



**Programme of activities design document form
(Version 09.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title of the PoA	BioLite Improved Cook stoves Programme
Version number of the PoA-DD	Version 22.1
Completion date of the PoA-DD	20/10/2020
Coordinating/managing entity	BioLite India Private Limited
Host Parties	India, Kenya and Uganda
Applied methodologies and standardized baselines	AMS II.G.: Energy efficiency measures in thermal applications of non-renewable biomass, version 11.1 ASB0002-2017: Fuel switch, technology switch and/or methane destruction in the charcoal sector of Uganda, version 1.0
Sectoral scopes	03: Energy Demand

PART I. Programme of activities (PoA)

SECTION A. Description of PoA

A.1. Purpose and general description of PoA

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Policy/measure or stated goal that the PoA seeks to achieve:

The CDM Programme of Activities “BioLite Improved Cook stoves Programme” involves substitution of traditional and inefficient biomass cook stoves with efficient biomass cook stove (wood, charcoal) in rural and/or urban household in India, Kenya and Uganda. The PoA involves disseminating efficient wood/charcoal cook stoves with single/multiple pans in the rural and/or urban households in India, Kenya and Uganda. This will result in reduction in usage of fuel (biomass) for cooking purpose which contributes to environmental sustainability and community development.

Pre – project activity (Baseline Scenario):

Prior to implementation of project activity, the target beneficiary would have used biomass in traditional cookstove / three stone fire without improved combustion system.

The framework for operating the PoA:

BioLite India Private Limited (BioLite), the coordinating/managing entity (CME) will coordinate the proposed SSC-PoA. CME will establish a framework for distribution of efficient cook stoves through on-ground networks and will provide guidance documents to CPA implementers for successful implementation of CPA.

In cases where local manufacturing is used, local partners will be trained to manufacture the stove as per specifications communicated by CME/CPA Implementer. CPA Implementer will be responsible for ensuring that end user information is captured at the point of installation or distribution, to facilitate the monitoring of stoves over the CPA crediting period. The CME will provide guidance document for stakeholder engagement for positive influence on the user behaviour to discontinue usage of traditional biomass stoves in favour of Improved cook stoves. For details refer section B below.

Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity.

There are no national policies or regulations which mandates the adoption of improved cook stoves by rural and/or urban households in host countries where the programme is being implemented. The CME is not mandated to implement any such programme and the initiative is taken up voluntarily.

Contribution to sustainable development:

The proposed PoA involves reduction in fuel wood consumption by replacing the inefficient cook stove by efficient stove thus reducing the greenhouse gas emission in the area.

The National CDM Authority (NCDMA), Ministry of Environment and Forests (MoEF), Govt. of India has stipulated the social well-being, economic well-being, environmental well-being, and technological well-being as the four indicators for sustainable development in the interim approval guidelines for host country approval eligibility criteria for Clean Development Mechanism (CDM) projects¹. The programme is, similarly, in line with national policies of other countries in which it is being implemented. Specifically, Uganda has incorporated the promotion of more efficient means of household cooking in their Rural Electrification Strategy and Plan². Kenya names improved

¹ http://www.cdmindia.in/approval_process.php

² Rural Electrification Strategy and Plan, Rural Electrification Agency, Ministry of Energy and Mineral Development, September, 2012:
<http://rea.or.ug/phocadownload/rural%20electrification%20strategy%20and%20plan%202013-2022.pdf>

cookstoves as among the key solutions to a heavy reliance on biomass fuels at the bottom of the energy ladder.³

Social well being

The project should lead to an improved quality of life for rural and/or urban women and children through reduction of time spent outdoors in foraging for fuel wood, thus contributing to reduced crimes against women and children, increases time available to women participating in alternative livelihood opportunities thus empowering women and contribution to alleviating poverty, improves access to education and also improves the environment. The programme

- Reduces drudgery to women (due to reduced fuel wood use) who spend long hours and travel long distances to collect fuel wood
- Improves women and children's overall health by reducing smoke in the kitchen, thus reducing health hazards from indoor air pollution.
- Better cooking time – the materials used in making improved cook stove transmit the heat effectively, cooking the food faster
- Better cooking environment due to less smoke and carbon residue in the kitchen
- Better quality of life – the rural and/or urban communities get family time as the whole family can sit and eat together.

