

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 1

**CLEAN DEVELOPMENT MECHANISM
SMALL-SCALE PROGRAM ACTIVITY DESIGN DOCUMENT FORM (CDM-SSC-CPA-DD)
Version 01**

CONTENTS

- A. General description of CDM programme activity (CPA)
- B. Eligibility of CPA and Estimation of Emission Reductions
- C. Environmental Analysis
- D. Stakeholder comments

Annexes

- Annex 1: Contact information on entity/individual responsible for the CPA
- Annex 2: Information regarding public funding
- Annex 3: CPA_XX_Annex 3 Baseline Information
- Annex 4: CPA_XX_Annex 4 Proof of Start Date
- Annex 5: CPA_XX_Annex 5 Stakeholder Report
- Annex 6: CPA_XX_Annex 6 EIA Report
- Annex 7: CPA_XX_Annex 7 University of Nairobi Report on CZK3 stove performance
- Annex 8: CPA_XX_Annex 8 Kenya NRB Fraction Final Report 30 March 2010
- Annex 9: CPA_XX_Annex 9 Emission Reductions for CPA XX ex ante
- Annex 10: CPA_XX_Annex 10 EIA approval certificate

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 2

NOTE:

- (i) This form is for submission of CPAs that apply a small scale approved methodology using the provision of the proposed small scale CDM PoA.
- (ii) The coordinating/managing entity shall prepare a CDM Small Scale Programme Activity Design Document (CDM-SSC-CPA-DD)^{1,2} that is specified to the proposed PoA by using the provisions stated in the SSC PoA DD. At the time of requesting registration the SSC PoA DD must be accompanied by a CDM-SSC CPA-DD form that has been specified for the proposed SSC PoA, as well as by one completed CDM-SSC CPA-DD (using a real case). After the first CPA, every CPA that is added over time to the SSC PoA must submit a completed CDM-SSC CPA-DD.

¹ The latest version of the template form CDM-CPA-DD is available on the UNFCCC CDM web site in the reference/document section.

² At the time of requesting validation/registration, the coordinating managing entity is required to submit a completed CDM-POA-DD, the PoA specific CDM-CPA-DD, as well as one of such CDM-CPA-DD completed (using a real case).

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 3

SECTION A. General description of small scale CDM programme activity (CPA)

A.1. Title of the small-scale CPA:

Efficient Cook Stove Programme: Kenya – CPA No.<XX><Title> <Name of CPA implementer or Partner Organization>
XX/XX/20XX
Version 0X

CPA-DD Revision History

Version	Date	Notes
<#>	<Date>	<Notes>
<#>	<Date>	<Notes>

A.2. Description of the small-scale CPA:

The SSC-CPA “Efficient Cook Stove Programme: Kenya – CPA No.<XX><Title> <Name of CPA implementer or Partner Organisation>” involves the distribution of domestic fuel-efficient cooking stoves by the <Project Proponent> to households within the <CPA Location>. The efficient stoves are based on a design developed by <Entity Responsible for Stove Design>, and tested independently, and will be installed by the <Project Proponent> for users in exchange for the rights to the CERs. It is the revenue from the sale of CERs only that will fund the installation process.

Traditionally, families in <CPA Location> cook on an open fire, utilizing the ‘three stone’ method for heating pots. This method is quite inefficient and leads to the unsustainable usage of non-renewable biomass in the cooking process. The <name of stove type> will lead to a reduction in the annual usage of biomass for users by <relative efficiency value> per cent. The majority of families do not have access to the market for fuel-efficient cooking stoves for economic reasons.

Users will enter into an agreement with the CME transferring rights to the CERs generated by CPA in return for the free installation of the stove and its on-going maintenance over the lifetime of the CPA. The users must also agree to submit to the monitoring programme as described in the *Efficient Cook Stove Programme: Kenya PoA-DD* and the proposed CPA-DD.

The stove components will be manufactured in Kenya. A standardized, pre-cast combustion chamber will be manufactured at a central location and distributed to the responsible contractor, who will then assemble the stoves in situ. The contractor will be trained to build each stove to a pre-determined standard, eliminating variation in performance.

Monitoring data collected during the installation and operation of the stoves will be captured in an electronic data management system, or monitoring database. From this data, the emissions reductions of the CPA will be determined. This system will be available for review by the Designated Operational Entity (DOE) during the validation and verification.

