emission reduction Step 2.2: Specify the Units of emission reduction or fuel consumption Step 2.3: Make quantitative measurements (Kitchen Tests) Step 2.4: Calculate baseline		



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	89	Methodology requires use of $ER_y = \sum BE_{i,y} - \sum PE_{i,y} - \sum LE_{i,y} \dots \dots \dots \text{Eqn ER. 1a}$ Where: ER_y = Emissions reductions in total project population in year y (tCO₂e/yr) $BE_{i,y}$ = Baseline emissions of cluster i in year y (tCO₂e/yr) $PE_{i,y}$ = Project emissions of cluster i in year y (tCO₂e/yr) $LE_{i,y}$ = Leakage of cluster i in year y (tCO₂e/yr) Within each cluster emissions are calculated thus: $BE_{i,y} = N_{i,y} \times BE_y \dots \dots \dots \text{Eqn ER. 1b}$ $PE_{i,y} = N_{i,y} \times PE_y \dots \dots \dots \text{Eqn ER. 1c}$ Where: $N_{i,y}$ = the number of Units in cluster i PP's have amended formulae with justification to $ER_y = ((B_{bl,y} - B_{pj,y}) \times X_{nrh,y} \times EF_{bio,CO2} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,CH4} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,N2O}) \times N_y - (LE_y \times N_y)$ For each stove the formulae is therefore; $ER_{stove,y} = (((B_{bl,y} - B_{pj,y}) \times X_{nrh,y} \times EF_{bio,CO2} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,CH4} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,N2O})) \div 365) \times \text{days operational}$	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Specific questions per methodology regarding steps taken and equations and parameters applied to calculate project emissions, baseline emissions, leakage and emission reductions.				Ok	Ok
ii. Has the project proponent carried out a Baseline Study and summarize its results in the PDD?	VVM	89	Yes in section B.4 of PDD	Ok	Ok
iii. Are the improved stoves adopted progressively through the project period?	VVM	89	Project will construct all the stoves within the first crediting period	Ok	Ok
iv. Does project utilize a single baseline fixed in time (the pre-project situation) of the type "fixed baseline"?	VVM	89	fixed	Ok	Ok
v. If the stoves are installed progressively, but PP has applied a fixed-baseline approach, has PP presented a credible case to justify the application of a fixed-baseline approach?	VVM	89	N/A		
Calculation of Baseline emissions	VVM	89			
Has PP established a pilot Sales Record by;	VVM	89			
I. Collecting the names of stove purchasers who could be the subjects of surveys and tests characterizing kitchen practices prior to use of the improved stoves?	VVM	89	A Pilot Distribution Record (PDR) containing the names and addresses/locations of 149 subjects was created	Ok	Ok
Step 1.2: Provisionally assess fuel types, fuel mix, and kitchen regime	VVM	89			
I. Has Project proponents specified the fuels and energy sources used through the year in the project kitchens, in both the baseline and project scenarios, dividing them into the following three categories?	VVM	89	Baseline report specified the fuels and energy sources used through the year in the project kitchens, in both the baseline and project scenarios in section 3 but the summary for subsequent steps is summarized in PDD - refer section 4 of methodology pg5	CL 10.	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
II. a) Renewable and Non-Renewable Woody Biomass, which includes all wood-fuels? b) Renewable energy fuels, sources or methods with zero green-house gas emissions (RE (a) above)? c) Alternative fuels (AF) emitting green-house gases during production or combustion (such as fossil fuels, dung, some crop residues) defined as fuels which do not fall into the above two categories?	VVM	89			
III. Has a provisional first estimate been made of how the fuels are mixed by the kitchens, in the sense of how they are apportioned?	VVM	89	Pending CL10	Ok	Ok
IV. Has an initial assessment been made of other factors which determine emission reductions? e.g. characteristics such as whether the kitchens are cooking commercially or for domestic consumption only	VVM	89	Yes, from baseline summary and questionnaires, None of the households in baseline study group was using the improved stove for commercial uses	Ok	Ok
V. whether they are doubling cook-stoves as space-heaters or not?	VVM	89	consultant has determined in baseline study whether subject are doubling cook-stoves as space-heaters or not (baseline report) but conclusion is not clear in PDD	CL 11.	Ok
VI. whether they are collecting fuel manually or purchasing it?	VVM	89	Yes, checked by baseline questionnaire, firewood fuel is gathered from local forests or purchased from firewood sellers.	Ok	Ok
VII. In assessing the baseline scenario and project scenario, have project proponents determined not only the fractions attributable to fuel or energy types RE and AF at the time of the proposed project start, but also must estimate/predict the future trends, by attributing year-by-year values?	VVM	89	PP have assessed have determined the fractions attributable to fuel or energy types RE and AF at the time of the proposed project start, but an estimate/prediction of future trends, by attributing year-by-year values is not provided	CL 12.	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
VIII. As an output of assessment has project population been divided into major groups for purposes of further analysis?	VVM	89	Baseline report section 3.2 assesses clustering options with a conclusion in 3.3 that pilot group constitutes a single cluster. Thus based on the KS data, no distinct clusters were identified from within the pilot group, PDD assumed one cluster	Ok	Ok
Step 1.3: Analyze renewability fraction of wood-fuels					
I. Is the quantitative approach or quantitative approach used as provided in methodology Annex 1; viz A1.1 and A1.2?	VVM	89	PP selected the combination of quantitative approach and quantitative approach Annex “refer 265_LSCR_Aberdares_co2balance”	Ok	Ok
II. If no, can it be demonstrated that option (a) is not practical due to undue difficulty in collection area estimation, and that the conservativeness of this modification is demonstrated?	VVM	89	N/A		
III. If no, have all reachable wood-fuel collection areas been aggregated and PP applied, using option (a) with this adjustment only, a single fraction for all collection areas in the country?	VVM	89	N/A		
IV. If yes, for A1.1; Is the defined Fuel Collection Area or Reachable Collection Area (A) specified as an area from which woody biomass fuel would be expected to be collected by or for the project population?	VVM	89	Hence, RCA for the rural sites is specified as a 10km radius for Aberdares project.	Ok	Ok
V. Has PP used credible information sources, field surveys, or both, to ascertain the amount of woody biomass that is re-generating each year in this area. This is the Mean Annual Increment (MAI)?	VVM	89	The Africover multipurpose database and the Kenyan Resource Atlas, (KRA) are the two primary sources of geographical information system (GIS) data used for the MAI calculations. Drigo,R. (2006) WISDOM - East	Ok	Ok