Environmental well being

The project should reduce the impact on resource sustainability and resource degradation, and improve bio-diversity friendliness, reduces impact on human health; reduce of levels of pollution in general. The programme

- Improves the local environment by reducing the rate of degradation of forests and deforestation in the project area.
- Reduces indoor air pollution – Improved cook stove emits less smoke and reduces both morbidity from respiratory diseases and other health hazards, as well as the medical expenditure involved. A resource-poor household would need to spend limited available finances on medicines, further exacerbated by loss of wages from both not being able to work and having to look after the ill person.
- Reduces global and local environmental pollution and environmental degradation by reduction in use of non-renewable biomass thus leading to reduction in GHG emissions.
- Less water and effort is needed for cleaning vessels as the cooking process is relatively smoke free.

Economic well being

The project should facilitate investments that are consistent with the needs of the target beneficiaries, thus resulting in economic empowerment and reducing improved quality for life. The programme

- Reduce time for collection of fuel wood resulting in productive engagement of time in alternate livelihood activity or engagement with community.
- Will reduce expenditure on purchase of fuel wood and alternate fuels thus increasing levels of income and simultaneously their standard of living.
- Creation of alternative livelihood for those participating in monitoring of the usage of stoves and maintenance of stoves.

Technological well being

The CDM project activity should lead to transfer of environmentally safe and sound technologies that are comparable to best practices in order to assist in upgradation of the technological base and increased access to the same. The programme

³ National Energy Policy, Ministry of Energy and Petroleum, Republic of Kenya, February, 2014:
http://www.ketraco.co.ke/opencms/export/sites/ketraco/news/Downloads/National_Energy_Policy_-_Final_Draft_-_27_Feb_2014.pdf

- Introduction of newer energy efficient cooking technology compared to baseline technology to the rural and/or urban communities which reduces indoor pollution through efficient combustion and hence reduces fuel consumption.
- The surface temperature of the cook stove is less and hence it can be handled comfortable even after cooking.

A.2. Physical/geographical boundary of PoA

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Geographical area

India, Kenya and Uganda are chosen as the physical/ geographical boundaries of the SSC-PoA. The SSC-CPAs that will be included under the SSC-PoA will be within the defined geographical regions.

The latitude and longitude of India is 20°N and 77°E⁴. Delhi is the national capital of India and latitude; longitude of Delhi is 28.38°N and 77.12°E⁵.

The location of Kenya is between latitudes 5°N and 5°S, and longitudes 34° and 42°E⁶. Nairobi is the national capital of Kenya and is located at 01.17°S and 36.48°E⁷.

The location of Uganda is between latitudes 4°N and 2°S and longitudes 29° and 35°E. Entebbe is the national capital of Uganda and is located at 00.04°N and 32.28°E⁸.



Geographical Boundary of India



Location of Kenya and Uganda

A.3. Technologies/measures

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This Programme of Activities will deploy various types of efficient biomass cook stoves (including wood or charcoal stoves) with better technological design features such as grates, insulation, induced draft or forced air flow and more durable materials to provide a cleaner burning, increased efficiency and durability device. The improved cook-stoves may be made with metal, ceramic and terracotta/ pottery (durable type) and/or combination thereof. With this, the stoves will be categorized as metallic (MS, SS, cast iron and combination thereof), metal clad ceramic/ pottery and ceramic types. For the fixed type cook-stoves platform will be prepared using brick and cement for increasing durability and ease of operation. The single/multi pot fixed type cook-stoves will be provided with

⁴ http://www.mapsofindia.com/lat_long/

⁵ http://www.mapsofindia.com/lat_long/delhi/

⁶ <https://en.wikipedia.org/wiki/Kenya>

⁷ http://www.mapsofworld.com/lat_long/kenya-lat-long.html

⁸ http://www.mapsofworld.com/lat_long/uganda-lat-long.html

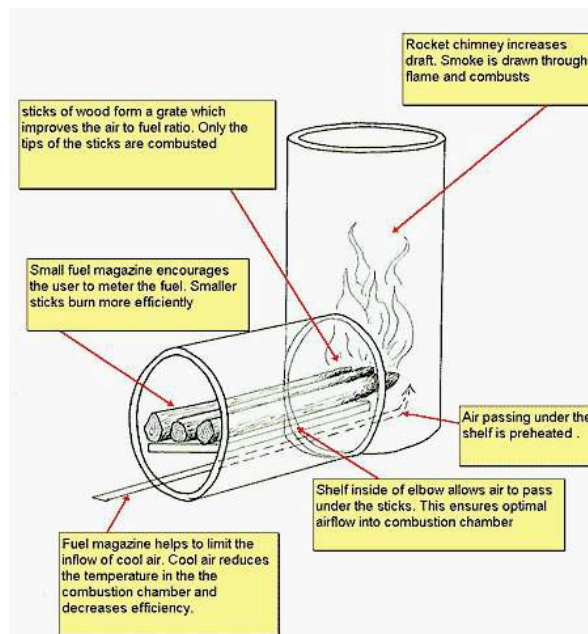
chimney made of cement pipes and terracotta pipes depending on their suitability and affordability to the beneficiary.