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 4

The <Project Proponent> has undertaken a thorough stakeholder engagement process for the proposed CPA under the PoA, ensuring that stove users understand the installation agreement, are trained in the usage of the stove and are able to give adequate feedback on their usage.

Contribution to sustainable development

The CPA contributes to the sustainable development of the <CPA Location or Title> in a number of ways:

- i. Environmental
 - The CPA will help significantly reduce greenhouse gas emissions over its lifetime
 - The CPA will help reduce the use of non-renewable biomass from forests, assisting the maintenance of existing forest stock, protecting natural forest eco-systems and wildlife habitats
 - The protection of standing forests will ensure the maintenance of watersheds that regulate water table levels and prevent flash flooding
- ii. Social
 - Considerably less time will need to be spent collecting wood fuel for the family home thereby reducing the work burden on rural families and presenting alternative opportunities for economic development
 - The amount of indoor pollutants from the burning of biomass in the family home will be reduced. Less carbon dioxide, carbon monoxide and particulates will be emitted.
- iii. Economic
 - The CPA will help develop a section of the rural economy in the installation, maintenance, and monitoring.
 - Costs incurred in the purchase of fuel will be reduced through increased thermal efficiency

The proposed CPA will deliver a long-term, secure and simple contribution to sustainable development in the project area that, without carbon finance, would not exist.

A.3. Entity/individual responsible for the small-scale CPA:

<Name of CPA Implementer> is the CPA Implementer. <Name of Coordinating/Managing Entity> is the managing entity of the PoA. The CPA Implementer <is/is not> a named Project Participant in the PoA.

A.4. Technical description of the small-scale CPA:

A.4.1. Identification of the small-scale CPA:

Efficient Cook Stove Programme: Kenya – CPA No.<XX><Title> <Name of CPA implementer or Partner Organization>

A.4.1.1. Host Party:

Kenya



A.4.1.2. Geographic reference or other means of identification allowing the unique identification of the small-scale CPA (maximum one page):

Below is the geographic reference to allow unique identification of the <Title of CPA>. The project activity is limited to a region within Kenya being <Project Region>. GPS coordinates for the location boundary below. Each stove built as part of the project activity will be assigned a unique GPS coordinate, which is uploaded to the project database managed by co2balance UK. Contact details as follows <contact details of implementer> shall be included within the project database.

Geographical Reference of Borders Points		
Point	Latitude	Longitude
<#>	<#>	<#>
<#>	<#>	<#>
<#>	<#>	<#>

<Image of CPA Boundary>

Figure 1. CPA location within Kenya

A.4.2. Duration of the small-scale CPA:

A.4.2.1. Starting date of the small-scale CPA:

<DD/MM/YYYY>

A.4.2.2. Expected operational lifetime of the small-scale CPA:

7 years

A.4.3. Choice of the crediting period and related information:

Renewable crediting period

A.4.3.1. Starting date of the crediting period:

<DD/MM/YYYY>

A.4.3.2. Length of the crediting period, first crediting period if the choice is renewable CP:

7 years renewable (overall 21 years – 7 + 7 +7), crediting period 12 months.

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 6

A.4.4. Estimated amount of emission reductions over the chosen crediting period:

Over the 7-year crediting period the CPA will reduce <Projected Reductions in tCO₂>.

Year	Annual estimation of emission reduction of tCO₂-e
1	<#>
2	<#>
3	<#>
4	<#>
5	<#>
6	<#>
7	<#>
Total estimated emission reductions (tCO₂-e)	<#>
Total number of crediting years	7
Annual average over crediting period of estimated reductions (tCO₂-e)	<#>

A.4.5. Public funding of the CPA:

The Project Implementer <Project Implementer> confirms that there <is/is not> public funding for the CPA

A.4.6. Information to confirm that the proposed small-scale CPA is not a de-bundled component

According to the “Guidance for determining the occurrence of de-bundling under a PoA”:

1. For the purposes of registration of a proposed small-scale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity³, which:
 - (a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same sectoral scope, and;

Neither the CME nor CPA Implementer are implementing any activities within the same project boundary as the CPA. The CME of the *Efficient Cook Stoves Programme: Kenya* and the CPA Implementer, are not managing any other Large Scale POA in Kenya. The CPA Implementer is the project proponent for several Gold Standard project activities currently under validation but not within the CPA area.

. <Details of Project Proponent>

- (b) The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.