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Africa: Spatial fuelwood production and consumption analysis of selected African countries. FAO: is also applied Source of data unit for 1999 rural population 60,075 (Aberdares sub district) is not provided	CL 13.	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Is amount of non-renewable biomass (NRB) drawn from the fuel collection area (A) calculated as follows? NRB = H – MAI Where; H = the annual harvest of woody biomass, including forest clearance, timber extraction, consumption of wood-fuels, drawn from fuel collection area A MAI = sum of mean annual increments of the wood species, or “re=growth” in area A NRB = non-renewing biomass or excess harvest over and above re-growth, which is the amount of woody biomass removed with attendant CO₂ emissions which are not absorbed by re-growth	VVM	89	Yes, Hence $H = [(U \cdot (C_u + F_u)) + (R \cdot (C_r + F_r))] + (1 + T)$ where: H = the annual harvest of woody biomass, including forest clearance, timber extraction, consumption of wood-fuels, drawn from the RCA (m₃ yr⁻¹); U = urban population of the RCA; R = rural population of the RCA; C_u = urban charcoal consumption (m₃ cap⁻¹); C_r = rural charcoal consumption (m₃ cap⁻¹); F_u = urban fuel wood consumption (m₃ cap⁻¹); F_r = rural fuel wood consumption (m₃ cap⁻¹); T = ratio of timber demand to fuel wood demand H = 187,959 m³ MAI = 10,036 NRB = 187,959 - 10,036 NRB = 177,923 m₃ yr⁻¹	Ok	Ok
VI. Is it ascertained the fraction of extracted woody biomass that is non-renewable, denoted X_{nrb}. as X_{nrb} = (NRB/H)?	VVM	89	Yes, hence X _{nrb} = 0.95	Ok	Ok
VII. A1.2 Qualitative assessment VIII. Was Satellite imagery, combined with field surveys, pertinent literature reviews, and expert Consultations, Literature study and consultations with experts with long-standing knowledge and associated evidence? IX.	VVM	89	Imagery from Africover multipurpose database comprising LANDSAT TM images, The World Resources Institute prepared an atlas of resources, ESRI. (2009) ArcView 9.3. Environmental Systems Research Institute, Inc; KNBS. (2010) Kenya: 2009 Population and Housing Census Highlights. WISDOM - East Africa: Spatial fuelwood production	Ok	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			and consumption analysis of selected African countries. FAO: Rome are applied		
X. Is the conclusion of qualitative assessment an estimate of NRB fraction, using a combination of the above sources of information to substantiate the conclusion?	VVM	89	Yes, therefore calculated as = 0.95	Ok	Ok
	VVM	89			
Step 1. 4: Divide pilot Sales Record into major groups or clusters	VVM	89			
	VVM	89			



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
I. Does the project may promote more than one type of stove? In turn targeting different demographic groups, different fuels or technology?	VVM	89	Only one type of stove i.e. The improved stoves (known as the Carbon Zero Kenya or CZK) are a fixed construction of an inner ceramic liner surrounded by clay bricks and mortar, using a 'rocket' style design. The stove uses wood fuel	Ok	Ok
II. If yes, has PP taken into account possible variations in baseline? such that cluster definitions will depend on customer grouping according to distinct baseline-project conditions	VVM	89	N/A		
III. Is Sales Record divided into major population clusters displaying distinct patterns of emission reduction performance if major distinctions exist?	VVM	89	Only one cluster exists hence no distinct patterns	Ok	Ok
	VVM	89			
Step 1.5: Carry out a qualitative survey (Kitchen Survey)	VVM	89			
I. Is a qualitative survey or "Kitchen Survey" (KS) been carried out for each major group of customers (each cluster provisionally assessed) randomly selected from the relevant set of customers on the pilot Sales Record, following these guidelines as to minimum sample size? Group size < 300: Minimum sample size 30 Group size 300 to 1000: Minimum sample size 10% of group size Group size > 1000 Minimum sample size 100	VVM	89	Yes, 100 households who have been given a Carbon Zero stove and 49 households who had not received a stove were interviewed in September 2010. >1000 interventions require a KS sample of 100	Ok	Ok
II. Has KS involved observations and questionnaires undertaken by an expert survey team visiting kitchens using the improved cook-stove within each major cluster?	VVM	89	Yes, a firm HED Consulting has carried out the survey	Ok	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
III. Has The KS concluded with a formal report on its findings? e.g. typically with a set of clustering options?	VVM	89	Thus HED Consulting has based conclusion on the KS data, that no distinct clusters are identified from within the pilot group, however future KS to explore possibility to redefine clusters	Ok	Ok
IV. Has PP justified final clustering options in PDD as safely measurable and conservative?	VVM	89	Yes, in section B.4 of PDD	Ok	Ok
Step 1.6 Refine demarcation of clusters and populate Project Database	VVM	89			
I. Has PP used the results of the KS to demarcate clusters freshly? this will involve review of the provisional clusters made in step two	VVM	89	As the project database is the distribution record re-organised for the calculation of emission reductions, one cluster has been identified.	Ok	Ok
Baseline emissions	VVM	89			
Step 2.1: Estimate expected variation and improvement in emission reductions					
I. Has An expert statistician been asked to estimate the size of samples necessary to achieve useful results from the Kitchen Tests?	VVM	89	Yes, HED consulting carried out the determination of samples	Ok	Ok
II. Which approach is chosen to determine how large a sample size will give a reasonable confidence interval at 90% confidence?	VVM	89	45 HH were sampled for KT, approach used to determine sample size at a reasonable confidence interval at 90% confidence, is not provided	CL 14.	Ok
Step 2.2: Specify the Units of emission reduction or fuel consumption	VVM	89			
I. Which units are selected by PP for Units of emission reduction? e.g. per stove-year, kitchen-year, meal-year, per product-year or per kilogram of raw	VVM	89	The units of emission reduction selected were tCO ₂ e/stove/year	Ok	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
material					
Step 2.3: Make quantitative measurements (Kitchen Tests)	VVM	89			
I. Have PP measured Baseline emissions for each cluster by conducting quantitative measurements (Kitchen Tests or “KTs”)?	VVM	89	Yes, a 4-day standard KT was carried out in 45 households in October 2010	Ok	Ok
II. Which factors affecting the quantity of GHG emissions are chosen for (Kitchen Tests or “KTs”)? E.g. fuel consumption, cooking practice, fuel handling, and emission factors	VVM	89	Fuel consumption is the factor chosen for KT's	Ok	Ok
III. If Emission factors (EFs) are utilized, are IPCC defaults used? or if alternative values are available are they shown to be more appropriate than IPCC defaults?	VVM	89	Determination of value applied in EF _{pj.bio,non-co2} and EF _{bl.bio,non-co2} is not provided	CL 15.	Ok
IV. Are the KT measurements are applied to both the baseline and project scenarios?	VVM	89	Paired approach is applied where pre and post installation test are carried out on subjects	Ok	Ok
V. Once both sets of data are collected, has project proponent provided an expert statistical analysis of the GHG emission reductions of each household to determine at a 90% confidence level (or better)?	VVM	89	Yes, the mean difference in wood fuel consumption when using the 3-stone fire compared to the CZ stove in HH's is 3.98kg per household per day (90% CI 2.76-5.20)	Ok	Ok
Step 2.4: Calculate baseline	VVM	89			
I. If pp has determined actual baseline and project emissions, has PP used emission factor values as the ones measured in actual baseline and project conditions or in similar conditions?	VVM	89	Not calculated		
II. If not calculated, has PP used relevant IPCC defaults?	VVM	89	PP has used IPCC defaults	Ok	Ok
III. Is emissions factors multiplied by the data on average fuel usage found by the KT's for each customer group, to calculate emission reductions?	VVM	89	Yes, hence; $ER_y = (B_{bl,y} - B_{pj,y}) \times X_{nr,y} \times EF_{bio,CO2}$	Ok	Ok