Also, the high efficiency biomass fired cook stoves such as gasifiers devices⁹ that enable converting solid fuel to gaseous fuel by a thermo chemical conversion process are admissible technologies in this programme.

Below are few illustrative devices and by no means do these constitute a comprehensive list of technology measure/ devices that may be deployed in this PoA:

Rocket Stove:

Rocket stoves are defined by improvements to an insulated, L-shaped combustion chamber that allows for partial combustion of gases and smoke inside the stove. Rocket stoves come in many different shapes and sizes, but they all contain a "rocket elbow," the 90-degree bend where the fuel magazine meets the combustion/updraft chamber. This limits the amount of fuel that can be burnt at any one time (small diameter pieces, only the tips). The other key attribute is the improved management of airflow in the stove. The smoke is pulled over the fire in the vertical shaft where a large portion of it combusts, resulting in cleaner burn. Fuel grates have proved to be important design attributes that help regulate air flow. A rocket stove achieves efficient combustion of the fuel at a high temperature by ensuring a good air draft into the fire, controlled use of fuel, complete combustion of volatiles, and efficient use of the resultant heat. Also, the forced air stoves with a fan or thermo electric devices that captures heat from the stove and converts it into electricity may be allowed in the programme.



Gasifier Stoves:

Gasifiers are essentially devices that enable converting solid fuel to gaseous fuel by a thermo chemical conversion process. This process involves sub-stoichiometric¹⁰ high temperature oxidation and reduction reactions between the solid fuel and an oxidant – air in the present case. This is arranged such that air and the gas pass through a fixed packed bed. The gasifier stove can be natural draft or forced draft. Typical gasifier stoves are known as Top Lit Updraft (TLUD) stoves because some fuel is lit on top of the stove, forcing combustible products to pass through the flame front before being emitted into the air. In a gasifier stove with a fan, the jets of air create superior mixing of flame, gas, and smoke and can be extremely clean.

Any new similar or advanced technologies with improved versions that may become available will also be used if efficiency and usability meet the eligibility criteria.

A.4. Coordinating/managing entity

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The coordinating /managing entity of the SSC-PoA will be BioLite (referred to as CME hereafter on in this document)

⁹ <http://www.gtz.de/de/dokumente/giz2011-en-micro-gasification.pdf>

¹⁰ Stoichiometric deals with the relative quantities of reactants and products in chemical reactions. In a balanced chemical reaction, the relations among quantities of reactants and products typically form a ratio of whole numbers and when the reaction involves less than the stoichiometric amount of a reagent, the condition is called sub stoichiometric.

1. CME is the coordinating/managing entity of this PoA and also the entity which communicates with the Executive Board.

A.5. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
India(host)	Private Entity - BioLite India Private Limited (Coordinating/Managing Entity)	No
Norway	Public Entity - The Norwegian Ministry of Climate and Environment	No
Switzerland	Private Entity - International Carbon Portfolio Ltd	No
Kenya(host)	Private Entity - BioLite India Private Limited	No
Uganda(host)	Private Entity - BioLite India Private Limited	No

A.6. Public funding of PoA

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No public funding is involved in the PoA¹¹.

SECTION B. Management system

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The CME will have overall operational and management responsibility for the implementation and monitoring of the proposed PoA and is therefore acting as the PoA Managing Entity. The CME, will be responsible for the following operational and management activities related to each SSC-CPA under the PoA as listed below:

1. Defining roles and responsibilities of personnel involved

1.1. CME roles and responsibilities:

CME will be responsible for:

- General management of the PoA, including appointing all personnel / groups of personnel involved in the PoA development and CPA implementation;
- Communicating with the CDM EB on matters related to CDM Project Cycle;
- Communicating with Designated Operational Entity (DoE) on matters related to CPA inclusion and verification audits;
- Assessment of the competency of entities involved in CPA inclusions;
- Training and capacity development of PoA/CPA personnel, as applicable, including CME and CPA Implementer staff, plus any external consultants, and maintain training records;
- Ensuring that the same approved baseline and monitoring methodology is applied to all CPAs;
- Establishing and managing the monitoring database, document control for each CPA, calculating emissions reductions based on monitoring data received from the CPA Implementer / monitoring entity; and
- Improvement of the PoA management system as and when required.