³ Which may be a (i) registered small-scale CPA of a PoA, (ii) an application to register another small-scale CPA of a PoA or (iii) another registered CDM project activity



There is no CDM activity within 1 km of the proposed SSC-CPA boundary. <Details of other CDM activities>.

It follows that the project activity, <Title of CPA>, is not a de-bundled component of a large-scale activity.

A.4.7. Confirmation that small-scale CPA is neither registered as an individual CDM project activity or is part of another Registered PoA:

<Text showing that the SSC-CPA is neither an individual CDM project activity or is part of another registered PoA>. It follows that the proposed CPA is neither registered as an individual CDM project activity or is part of another registered PoA.

SECTION B. Eligibility of small-scale CPA and Estimation of emissions reductions

B.1. Title and reference of the Registered PoA to which small-scale CPA is added:

Efficient Cook Stove Programme: Kenya v6.3 13/03/2012

B.2. Justification of the why the small-scale CPA is eligible to be included in the Registered PoA :

The following criteria must be met by each CPA to ensure its eligibility under the PoA:

1. The geographical boundary of each CPA will be within the geographic boundaries of the Republic of Uganda, consistent with that set in the PoA.
2. Each CPA will be uniquely defined by a range of GPS coordinates and current administrative maps to define the project boundary.
3. Each CPA will ensure double counting of emission reductions is avoided, through the GPS tracking and identification of each stove with a unique identification number.
4. Each CPA will involve the distribution and installation of efficient cook stoves to households cooking with firewood on a traditional stove for domestic purposes. The specifications of the technology will be included with each CPA-DD.
5. Documentary evidence will be provided with each CPA-DD to demonstrate the start date of the CPA, and ensure it is in compliance with the 'glossary of CDM terms.'
6. Each CPA will be in compliance with the latest version of AMS-II.G: Energy Efficiency Measures in Thermal Applications of Non-renewable Biomass.
7. Each CPA will demonstrate additionality by establishing that in the absence of CDM, the implemented CPA would not occur. This will be done using Barrier Analysis to prove additionality, derived from the relevant requirements of attachment A of Appendix B. It will be carried out as per the most recent version of the Tool for the Demonstration and Assessment of Additionality.
8. Each CPA will conduct a stakeholder consultation and provide documentation.
9. Each CPA will be covered by the Environmental Impact Analysis requirements at PoA level.
10. There will be no public funding or ODA for any of the proposed CPA's. This will be affirmed by attaching the appropriate evidence.

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 8

11. Each CPA will follow the sampling requirements specified in the latest version of General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities.
12. Each CPA will adhere to the small-scale threshold criteria and remain within that threshold throughout the crediting period.
13. Each CPA will show that it is not registered as another project activity.
14. Each CPA will not be a de-bundled component of another CDM programme or project activity. The requirements for a debundling check as outlined in Guidelines on Assessment of Debundling for SSC Project Activities will be met.

B.3. Assessment and demonstration of additionality of the small-scale CPA , as per eligibility criteria listed in the Registered PoA:

As per EB 60 Annex 26 Paragraph 4, the Executive Board clarified that “a full additionality assessment is not required in the context of component project activities (CPA), rather the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria.”

Following this clarification additionality is demonstrated at the PoA level. CPAs seeking inclusion in the PoA will need to prove they satisfy the eligibility criteria specified in section A.4.2.2 of the PoA-DD and section B.2 of the CPA-DD.

It is assumed that all SSC-CPA's and subsequent cookstove installations to be included as part of the registered PoA are additional provided they fulfil the eligibility criteria for inclusion of an SSC-CPA in the PoA as per section A.4.2.2 of the PoA. Furthermore all SSC-CPA's will adhere to the laws and regulations of the Republic of Kenya and no SSC-CPA's will benefit from public financing or ODA.

The CPA Implementer of the proposed SSC-CPA will demonstrate the satisfaction of the eligibility criteria listed in section A.4.2.2 of the PoA-DD.

B.4. Description of the sources and gases included in the project boundary and proof that the small-scale CPA is located within the geographical boundary of the registered PoA.

The sources listed below are included in the project boundary. The combustion of wood in both the baseline scenario and project activity will release significant amounts of CO₂, included in the project boundary. The small-scale CPA is limited to the <CPA Location> which is within the Republic of Kenya, therefore within the geographical boundary of the registered PoA.