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			$+ (B_{bl,y} - B_{pj,y}) \times EF_{bio,CH_4} + (B_{bl,y} - B_{pj,y}) \times EF_{bio,N_2O}$ $\times N_y) - (LE_y \times N_y)$		
IV. Kitchen Tests will in practice produce data in one of three forms:	VVM	89			
Approach 1: Are the data values set as constants throughout the project period or set as year by year values?	VVM	89	Not used		
V. For Approach 1; is $BE_y = X_{nrbl,y} \cdot B_{bl,y} \cdot EF_{bl,bio,CO_2} + \Sigma(AF_{bl,i,y} \cdot EF_{af,CO_2,i}) + \Sigma(\text{Non-CO}_2 \text{ emissions during cooking}) + \Sigma(\text{GHG emissions during production of the fuels})$?	VVM	89	Not used		
VI. Approach 2: Are the data values in this case for secondary fuels fractions of energy or mass displaced, or constants throughout the project period? or vary year by year?	VVM	89	Not used		
For Approach 2; Is VII. $BE_y = X_{nrbl,y} \cdot B_{gross,bl} \cdot (1 - \Sigma X_{re,bl,i,y} - \Sigma X_{af,bl,i,y}) \cdot EF_{bl,bio,co2} + \Sigma(X_{af,bl,i,y} \cdot (CEU / \epsilon_{af,bl,i}) \cdot EF_{af,co2,i(ebasis)}) + \Sigma(\text{Non-CO}_2 \text{ emissions during cooking}) + \Sigma(\text{GHG emissions during production of the fuels})$?	VVM	89	Not used		
VIII. Approach 3: Is either of the equation sets presented headings Approach 1 or 2 used?	VVM	89	Approach 3 is applied hence; $BE_y = X_{nrbl,y} \times B_{bl,y} \times EF_{bl,bio,CO_2} + \Sigma(AF_{bl,i,y} \times EF_{af,CO_2,i})$ $+ \Sigma(\text{Non-CO}_2 \text{ emissions during cooking})$ $+ \Sigma(\text{GHG emissions during production of the fuels})$Eqn B.1a	Ok	Ok
IX. In all Approaches is KTs delivering data specific to a	VVM	89	Kg of fuel wood saved per household per day.	Ok	Ok



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single cluster and specific to the chosen Units of emission reduction or fuel consumption? E.g. per stove-year, per kitchen-year, per stove-day, per meal or per product?					
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	Yes three options are available to calculate emissions	Ok	Ok
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed project activity and other evidence provided)?	VVM	89	Yes, provided in baseline report	Ok	Ok
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Refer to (5.e.b) above	-	-
f. Will data and parameters be monitored throughout the crediting period of the proposed project activity?	VVM	90	Yes viz; $X_{nr,pj,y}$, $X_{re,pj,y}$, $X_{af,pj,y}$, Leakage, $(B_{bl,y} - B_{pj,y})$, $AF_{pj,i,y}$, Usage in year y, Age, New Stove Parameters $X_{af,pj,y}$, $AF_{pj,i,y}$, are not included in monitoring plan Gold standard sustainability criteria and monitoring are not provided in PDD	CL 16. CAR 5.	Ok Ok
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	90	Separately, data to be fixed at validation are; $EF_{bl,bio,co2}$, $EF_{pj,bio,co2}$, $EF_{af,co2}$, $EF_{bl,bio,non-co2}$, $EF_{pj,bio,non-co2}$, $EF_{af, non-co2}$, $EF_{bio,prod,co2}$, $EF_{af,prod,co2}$, $EF_{bio,prod,non-co2}$, $EF_{af,prod,non-co2}$, $X_{nr,bl,y}$, $X_{re,bl,y}$, $X_{af,bl,y}$, $EF_{af,prod,non-co2}$, $AF_{bl,i,y}$	Ok	Ok
i. Appropriate and correct?	VVM	90			
ii. Applicable to the proposed project activity?	VVM	90	Yes all data sources and assumptions are	Ok	Ok



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			applicable to the proposed project activity		



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iii. Resulting in a conservative estimate of the emission reductions?	VVM	90	Yes parameters are result in a conservative estimate of the emission reductions	Ok	Ok
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	90	This is a fixed baseline hence baseline data is determined only once	Ok	Ok
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	90	HED consultant has therefore recommended that CO2 Balance consider the figure of mean fuel savings resulting from the use of the CZ stove replacing the 3 stone fire to be estimated at 3.98kg per household per day as more conservative, justification to use parameter 4.70 per Household per day is not provided	CL 17.	Ok
6. Additionality of a project activity					
a. Does the PDD describe how a proposed project activity is additional?	VVM	93	Yes, Additionality is demonstrated using the UNFCCC Tool for the demonstration and assessment of additionality (Version 05.2) which shows that the project would not be possible without VER revenues	Ok	Ok
b. Does the -PDD state the latest version of the additionality tool being used?	VVM	94	Yes, Tool for the demonstration and assessment of additionality (Version 05.2) which is the latest version	Ok	Ok
c. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10			
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Yes, Identification of alternatives to the project is activity Applied	Ok	Ok
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Applied simple cost analysis	Ok	Ok



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Barriers analysis?	EB 39	Ann 10	Yes, applied	Ok	Ok
iv. Common practice analysis?	EB 39	Ann 10	Yes, applied	Ok	Ok
d. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Two alternatives are provided Alternative 2: Continuation of the current situation	Ok	Ok
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Specifics of mandatory laws and regulations overcome by the project are not provided	CL 18.	Ok
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10			
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes, Alternative 1: Stoves are designed, marketed, built and distributed by a stove builder without registering as a Gold Standard VER project.	Ok	Ok
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	Other alternatives available for heat as observed from baseline study are not defined	CL 19.	Ok
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes, Alternative 2: Continuation of the current situation	Ok	Ok
f. Has the project participant included the	EB	Ann	Yes, project participant have included the	Ok	Ok


**BUREAU
VERITAS**

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	39	10	technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant region		
g. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Yes, hence; Alternative 1 Stoves are designed, marketed, built and distributed by a stove builder without registering as a Gold Standard VER project. Alternative 2: Continuation of the current situation – use of traditional cooking with 3-stone fireplaces	Ok	Ok
h. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Yes	Ok	Ok
i. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	N/A		
j. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory	EB 39	Ann 10	Hence the alternatives identified in Sub-step 1a above are in compliance with the mandatory laws and regulations in Kenya.	Ok	Ok


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VERITAS**

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legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.					
k. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	Both investment analysis and barrier analysis are selected		
l. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10			
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	The simple cost analysis (option I) is applied	Ok	Ok
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	Not applied		
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Not applied		
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Not applied		
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Not applied		
m. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10			
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	As the proposed project activity generates no financial or economic benefits other than the VER revenues, the simple cost analysis (option I) is applied	Ok	Ok
ii. Otherwise, use the investment comparison	EB	Ann	Not applied		