	Source	Gas	Included?	Justification / Explanation
Baseline	Combustion of fire wood for cooking (three-stone fire)	CO ₂	Yes	Major source of emissions
	Combustion of fire wood for cooking (three-stone fire)	CH ₄	No	Minor source of emissions and limited data available. Exclusion is conservative assumption.
	Combustion of fire wood for cooking (three-stone fire)	N ₂ O	No	Minor source of emissions and limited data available. Exclusion is conservative assumption.
Project	Combustion of fire wood	CO ₂	Yes	Major source of emissions

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 9

activity	for cooking (efficient stove)			
	Combustion of fire wood for cooking (efficient stove)	CH ₄	No	Minor source of emissions and limited data available. Exclusion is conservative assumption.
	Combustion of fire wood for cooking (efficient stove)	N ₂ O	No	Minor source of emissions and limited data available. Exclusion is conservative assumption.

B.5. Emission reductions:

B.5.1. Data and parameters that are available at validation:

Data / Parameter:	$N_{y,i}$
Data unit:	Number
Description:	Number of stoves in operation during the verification period
Source of data to be used:	Installation data in monitoring database
Value of data applied:	<Value>
Description of measurement methods and procedures to be applied:	<Description of Measurement Methods>
QA/QC procedures to be applied:	<Q/QC Procedures to be Applied>
Any comment:	

Data / Parameter:	$\eta_{new,i}$
Data unit:	Fraction
Description:	Efficiency of the replacement stove
Source of data used:	Efficiency Test Report
Value applied:	<Value>
Justification of the choice of data or description of measurement methods and procedures actually applied :	< Justification of the choice of data or description of measurement methods and procedures actually applied>
Any comment:	

Data / Parameter:	$f_{NRB,y}$
Data unit:	Fraction
Description:	Non-renewable biomass usage in Kenya, as a proportion of total biomass usage
Source of data used:	Independent report
Value applied:	<Value>
Justification of the choice of data or	< Justification of the choice of data or description of measurement methods and procedures actually applied>

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 10

description of measurement methods and procedures actually applied :	
Any comment:	

Data / Parameter:	<i>B_{average_use}</i>
Data unit:	Tonnes per annum
Description:	Fuel wood consumption per appliance in absence of the project activity
Source of data used:	Baseline Study in Annex 3 of the CPA-DD
Value applied:	<Value Applied>
Justification of the choice of data or description of measurement methods and procedures actually applied:	< Justification of the choice of data or description of measurement methods and procedures actually applied>
Any comment:	

Data / Parameter:	η_{old}
Data unit:	Fraction
Description:	Efficiency of three-stone fire or conventional system
Source of data used:	Methodology default
Value applied:	0.10
Justification of the choice of data or description of measurement methods and procedures actually applied :	AMS II.G/Version 03
Any comment:	

Data / Parameter:	<i>NCV_{biomass}</i>
Data unit:	TJ/tonne
Description:	Net calorific value of the non-renewable woody biomass that is substituted
Source of data used:	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied:	0.015
Justification of the choice of data or description of measurement methods and procedures actually applied :	AMS II.G/Version 03
Any comment:	

Data / Parameter:	<i>EF_{projected_fossilfuel}</i>
--------------------------	--

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 11

Data unit:	tCO ₂ /TJ
Description:	Emission factor: substitution of non-renewable biomass by similar consumers
Source of data used:	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied:	81.6
Justification of the choice of data or description of measurement methods and procedures actually applied :	AMS-II.G Version 03
Any comment:	

Data / Parameter:	<i>L</i>
Data unit:	Fraction
Description:	Leakage Correction Factor
Source of data used:	Leakage Assessment
Value applied:	0.95
Justification of the choice of data or description of measurement methods and procedures actually applied :	AMS-II.G Version 03
Any comment:	

Data / Parameter:	<i>B_{y,baseline_tech}</i>
Data unit:	Tonnes per annum
Description:	Quantity of biomass used per appliance in baseline stoves during year y of the project activity
Source of data to be used:	A representative sample of households in the project activity will be surveyed to assess this parameter. The data will gathered according to AMS-II.G Version 03, the Draft General Guidelines On Sampling And Surveys; EB37 Annex 27; and, General Guidelines For Sampling And Surveys For Small-Scale CDM Project Activities (Version 01); CDM EB50 Annex 30
Value of data applied for the purpose of calculating expected emission reductions in section B.5	<Value Applied>
Description of measurement methods and procedures to be applied:	A Kitchen Performance Test will be performed in a representative sample of households participating in the project activity. The Kitchen Performance Test will assess the amount of fuel wood used in baseline appliances only and be performed as per the guidelines of the Partnership for Clean Indoor Air.
QA/QC procedures to be applied:	<QA/QC Procedures to be Applied>
Any comment:	