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analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	39	10			
n. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Hence alternative 1 amounts to €17 per stove or €734,242 for a project of 23,206 stoves There are no costs for Alternative 2 hence Alternative 2: Continuation of the current situation is less costly than proposed project activity	Ok	Ok
o. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	Not applied		
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Not applied		
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	Not applied		
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the	EB 39	Ann 10	Not applied		


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company undertaking the project activity can be considered.					
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.	EB 39	Ann 10	Not applied		
q. Has the below guideline followed for Sub-step 2c:	EB	Ann	Not applied		


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Calculation and comparison of financial indicators (only applicable to Options II and III)?	39	10			
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	EB 39	Ann 10	Not applied		
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	Not applied		
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Not applied		
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Not applied		
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	Not applied		
vi. Present in the CDM-PDD a clear comparison of	EB	Ann	Not applied		



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the financial indicator for the proposed CDM activity. Please specify details for above.	39	10			
r. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	Not applied		
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Yes, hence It is concluded that the proposed activity is more costly than at least one alternative (Alternative 2)	Ok	Ok
t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	(a) Investment barriers (b) Technological barriers <i>Inter alia</i> (c) Barriers due to prevailing practice <i>inter alia</i>	Ok	Ok
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	Hence none of the identified barriers prevent alternative 2, continuation of cooking on three stone fires, from occurring.	Ok	Ok
u. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10			
i. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to	EB 39	Ann 10	Access to finance and risks associated with investment in the country	Ok	Ok


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real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.					
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.	EB 39	Ann 10	Hence Skilled labour Maintenance of product quality In discussing technological barriers, referenced details pertaining to specific components that have been developed for the project and the specific technology to be utilized are not transparently documented	CL 20.	Ok
iii. (c) Barriers due to prevailing practice: The project activity is the "first of its kind".	EB 39	Ann 10	Habitual use of traditional stoves and intervention by community-based staff to provide education and guidance on improved stove use	Ok	Ok
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Not applied		
v. Has the outcome from Step 3a clearly mentioned	EB	Ann			


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in PDD?	39	10			
w. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10	Hence None of the identified barriers prevent alternative 2, continuation of cooking on three stone fires, from occurring.	Ok	Ok
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.	EB 39	Ann 10	Only two scenarios are defined i.e. continuation of current scenario without carbon finacing, and continuation of status quo, The status quo is not affected by any barriers	Ok	Ok
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	Yes, provided in footnotes	Ok	Ok
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc;	EB 39	Ann 10	Relevant sectoral studies and relevant statistical data is provided in referenced footnotes	Ok	Ok


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(c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.					
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Clear list of alternatives and subsequent analysis of impact by barriers is not provided	CL 21.	Ok
y. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10			
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10			
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10			
z. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Yes, hence Upesi Stoves and The Kenyan Ceramic Jiko and rocket mud stoves are discussed and they are not CDM projects	Ok	Ok
aa. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is	EB 39	Ann 10	Qualitative/Quantitative data to support the claims...It is easy to see that although a number of similar improved cook stove dissemination activities	CL 22.	Ok



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necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.			have been observed in Kenya, all have been subsidised by external funding and have not lead to widespread common use of improved cook stoves in rural Kenya. The repeated efforts at commercialisation suggest that they have not been successful despite subsidising stoves.....low income households such as those targeted by the proposed activity had only 16% of ICS despite making up half the population...is not provided, also refer CL 24 Further, distinction to technologies/activities under comparison a not clear.		
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Hence The distinction between other practices and the proposed activity is that stoves are given in exchange for legal entitlement to the co2e rights, and in the poorest rural communities, thus reaching those unlikely even to buy a subsidised stove.	Ok	Ok
cc. Has it been proved that the project is additional?	EB 39	Ann 10	Yes	Ok	Ok
dd. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	Yes	Ok	Ok
ee. If Investment barrier has been explained, is it	EB 35	Ann 34	Yes, continuation of current scenario is more financially viable an leads to higher emmissions	Ok	Ok



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demonstrated that financially more viable alternative to the project activity would have led to higher emissions? Please explain.					
ff. If Access-to-finance has been explained, is it demonstrated that the project activity could not access appropriate capital without consideration of the CDM revenues? Please explain.	EB 35	Ann 34	Yes, The up-front costs required to develop market efficient cook stoves present a barrier for access to markets.	Ok	Ok
gg. If Technological barrier has been explained, is it demonstrated that a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.	EB 35	Ann 34	Continuation of the current scenario of 3 stone stove	Ok	Ok
hh. If prevailing practice barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	Yes, it is demonstrated that the prevailing practice would have led to implementation of a technology with higher emissions as it comprises limited dissemination of ICS due to limited accessibility, know how and barriers demonstrated	Ok	Ok
ii. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	Not applied	Ok	Ok
jj. Have the project participants identified the most relevant barrier?	EB 35	Ann 34	Hence investment barrier applying simple cost analysis is the most relevant barrier	Ok	Ok



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kk. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant barrier? Please explain.	EB 35	Ann 34	yes, energy sector publications, research, FAO data, government statistics are availed	Ok	Ok



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<i>Prior consideration of the clean development mechanism</i>					
Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes, project activity is after public webhosting at Carbonzero federation and at local community level	Ok	Ok
If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed project activity?	VVM	96	Evidence that the CDM benefits were considered necessary in the decision to undertake the project as a proposed project activity is not provided refer CL 2 above - closed		Ok
Is the start date of the project activity, reported in the PDD, in accordance with the "GS requirements", section V?	VVM	97	Hence start date is 1/12/2010	Ok	Ok
Does the project activity require construction, retrofit or other modifications?	VVM	97	No	Ok	Ok
If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	Not applicable		
Is it a new project activity (project activities with starting date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	This is a GS project	Ok	Ok
a. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their	VVM	99	Not applicable		



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intention to seek CDM status? (Provide reference to such confirmation from Hos Party DNA and/or UNFCCC secretariat).					
b. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	100	This is a GS project	Ok	Ok
ii. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	100			
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed project activity?			Not applicable		
iii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	100	Not applicable		
a. contract with consultants for /PDD/methodology services?	VVM	100	Not applicable		
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERS (including correspondence with multilateral financial institutions or carbon funds)?	VVM	100	Not applicable		



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c. evidence of agreements or negotiations with a DOE for validation services?	VVM	100	Not applicable		
d. submission of a new methodology to the CDM Executive Board?	VVM	100	Not applicable		
e. publication in newspaper?	VVM	100	Not applicable		
f. interviews with DNA?	VVM	100	Not applicable		
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	100	Not applicable		
a. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	103	No		
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	yes, continuation of 3-stone stove	Ok	Ok
c. Does the list of alternatives given in the PDD ensure that:	VVM	104			
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed project activity?	VVM	104	Yes , list of alternatives includes one of the options that the project activity is undertaken without being registered as a proposed project activity	Ok	Ok
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed project activity?	VVM	104	Yes, list contains two plausible alternatives that BVC, on the basis of its local and sectoral knowledge, considers to be viable	Ok	Ok
iii. the alternatives comply with all applicable and enforced legislation?	VVM	104	Yes , there are no enforced legislation	Ok	Ok



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<i>b. Investment analysis</i>					
a. Has investment analysis been used to demonstrate the additionality of the proposed project activity?	VVM	106	Not applied		
<i>c. Barrier analysis</i>					
a. Has barrier analysis been used to demonstrated the additionality of the proposed project activity?	VVM	113	Yes		
b. If yes, does the PDD demonstrate that the proposed project activity faces barriers that:	VVM	113			
i. prevent the implementation of this type of proposed GS project activity?	VVM	113	Yes hence; Investment barriers (Government funding Private funding) Technological barriers, Barriers due to prevailing practice	Ok	Ok
ii. do not prevent the implementation of at least one of the alternatives?	VVM	113	Yes – continuation of baseline	Ok	Ok
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	114	No		
d. Were the barriers determined as real by:	VVM	115			
i. assssing the available evidence and/or	VVM	115	The barriers determined as real by undertaking	Ok	Ok


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undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?			interviews with relevant individuals at project area		
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	115	Energy sector publications, research, FAO data, government statistics are availed	Ok	Ok
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	115	Substantiation was not relied on basis of PP	Ok	Ok
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed project activity and would not equally prevent implementation of <i>at least one of</i> the possible alternatives, in particular the identified baseline scenario?	VVM	115	Yes	Ok	Ok
d. Common practice analysis					
a. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	117	No	Ok	Ok
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to	VVM	117			



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demonstrate additionality?					
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global.	VVM	118	Kenya as a country is chosen to discuss prevailing practice and is deemed relevant	Ok	Ok
d. Was a region other than the entire host country chosen?	VVM	118	No	Ok	Ok
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	118			
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than project activities, have been undertaken in the defined region?	VVM	118	local and sectoral expertise was used to determine to what extent similar and operational projects	Ok	Ok
g. Are similar and operational projects, other than project activities, already "widely observed and commonly carried out" in the defined region?	VVM	118	Yes similar and operational projects, other than project activities, already "widely observed and commonly carried out" in the defined region	Ok	Ok
h. If yes, was it assessed whether there are essential distinctions between the proposed project activity and the other similar activities?	VVM	118	Yes, hence the essential distinctions between the proposed project activity and the other similar activities is that project will distribute the ICS for free in exchange of carbon rights	Ok	Ok
7. Monitoring plan					
a. Does the PDD include a monitoring plan?	VVM	120	Yes	Ok	Ok
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed	VVM	120	Yes, Version 03	Ok	Ok



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project activity?					
c. Were the list of parameters required by the the selected methodology identified?	VVM	121	Yes, 10 parameters have been identified	Ok	Ok
d. Does the monitoring plan contains all necessary parameters?	VVM	121	Yes	Ok	Ok
e. Are the parameters clearly described?	VVM	121	Yes	Ok	Ok
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	121	Yes	Ok	Ok
g. Specific questions per methodology regarding parameters.			Value of Data has not been provided in a number of parameters.	Ok	Ok
h. Are the monitoring arrangements described in the monitoring plan feasibl within the project design?	VVM	121	Yes, as responsibilities for monitoring plan has been documented and flow of monitoring information provided.	Ok	Ok
i. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed project activity can be reported ex post and verified:	VVM	121			
i. data management procedures?	VVM	121	Project database will be created	Ok	Ok
ii. quality assurance procedures?	VVM	121	Third party will be engaged to reinforce data gathering and monitoring tasks	Ok	Ok
iii. quality control procedures?	VVM	121	Third party direction and assessment of study	Ok	Ok
8. Sustainable development					
a. Does the project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Yes. The project activity will save the forest cover which has continued to dwindle over the years due to sharp rise of the population which will result in biodiversity improvement and financial savings too. Health related issues as raised by WHO in use of	Ok	Ok



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			the ancient technology will also be eliminated/improved within the project cycle.		



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b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed project activity to the sustainable development of the host Party?	VVM	124	Yes. Furthermore the project was exempted from Environmental Impact Assessment process by the DNA	Ok	Ok
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed project activity prior to the publication of the PDD on the UNFCCC website?	VVM	126	Yes despite the project being exempted from the Environmental Impact Assessment process by the DNA. The invitation was all inclusive as all the stakeholders were invited through an open process i.e. by word of mouth, email and the local daily newspaper, The Daily Nation and personal invitation as well. A meeting was held on April 27, 2010 at the Rhino Ark Kinale, Forest Road Office, Aberdares.	Ok	Ok
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed project activity been invited?	VVM	127	Yes, as selection of the comments are pasted in the PDD as received from 69 feedback questionnaires. Collected after the stakeholder meeting.	Ok	Ok
c. Is the summary of the comments received as provided in the PDD complete?	VVM	127	Yes as stated above	Ok	Ok
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	127	No, as no stakeholder comments needed to be taken into account leading to no modifications of any aspects of the project.	Ok	Ok
10. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	No, project was exempted from Environmental Impact Assessment process by the DNA as per the letter provided by the National Environment Management Authority.	Ok	Ok
b. Have the project participants undertaken an	VVM	130	N/A		



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analysis of environmental impacts?					
c. Does the host Party require an environmental impact assessment?	VVM	130	N/A		
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	130	N/A		

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APPENDIX B, PASSPORT CHECKLIST				
A. Project Title				
a. Is the Project title given in the Passport the same as in the PDD?	T-1.6	Yes, Aberdares Improved Cook Stoves	Ok	Ok
B. Project Description				
a. Is the Project description given in the Passport consistent with the one given in the PDD?	T-1.6	Yes, project will distribute/construct the improved stoves (known as the Carbon Zero Kenya or CZK) are 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. Baseline is the three stone fire	Ok	Ok
b. Has the estimated start date of construction been given under the Project description?		Estimated start date of construction: July 2010 – passport Construction of the rest of stoves will not take place till successful registration of the project – PDD	Ok	Ok
C. Proof of project eligibility				
C.1. Scale of Project				
a. Has the scale of the Project activity been defined as per Gold Standard Toolkit Section 1.2.1?	T-1.2.1	-		
b. Does the project proponent have a written statement (e.g. in the PDD) against de-bundling of the project? (De-bundling of small and large-scale projects to create micro-scale projects is not allowed).	T-3.5.1	Yes, in A.4.5 of PDD	Ok	Ok