B.5.2. Ex-ante calculation of emission reductions:

Emission reductions for each CPA are calculated according to the following formulas:

$$1. \quad ER_y = B_{y,savings} \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossilfuel}$$

Where:

ER_y	Emission reductions during the year y in tCO ₂ e
$B_{y,savings}$	Quantity of woody biomass that is saved in tonnes
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass
$NCV_{biomass}$	Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)
$EF_{projected_fossilfuel}$	Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 tCO ₂ /TJ

And

$$2. \quad B_{y,savings} = B_{old} \cdot \left(1 - \frac{\eta_{old}}{\eta_{new}}\right)$$

Where:

B_{old}	Quantity of Biomass used in the absence of the project activity in tonnes
η_{old}	Efficiency of the system being replaced, measured using representative sampling methods or based on the referenced literature values (fraction) (remains fixed throughout the crediting period)
$\eta_{new,i}$	Efficiency of the system being deployed as part of the project activity (fraction) per vintage

And

$$2. \quad B_{old} = (B_{average_use} - B_{y,baseline_tech}) \cdot N_y \cdot L$$

Where:

$B_{average_use}$	Average annual consumption of woody biomass per appliance in absence of the project activity (tonnes/year)
$B_{y,baseline_tech}$	Fuel wood consumption per appliance of baseline stoves continuing to be used in year y of the project activity (tonnes/year)

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 13

N_y Number of stoves in operation during year y
 L Leakage Correction Factor. Use a value of 0.95

The ex-ante emissions reduction calculation is shown in Annex 9.

B.5.3. Summary of the ex-ante estimation of emission reductions:

Year	Estimation of project activity emissions (tonnes of CO ₂ e)	Estimation of baseline emissions (tonnes of CO ₂ e)	Estimation of leakage (tonnes of CO ₂ e)	Estimation of overall emission reductions (tonnes of CO ₂ e)
Year 1	<#>	<#>	<#>	<#>
Year 2	<#>	<#>	<#>	<#>
Year 3	<#>	<#>	<#>	<#>
Year 4	<#>	<#>	<#>	<#>
Year 5	<#>	<#>	<#>	<#>
Year 6	<#>	<#>	<#>	<#>
Year 7	<#>	<#>	<#>	<#>
Total (tonnes of CO ₂ e)	<#>	<#>	<#>	<#>

B.6. Application of the monitoring methodology and description of the monitoring plan:

B.6.1. Description of the monitoring plan:

The CPA will implement the monitoring methodology AMS II.G (ver. 3), par. 15 and 16, “Monitoring shall consist of checking the efficiency of all appliances or a representative sample thereof, at least once every two years (biennial) to ensure that they are still operating at the specified efficiency (η_{new}) or replaced by an equivalent in service appliance. Where replacements are made, monitoring shall also ensure that the efficiency of the new appliances is similar to the appliances being replaced. Monitoring shall also consist of checking of all appliances or a representative sample thereof, at least once every two years (biennial) to determine if they are still operating or are replaced by an equivalent in service appliance”

In addition, according to par. 20, monitoring shall make certain that:

“Either the replaced low efficiency appliances are disposed of and not used within the boundary or within the region; or If baseline stoves continue to be used, monitoring shall ensure that the fuel-wood consumption of those stoves is excluded from Bold.”

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 14

The CME will operate a monitoring plan during each verification period. As per AMS-II.G Version 03, monitoring will consist of checking the efficiency, $\eta_{new,i}$, of a representative sample of efficient stoves at least once every two years. The parameter $\eta_{new,i}$ will be determined as per the specifications of the Water Boiling Test⁴ recommended by the Partnership for Clean Indoor Air which is endorsed by AMS-II.G Version 03.

As per paragraph 16 of AMS-II.G Version 03, monitoring will also check a representative sample of appliances, parameter N_y , that are part of the project activity to ensure they are still in operation or have been replaced.