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C.2. Host Country				
a. Does the host country have cap on its GHG emissions?	T-1.2.2	Please correct host country reference	CAR 6.	Ok
b. If the answer to the above question is yes, then has the Project proponent provided an official approval from the relevant local authorities stating that an equivalent amount of allowances will be retired to back-up the GS VERs issued?	T-1.2.2	Not required for Kenya as there is no cap on emissions	Ok	Ok
c. If the host country does not have a cap on its GHG emissions, has it been stated in the Passport?	T-1.2.2			
C.3. Project Type				
a. Is the Project a Renewable Energy Supply Project or an End-use Energy Efficiency Improvement Project? (If not, the validation has to be aborted)	T-1.2.3	This is a “End-use Energy Efficiency Improvement” Project	Ok	Ok
b. Has the Project type and eligibility of the Project activity been defined as per Annex C of Gold Standard Toolkit?	T-1.2.3	Yes in table C-1	Ok	Ok
c. Has a previous announcement of the project going ahead without the revenues from carbon credits been made?	T-1.2.3	No	Ok	Ok
d. If the answer to the above question is yes, has the project subsequently been cancelled or the design has been significantly revised?	T-1.2.3			
e. If the answer to question © is no, have the Project Proponents provided a pre-announcement statement under section C.3 in the Gold Standard Passport, attesting that no such previous announcement has	T-1.2.3	Project Proponents have not provided a pre-announcement statement under section C.3 in the Gold Standard Passport, attesting that no such previous	CAR 7.	Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
been made?		announcement has been made		
7789C.4. Greenhouse Gas				
a. Does the project reduce emissions of one or more of the following an GHG? Carbon dioxide, methane, nitrous oxide?	T-1.2.4	Please clarify which emissions; Carbon dioxide, methane, nitrous oxide are reduced by project, refer B.3 of PDD	CL 23.	Ok
C.5. Project registration type				
a. Does the project apply the correct project cycle (regular vs. pre-feasibility assessment)?	T-3.5.1			
b. Is the Project activity a regular registration?	T-1.2.5	Yes		Ok
c. Is the Project activity a retroactive registration?	T-1.2.5	No		Ok
d. If the answer to the above question is yes, has the Project proponents applied to the Gold Standard for the pre-feasibility assessment?	T-1.2.5	N/A		
e. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE?	T-1.2.5	N/A		
f. Does the Project activity need preliminary evaluation? (Large hydro or palm-oil related project)	T-1.2.5	No		Ok
g. If the answer to the above question is yes, has the Project proponents applied to the Gold Standard for the pre-feasibility assessment?	T-1.2.5	N/A		
h. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard	T-1.2.5	N/A		



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
pre-feasibility assessment feedback to the DOE?				
i. Has the Project activity been rejected by UNFCCC?	T-1.2.5	No		Ok
j. If the answer to the above question is yes, has the Project proponents applied to the Gold Standard for the pre-feasibility assessment?	T-1.2.5	N/A		
k. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE?	T-1.2.5	N/A		
l. Are there any double counting occurring with other certification schemes?	T-3.5.1	No		
D. Unique project identification				
D.1. GPS-coordinates of Project location				
a. Has the Project proponent stated the exact GPS coordinates of Project location for point source activities and the boundaries for projects spread over a broader area?	T-1.6	Yes, hence latitude 0° 53' 34.38" S and Longitude 36°40'53.25" E central coordinates for the project has been given, coordinates showing exact project areas are provided in the PDD – not provided in PDD	CL 24.	Ok
b. For Programme of Activity projects have the Project Proponent explained the reasoning behind the definition of the project location and coordinates carefully?	T-1.6	N/A		
D.2. Map				
a. Have the coordinates been illustrated with a map? (Optional)	T-1.6	Yes		Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
<i>E. Outcome stakeholder consultation process</i>				
<i>E.1. Assessment of stakeholder comments</i>				
a. Has the Project proponent inserted the "Table ii- Assessment of Stakeholder Comments" in section B5 of the Stakeholder Consultation Report?	Annex R, E.1	Yes, pasted in section E.1 of passport		Ok
b. Has the Project proponent inserted a summary of alterations based on stakeholders comments?	Annex R, E.1	No summary of comments attached, as Project proponent claims no major concerns to project are encountered		Ok
c. Has an invitation tracking table been filled out?	T-3.5.1	Invitation tracking table has not been filled out in passport	CAR 8.	Ok
d. Are copies of invitations published/sent out available?	T-3.5.1	yes and these were seen at site visit		Ok
e. Has a non-technical summary in local language been included in the Local Stakeholder Consultation report, as well as an English summary?	T-3.5.1	Local language was not included in non technical summary due to low level of local literacy in local language. An English version was provided to the local Chiefs/Community Officers for onward briefing		Ok
f. Is a participant list presented?	T-3.5.1	Resident stakeholders were invited to provide feedback in Chiefs/Community Offices a participant list was not created however; feedback forms were collated and scanned as evidence of those who participated.		Ok
g. Are stakeholder evaluation forms available?	T-3.5.1	yes, and are also uploaded on co2balance website		Ok
h. Are minutes of the meeting(s) available?	T-3.5.1	Minutes of the LSC are included in the LSCR. For SFR as no meeting was held, the feedback round was conducted on line and via feedback forms		Ok
i. Has due account been made on comments received?	T-	Passport was updated on the 12th April following		Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
	3.5.1	completion of SFR and includes account of stakeholder feedback		



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
j. If stakeholders required a revisit for the sustainable development assessment, has this been done?	T-3.5.1	No revisit was necessary		Ok
k. Is the consolidated sustainable development matrix presented based on own 'preliminary' scoring and the matrix from the outcome of the blind stakeholder exercise.	T-3.5.1	Yes		
l. Were comments accepted and received by email or other means actually considered?	T-3.5.1	yes, comments were received by email and from local community Chief Offices and reviewed		Ok
<i>E.2. Stakeholder Feedback Round (Can be performed in parallel to the validation process)</i>				
a. Has the Project proponent organized a stakeholder feedback round to give feedback to the stakeholders on how their comments have been taken into account?	T-2.11	yes invitations were circulated in January 2011		Ok
b. Did the stakeholder feedback round include a physical meeting? (optional)	T-2.11	no, 16 feedback forms were received for SFR		Ok
c. Have all the stakeholders invited for participation in the Local Stakeholder Consultation been included in the Stakeholder Feedback Round?	T-2.11	Yes		Ok
d. Have all of the following documents been made available to the public for a period of at least two months prior to completion of the validation: a. The Latest version of the complete PDD (including the EIA, if applicable); b. A non-technical summary of the project (in appropriate local language(s)); and English summary. c. The (revised) Passport	T-3.5.1	Yes PDD, Passport, LSCR were made publicly available from January 17 th 2011 to 30 th March 2011		Ok


**BUREAU
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VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
d. if applicable, supporting documentation such as an environmental impact assessment (EIA) (if available, in appropriate local language(s)); in the case of an EIA, at least a one-page English summary is required e. Additional, non-translated information must be made available as well and shall be translated to the local language upon any justified request of a stakeholder.				
e. Did the Project proponent also prepare hard copies to be publicly displayed at local places like the post Office, municipality, etc?	T-2.11	yes, hard copies of PDD, Passport and LSCR were placed at community leaders offices like Chiefs and their assistants		
f. If the Project is a retroactive Project, did the stakeholder feedback round include a site visit by the stakeholders participating in the process?	T-2.11	No		
g. If the Project is a retroactive Project, did the Project proponent follow the guidance provided by the Gold Standard in the pre-feasibility assessment?	T-2.11			
h. Does the stakeholder feedback round report given in the Passport include the following information: a. How the feedback round was organized (A description of the procedure followed to invite comments, including addressing all the details of the oral hearing such as place, date, participants, language, local or national Gold Standard NGO supporters, etc.), b. What the outcomes of the feedback round are (All written or oral comments received.) c. How did the Project proponents followed up on	T-3.5.1	SFR was performed by emailing non-resident stakeholders and facilitating feedback by local stakeholders in all 16 responses were received		Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
the feedbacks. (The argumentation on whether or not comments are taken into account and the respective changes to the project design.)				
F. Outcome Sustainability assessment				
F.1. 'Do no harm' Assessment				
a. Has the Project proponents considered the critical issues for their Project type that are listed in Annex C of Gold Standard?	T-2.4.1	No, Project proponents have not considered all the critical issues for their Project type that are listed in Annex C of Gold Standard	CAR 9.	Ok
b. Have the Project participants discussed all of the safeguarding principles with the stakeholders?	T-2.4.1	Yes, provided in section F.1		Ok
c. Have the Project participants introduced mitigation measures for the safeguarding principles with a medium to high risk?	T-2.4.1	No medium to high risks observed in assessment		Ok
d. Does the 'Do No Harm' Assessment base on accurate information and have the reference sources been included?	T-3.5.1	No reference sources provided in "do no harm assessment"	CL 25.	Ok
F.2. Sustainable Development matrix				
a. Has the Sustainable Development Matrix table been inserted in the Passport?	Annex R, F.2	Yes		Ok
b. Has the project been scored on the following indicators?: a. Environmental b. Social c. Technological d. Economic	T-2.4.2	Yes		Ok
c. Have the corresponding parameters to represent the	T-	Yes		Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
status of each of the indicators been selected?	2.4.2			
d. Is the baseline situation and the situation aimed for the project described for each parameter?	T-2.4.2	Yes		Ok
e. Are the indicators connected to the localized MDG's (Milenium Development Goals) when possible?	T-2.4.2	Yes		Ok
f. Was the reason for choice of the parameters described?	T-2.4.2	Yes		Ok
g. Have all of the indicators been scored 'negative', 'positive' or 'neutral' in comparison with the baseline situation?	T-2.4.2	Yes		Ok
h. If there are any 'negative' indicators, are there any mitigation measures for these indicators?	T-2.4.2	There is no negative indicators identified		Ok
i. Has the matrix been filled by the stakeholders during the Local Stakeholder Consultation?	T-2.4.2,	-		
j. Were there any negative scores duing the stakeholder consultation?	T-2.4.2	No		Ok
k. If the answer to the above question is yes, has the sustainability assessment been revisited?	T-2.4.2	N/A		
l. Have the project indicators been classified in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix?		project indicators classification is not in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix	CL 26.	Ok
m. Does the project contribute positively to least at two of the three categories and neutral to the third category?	T-2.4.2,	yes		Ok
n. Is the matrix based on existing sources of information? (can include data from existing reports,	T-3.5.1	Yes, external sources and opinions are referenced as well as experience from other projects		Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
results from stakeholder consultations, and experiences with similar projects in similar situations, etc. Where data are unavailable or are of poor quality, or severely outdated, independent opinions and expert judgments can also be used.)				
o. Are the data or expert opinions presented in a sufficient degree of detail and transparency?	T-3.5.1	Yes, the data and opinions presented are in a sufficient degree of detail and transparency		Ok
p. Are the data uncertainties clearly stated, if possible with associated margins of error?	T-3.5.1	Yes		
q. Is the scoring reproducible and verifiable?	T-3.5.1	Yes, scoring reproducible and verifiable		Ok
r. Does the project demonstrate clear benefits in terms of sustainable development?	T-2.4.2	Yes, improvement in Air quality, Water quality and Quantity, Soil condition, Biodiversity, Quality of employment, Livelihood of the poor, Access to affordable and clean energy services, Quantitative employment and income generation, Technology transfer and technological self-reliance		Ok
G. Sustainability Monitoring Plan				
a. Are the mitigation actions included in the monitoring plan?	T-2.4.3	None of the Indicators requires a monitoring plan		Ok
b. Are all the non-neutral indicators included in the monitoring plan?	T-2.4.3	yes hence; improvement in Air quality, Water quality and Quantity, Soil condition, Biodiversity, Quality of employment, Livelihood of the poor, Access to affordable and clean energy services, Quantitative employment and income generation, Technology transfer and technological self-reliance		Ok



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
		Are monitored		



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
c. Is the current status (or expected status under the baseline) of the parameters, the future status and the way they will be monitored described in the monitoring plan?	T-2.4.3	Yes KS's and KPT's, production QC		Ok
d. Have the project proponents identified parameters that can be used to properly monitor each non-neutral Sustainable Development Indicator according Annex I of the Toolkit?	T-2.4.3	Yes		Ok
e. Are chosen parameters relevant to the indicators?	T-3.5.1	Yes		Ok
f. Are these parameters planned to be monitored over the crediting period and on a recurrent basis?	T-2.4.3	Yes Biannually and quarterly		Ok
g. Are all mitigation measures put in place to prevent violation or the risk of violating a safeguarding principle of the 'Do No Harm' Assessment or to 'neutralize' a Sustainable Development Indicator included in the monitoring plan?	T-2.4.3	Yes		Ok
h. Is the sustainability monitoring plan clear about who will monitor with what frequency?	T-3.5.1	Yes		Ok
i. Is the monitoring plan feasible?	T-3.5.1	Yes		Ok
ANNEX 1 ODA declaration				
a. Does the project receive ODA under the condition that the credits coming out of the project are transferred to the donor country?	T-3.5.1	No, as stipulated provided in declaration letter		Ok
b. Is a scanned copy of the Official Development Assistance Declaration statement signed by the project owner given in Annex 1?	Annex D	Yes		Ok

Table 3 Resolution of Corrective Action and Clarification Requests





Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
Details in section A.4.2 description of how environmentally safe and sound technology and knowhow is being applied by the project activity interalia technology transfer to the Host Party(ies) for application in the project activity is not provided	CAR 1.	Details have been added to section A.4.2	Reviewed and accepted included information hence CAR is closed
annual estimates over a 7 years crediting period given as 67,338 tonnes CO ₂ e However years summed in tableA.4.3 are not corresponding to crediting period	CAR 2.	The crediting period has been adjusted to suit calendar years, i.e. crediting period now begins 01/01/2011, so years included are now 2011 – 2017. Annual average estimate is now 64,658.	Ok CAR is closed
Baseline for the proposed project activity with reference to the chosen project category in B.4 is not provided	CAR 3.	Reference to the project category and details of the baseline fuel use have been added to section B.4	Baseline is now included hence CAR is closed
Specific frequency of monitoring e.g. kitchen surveys is not provided	CAR 4.	The PDD has been updated to specify monitoring frequency of parameters.	Monitoring frequencies and parameters are now included hence CAR is closed
Gold standard sustainability criteria and monitoring are not provided in PDD	CAR 5.	Gold standard sustainability criteria and monitoring are detailed in the GS passport as specified in the GS toolkit section 2.4.3 pg 42.	Passport is now updated with Sustainability monitoring plan hence CAR is closed