As per paragraph 20 of AMS-II.G Version 03 under option b) monitoring shall ensure that continued woodfuel use with the baseline technology will be excluded from B_{old} . Woodfuel use on the baseline technology has been termed $B_{y,baseline_tech}$ and will be assessed through a representative sample of Kitchen Performance Tests performed as per the Partnership for Clean Indoor Air.⁵ B_{old} will be adjusted as per the equations provided in Section E.6.2 of the PoA-DD.

As per paragraph 22 of AMS-II.G Version 03, all representative sampling performed during monitoring will satisfy the requirements of the methodology to be a statistically valid sample. For biennial monitoring, parameters determined through representative sampling will satisfy the 95 per cent confidence interval and 5 per cent margin of error requirement. For annual sampling the requirements are 90 per cent confidence interval and a less than a 10 per cent margin of error. In cases where the 95 or 90 per cent confidence interval and the 5 or 10 per cent margin of error are not achieved, the lower bound of the 95 or 90 per cent confidence interval will be chosen if the representative sampling is not repeated.

Parameters determined through a representative sample will perform sampling as specified by the *General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities*, EB 50 Annex 30. The sampling plan for for N_y , $\eta_{new,i}$ and $B_{y,baseline_tech}$ will be performed for each CPA and is the following:

Sampling Objective: to determine the average number of appliances in use, average efficiency of the appliance, and average wood use on the baseline technology during the verification period. The parameters will be assessed using a 90/10 confidence/precision if assessed annually and a 95/5 confidence precision if assessed biennially.

Field Measurement Objectives and Data to be collected: The objective of the field measurement is to:

- a) Visually assess if the appliance is present and operational. The data collected is a photo of the appliance with unique stove ID clearly visible.

⁴ Water Boiling Test, Version 3, *Partnership for Clean Indoor Air*.
www.pciaonline.org/files/WBT_Version_3.0_0.pdf.

⁵ Kitchen Performance Test Version 3, *Partnership for Clean Indoor Air*,
www.pciaonline.org/files/KPT_Version_3.0_0.pdf



- b) Perform a Water Boiling Test on the appliance to test thermal efficiency. The data collected is the thermal efficiency of the stove.
- c) Perform measurements of wood used exclusively on the baseline technology, if existing. The wood measurements will be in the form of a KPT as directed by the PCIA. The data collected is the daily mass of wood used on the baseline technology for at least 3 consecutive days.

Target Population and Sampling Frame: The target population is the complete list of appliances distributed and recorded in the electronic database during project construction. The sample of appliances checked will be randomly selected from the complete list of distributed appliances.

Sample Method: The sample method will be a simple random sample.

Desired Precision/Expected Variance and Sample Size: The desired precision for all parameters is 90/10 if monitoring annually and 95/5 if monitored biennially. The parameter with the largest variance will determine the minimum sample size. As per the KPT Version 3.0 published by the PCIA, the expected variance is 40% for samples of household wood consumption and 20% for a WBT.

For large populations the minimum sample size (n_{\min}) can be approximated as:

$$1. \quad n_{\min} = \frac{t_p^2 \cdot S_y^2}{l_t^2}$$

Where

n_{\min} The minimum sample size required

t_p The t-value corresponding to p ($t_{90}=1.645$, $t_{95}=1.96$)

l_t The confidence interval (0.05 or 0.1)

S_y The variance of the sample (est. 40%)

Given the estimated 40% variance, n_{\min} equals 246 for 95/5 precision and 43 for 90/10 precision. During sampling, Equation 1 will be used to calculate the confidence and precision based on actual variance.

Procedures for Adminstrating Data Collection and Minimizing Non-Sampling Errors:

The parameter N_y will be assessed through household visits of the randomly selected household comprising the sample. The households selected will be visited by staff of the CPA Implementer. During each visit, the existence and functionality of the appliance is confirmed through a visual assessment and photograph of the appliance with the unique ID clearly visible. This visit occurs prior to sampling of the other parameters: $B_{\text{baseline_tech}}$ and $\eta_{\text{new},i}$.

During the household visit, a household representative is asked if he/she is willing to participate in the sampling of additional parameters. In the instance that the household is in

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 16

agreement the additional parameters are measured. Otherwise, a new household is randomly selected for sampling.

The parameter $\eta_{new,i}$ will be assessed through performing a WBT on a randomly selected sample of appliances. The WBT test will follow the guidelines of the Water Boiling Test Version 3 developed by PCIA. All measurement methods, equipment, and equipment calibration methods will adhere to this protocol. The CPA Implementer will ensure all WBTs performed during sampling are conducted by a well-trained staff, with prior experience conducting WBTs and recording the results. The CME will verify that all the staff of the CPA Implementer are sufficiently trained. The WBTs will be performed in the field and the results recorded. The data will then be uploaded to an electronic information management system operated by the CME. The hard copy test results and electronic information management system will be made available to the DOE during each verification period.

The parameter $B_{baseline_tech}$ will be assessed through performing a KPT on a randomly selected sample of households participating in the CPA. The KPT will follow the guidelines of the Kitchen Performance Test Version 3 developed by the PCIA. All measurement methods, equipment, and equipment calibration methods will adhere to this protocol. The CPA Implementer will ensure all KPTs performed during sampling are conducted by a well-trained staff, with prior experience conducting KPTs and recording the results. The CME will verify that all the staff of the CPA Implementer are sufficiently trained. The KPTs will be performed in the field and the results recorded. The data will then be uploaded to an electronic information management system operated by the CME. A hard copy of the data and the electronic information management system will be made available to the DOE during each verification period.

If an appliance selected for random sampling is inaccessible for any reason, i.e. the owner refuses to participate in the monitoring plan or the appliance cannot be located, a different appliance is randomly selected and replaces the inaccessible one in the sample.

The exclusion of any outliers in the sample will be clearly documented along with the rationale for exclusion. An example of the rationale for exclusion is if a specific value is +/- 200% of the sample average, while the average variance is around 40% of the average.

Implementation: Staff of the CPA Implementer conducts the sampling. The CME will determine the sample size and randomly select the households to be sampled from the electronic information management system. The CME will inform the CPA Implementer which appliances are part of the sample. The CPA Implementer will perform any required staff training as recommended by CME. The remuneration of the personnel conducting the sampling will in no way be related to the CERs awarded to the project as a result of the monitoring.

In addition to the parameters above, the non-renewable biomass factor, $f_{NRB,y}$, will be assessed for each verification period as per the guidelines of paragraphs 8, 9, 10 of AMS-II.G Version 03.

Data and Parameters to be Monitored (as per Section E7.1 of PoA DD):

Data / Parameter:	$N_{y,i}$
--------------------------	-----------

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 17

Data unit:	Number
Description:	Number of stoves in operation during the verification period
Source of data to be used:	Installation data in monitoring database
Value of data applied for the purpose of calculating expected emission reductions in section B.5	<Value>
Description of measurement methods and procedures to be applied:	<Description of Measurement Methods>
QA/QC procedures to be applied:	<QA/QC Procedures to be Applied>
Any comment:	<Comment>

Data / Parameter:	η_{new}
Data unit:	Fraction
Description:	Efficiency of each stove by vintage
Source of data to be used:	Annual efficiency test
Value of data applied for the purpose of calculating expected emission reductions in section B.5	<Value>
Description of measurement methods and procedures to be applied:	<Description>
QA/QC procedures to be applied:	<QA/QC Procedures to be Applied>
Any comment:	<Comment>

Data / Parameter:	$f_{NRB,y}$
Data unit:	Fraction
Description:	Non-renewable biomass usage in Kenya, as a proportion of total biomass usage
Source of data used:	Report
Value of data applied for the purpose of calculating expected emission reductions in section B.5	<Value>

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 18

Description of measurement methods and procedures to be applied:	<Description>
QA/QC procedures to be applied:	-<QA/QC Procedures to be Applied>
Any comment:	<Comment>

Data / Parameter:	B _{ybaseline_tech}
Data unit:	Tonnes/year
Description:	Fuel wood consumption per appliance of baseline stoves continuing to be used in year y of the project activity
Source of data used:	Kitchen Performance Tests
Value of data applied for the purpose of calculating expected emission reductions in section B.5	<Value>
Description of measurement methods and procedures to be applied:	<Description>
QA/QC procedures to be applied:	-<QA/QC Procedures to be Applied>
Any comment:	<Comment>

C.1. Please indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken. Justify the choice of level at which the environmental analysis is undertaken:

☐ Please tick if this information is provided at the PoA level. In this case sections C.2. and C.3. need not be completed in this form.

Each CPA will distribute efficient cooking stoves to rural households using conventional, three-stone stoves. The National Environment Management Authority (NEMA) has issued a Letter of No Objection on condition that each SSC-CPA under the programme meets the environmental requirements of the Environment Management Coordination Act (EMCA) of 1999. To this effect a project report will be prepared for each SSC-CPA for review and approval by NEMA. In summary, environmental analysis is done at the SSC-CPA level.