 VALIDATION REPORT

Please correct host country reference	CAR 6.	corrected	Ok
Project Proponents have not provided a pre-announcement statement under section C.3 in the Gold Standard Passport, attesting that no such previous	CAR 7.	Preannouncement is now included	Ok
Invitation tracking table has not been filled out in passport	CAR 8.	Passport updated	Checked and closed
No, Project proponents have not considered all the critical issues for their Project type that are listed in Annex C of Gold Standard	CAR 9.	Updated in passport	Checked and closed



VALIDATION REPORT

longitude and latitude details not provided.	CL 1.	The latitude and longitude of the central point of the area have been added to the PDD (section A.4.1.4)	Version 0.2 of PDD is now updated hence CL is closed
evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity is not provided	CL 2.	A letter from the co2balance UK Ltd. directors attesting to the prior consideration of VER revenues has been uploaded to the GS registry as file 'Aberdares financial commitment'. This is also shared with BV.	OK and on basis consideration of prevailing practice demonstration, core business of PP hence the CL is closed
Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets) are not correctly referenced	CL 3.	Reference to specific file names have now been used in the PDD.	Ok closed
Expected operational lifetime of the project activity is not in years and months	CL 4.	Section C.1.2 of the PDD has been amended accordingly.	Ok closed
length of the first crediting period is not in years and months	CL 5.	Section C.2.1.2 of the PDD has been amended accordingly.	Ok closed
Additionality tools applied are not mentioned in section B.1	CL 6.	The versions of the additionality tools are now cited in section B.1	Ok closed
PP has not considered each applicability criterion in turn and explained in a transparent manner how the project fulfils each of them.	CL 7.	The applicability of the methodology to the proposed project activity has been clarified in section B.2 of the PDD.	Ok reviewed in version 0.2 of PDD and closed



VALIDATION REPORT

a) In defining the fuel collection area section B.3 of PDD, Not clear which information is referenced by footnote "For full details see annex 3." b) Footnotes through-out PDD are not numbered	CL 8.	a) A clearer reference has now been made. b) Footnotes are now numbered	Ok closed
Transparent justification for inclusion of gases within the project boundary is not provided	CL 9.	The methodology states on page 3 ' <i>It is recommended that Project proponents include all the green-house gases marked below, and assess on a project-by-project basis whether or not their measurement or estimation is feasible or their quantitative impact is significant.</i> '	Ok hence closed
Baseline report specified the fuels and energy sources used through the year in the project kitchens, in both the baseline and project scenarios in section 3 but the summary for subsequent steps is summarized in PDD - <i>refer section 4 of methodology pg5</i>	CL 10.	The PDD, section B.4 has been amended.	Ok closed
HED consultant has determined in baseline study whether subject are doubling cook-stoves as space-heaters or not (baseline report) but conclusion is not clear in PDD	CL 11.	The PDD, section B.4 has been amended.	Ok closed
PP have assessed have determined the fractions attributable to fuel or energy types RE and AF at the time of the proposed project start, but an estimate/prediction of future trends, by attributing year-by-year values is not provided	CL 12.	The PDD, section B.4 has been amended.	Ok closed
Source of data unit for 1999 rural population 60,075 (Aberdares sub district) is not provided	CL 13.	The report has been updated to include a reference.	Ok closed
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VALIDATION REPORT

45 HH were sampled for KT, approach used to determine sample size at a reasonable confidence interval at 90% confidence, is not provided	CL 14.	The sample size used for the KPT's in Aberdares was an estimate based on information provided in Section 4.2 of the GS methodology and the standardized Kitchen Performance Test protocol (http://www.pciaonline.org/node/1049). Both documents take into account the large variations in cooking patterns often seen between biomass dependant households. Assuming paired sampling (and analysis) the GS methodology states that the usual KPT sample size is between 20-60 households while the standardized KPT protocol recommends at least 30 households are tested when selecting from a small population (<300 households). We were therefore confident that a sample size of 40 (plus an extra 5 households to allow for loss to follow up) would be sufficient to provide the required precision without wasting resources by carrying out unnecessary KPT's. The plan was carry out statistical tests on the data and if the necessary precision was not achieved then further KPT could be carried out. In fact the required precision was achieved and no further tests were necessary.	In view of additional information provided, this CL is closed
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VALIDATION REPORT

Determination of value applied in $EF_{pj, bio, non-co2}$ and $EF_{bl, bio, non-co2}$ is not provided	CL 15.	Please refer to tab 'B62 Wood EF calc' in excel file 'PDD supplementary data Aberdares v.02' for details of the calculations. This is also referenced in the parameter tables in B.6.2.	Ok closed
Parameters $X_{af, pj, y}$, $AF_{pj, i, y}$, are not included in monitoring plan	CL 16.	Please refer to PDD section B.7.1, where the monitoring of these parameters is discussed.	Ok closed
HED consultant has therefore recommended that CO2 Balance consider the figure of mean fuel savings resulting from the use of the CZ stove replacing the 3 stone fire to be estimated at 3.98kg per household per day as more conservative, justification to use parameter 4.70 per Household per day is not provided	CL 17.	The more conservative fuel saving recommended has now been used in the PDD, the number of stoves to be built is now 28,594.	Ok closed
Specifics of mandatory laws and regulations overcome by the project are not provided	CL 18.	As stated in PDD section B.5 sub-step 1b there are no laws in Kenya that contradict the aims of the project activity.	BVC has checked and agrees there are no regulations and legislations hence the CL is closed
Other alternatives available for heat as observed from baseline study are not defined	CL 19.	An allowance for some retained use of 3-stone fire for heating has been clarified in 'Alternative 1'.	Ok closed
In discussing technological barriers, referenced details pertaining to specific components that have been developed for the project and the specific technology to be utilized are not transparently documented	CL 20.	Please refer to the confidential file 'details of stove components developed' which has been sent and will be uploaded to the GS registry.	Ok closed
Clear list of alternatives and subsequent analysis of impact by barriers is not provided	CL 21.	The discussion has been clarified, refer to sub-step 3a.	Ok closed



VALIDATION REPORT

Qualitative/Quantitative data to support the claims...It is easy to see that although a number of similar improved cook stove dissemination activities have been observed in Kenya, all have been subsidised by external funding and have not lead to widespread common use of improved cook stoves in rural Kenya. The repeated efforts at commercialisation suggest that they have not been successful despite subsidising stoves.....low income households such as those targeted by the proposed activity had only 16% of ICS despite making up half the population...is not provided, also refer CL 24 Further, distinction to technologies/activities under comparison a not clear.	CL 22.	This has been addressed.	Ok closed after review of version 2 of PDD
Please clarify which emissions; Carbon dioxide, methane, nitrous oxide are reduced by project, refer B.3 of PDD	CL 23.	Provided in version 2 of PDD	Ok closed after review of version 2 of PDD
hence latitude 0° 53' 34.38" S and Longitude 36°40'53.25" E Central coordinates for the project has been given, coordinates showing exact project areas are provided in the PDD – not provided in PDD	CL 24.	Provided in version 2 of PDD	Ok closed after review of version 2 of PDD
No reference sources provided in "do no harm assessment"	CL 25.	These were omitted and are provided in version 2 of PDD	Ok closed after review of version 2 of PDD
project indicators classification is not in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix	CL 26.	These are now updated in PDD	Ok closed after review of version 2 of PDD