C.2. Documentation on the analysis of the environmental impacts, including transboundary impacts:

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 19

The environmental impact assessment is listed in Annex 6 and the notification of approval is listed in Annex 10.

C.3. Please state whether an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA), in accordance with the host Party laws/regulations:

Kenya's National Environment Management Authority has requested that an environmental impact project report be performed for a typical CPA.

SECTION D. Stakeholders' comments

>>

D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:

☐ Please tick if this information is provided at the PoA level. In this case sections D.2. to D.4. need not be completed in this form.

Stakeholder comments are invited for each CPA. The structure and members of communities where CPAs are implemented can vary significantly. For this reason stakeholder comments are invited at the CPA level.

D.2. Brief description how comments by local stakeholders have been invited and compiled:

Local stakeholders will be invited to participate in a consultation for the implementation of each CPA. This will comprise of a meeting within the local community of the CPA's designated geographical boundary. The consultation will invite local community leaders and representatives, NGOs etc.

1. Invitations

- a. Public Invitation: a newspaper notice, placed in a local newspaper before the stakeholder meeting.
- b. Personal Invitation: an individual invitation made to a sample of stove beneficiaries, often delivered by hand depending on the situation. Individuals are identified through working with community leaders or representatives.

A 'Tracking List' of invitations will be established for each stakeholder meeting to ensure that invitations are monitored and logged for responses.

2. Meeting Preparation

The following must be in place prior to the actual meeting:

- a. Non-technical summary: a simple description of the project that stakeholders will understand.
- b. Minute taker: an individual responsible for taking detailed notes of the meeting findings.
- c. Participation forms: participants must sign this form to confirm their attendance.

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 20

- d. Evaluation forms: to be completed by all stakeholders. A simple evaluation form asks each stakeholder to write down their feelings and concerns about the meeting and the proposed CPA.
- e. Agenda for the meeting.
- f. Translator, if required.

3. Meeting conduct

The meeting will largely follow the agenda specified above in Point 2.e., according to a common approach:

- a. Opening: introductions, goal of meeting, participation form
- b. Explanation of PoA: understanding CPA process, who is involved, project phases and timelines
- c. Questions & Answers: for clarification of key points
- d. Closure: complete evaluation forms and thanks

<Any Additional Meeting Information>

D.3. Summary of the comments received:

<Summary of Comments received>

D.4. Report on how due account was taken of any comments received:

<Report on how due account was taken of any comments>

**SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01**



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 21

Annex 1

CONTACT INFORMATION ON ENTITY/INDIVIDUAL RESPONSIBLE FOR THE SMALL-SCALE CPA

Organization:	<Organization Name>
Street/P.O.Box:	<Street>
Building:	<Building>
City:	<City>
State/Region:	<Region>
Postfix/ZIP:	<#>
Country:	<Country>
Telephone:	<Phone>
FAX:	
E-Mail:	<E-Mail>
URL:	<URL>
Represented by:	<Name>
Title:	<Title>
Salutation:	<Salutation>
Last Name:	<Name>
Middle Name:	<Name>
First Name:	<Name>
Department:	<Department>
Mobile:	<#>
Direct FAX:	-
Direct tel:	-
Personal E-Mail:	<E-Mail>

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 22

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

No public funding was provided for the <Title of SSC-CPA>.

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 23

Annex 3

CPA_XX_Annex 3 Baseline Information

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 24

Annex 4

CPA_XX_Annex 4 Proof of Start Date

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 25

Annex 5

CPA_XX_Annex 5 Stakeholder Report

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 26

Annex 6

CPA_XX_ Annex 6 EIA Report

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 27

Annex 7

CPA_XX_ANNEX_7_UNIVERSITY OF NAIROBI REPORT ON CZK3 STOVE
PERFORMANCE

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 28

Annex 8

CPA_XX_Annex_8_Kenya NRB Fraction Final Report 30 March 2010

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 29

Annex 9

CPA_XX_Annex 9 Emission Reductions for CPA1 ex ante

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01



NAME /TITLE OF THE PoA: Efficient Cook Stove Programme: Kenya



CDM – Executive Board

page 30

Annex 10

CPA_XX_Annex 10 EIA approval certificate