1.2. CPA Implementer:

CPA Implementers appointed by the CME will be responsible for:

- the distribution of the ICS through their own distribution network, or with help of local partners (as approved by the CME), under the CPA
- collecting and recording the stove distribution data (as instructed by the CME) in accordance with the PoA management system and monitoring plan

¹¹ Undertaking letter by CME, Certificate from CPA Implementer's CA will be provided after such procurement is made.

- notifying the ICS beneficiary that emission reductions generated by the ICS are the ownership of CME
- Coordinating the ex-post monitoring of distributed ICS (either directly or via externally outsourced agency /institution) as per monitoring requirements set out in the registered monitoring plan
- Any other task and responsibilities assigned by CME to the CPA implementer, as and when required.

1.3. CPA Designer:

The CME will ensure that the CPA is designed in accordance with the PoA's eligibility criteria for including CPAs. This individual/group of individuals (CPA Designer) will be selected by the CME (either from its own staff or externally outsourced) based on their competency to complete the CPA-Design Document in accordance with the CDM rules, including ensuring that any CPAs proposed for inclusion in the PoA are neither registered as an individual CDM project activity nor included in another registered PoA.

1.4. CPA Technical Reviewer:

A technical review of the inclusion of CPAs will be completed by the CME. This technical review will be undertaken by a competent CPA Technical Reviewer appointed by the CME (either from its own staff or externally outsourced). A review of the CPA Technical Reviewer's competencies will be completed by the CME.

2. Records of arrangements for training and capacity development for personnel

CME will operate a document management system to maintain records of personnel, or groups of personnel, appointed to undertake the above roles. Records of such training and capacity building, if any, will be maintained in CME's document management system.

3. A procedure for technical review of inclusion of CPAs

As noted above, a technical review of the inclusion of CPAs will be completed by the CME. This technical review will be undertaken by a competent CPA Technical Reviewer appointed by the CME (either from its own staff or externally outsourced (i.e. a consultant or VVB)).

4. Procedure to avoid Double Counting

1. As noted above, CME shall ensure that CPA proposed for inclusion in the PoA is:
 1. neither registered as an individual CDM project activity
 2. nor included in another registered PoA
 3. neither de-registered as a CPA from an existing PoA

Thus, for each CPA, CME will confirm avoidance of double counting of CPA by the following:

 1. Tracking the Acronym / title of programme
 2. Tracking the Acronym of CME & CPA implementer
 3. Tracking the Location of CPA
 4. Reviewing available data bases (UNFCCC, and other GHG ER standards) for presence of same CPA or de-registration of same CPA
 5. Confirmation by CME on the aforesaid
2. The CME shall also ensure avoidance of double counting of ERs by the following:
 1. Ensuring system of Unique Serial numbering of ICS included in the CPA
 2. Maintaining a database of end users (name, address and telephone number (if available))
 3. Provisioning a system to transfer the ownership of emission reductions, generated by project devices, from end user to CME

5. A record keeping system for each CPA under the PoA,

The standardized formats shall be applied, used and maintained by the SSC-CPA implementer. The SSC-CPA team would maintain appropriate records documenting the following variables *inter-alia*:

- The geographical location of each CPA
- The name, address and records of beneficiaries participating in the CPA (SSC-CPA implementer will provide an incentive in order for partner sales organizations and sales agents to report name and contact details of target beneficiaries).
- Target beneficiaries' baseline stoves (three stone fires, have grates or have chimneys) will also be recorded.
- The record of cook stoves distributed to target beneficiary participating in CPA
- The record of stoves and address of target beneficiaries where the stoves are replaced during the monitoring period
- Annual monitoring data - the name, address and monitoring data of each beneficiary involved in the monitoring on sample basis.
- Recycle/disposal of efficient cook stoves after the life-time

6. Measures for continuous improvement of PoA Management System

The CME will review the PoA management system defined above on a regular basis (as deemed appropriate by CME) to ensure the continuous improvement of the above processes.

7. Any other relevant elements

None

SECTION C. Demonstration of additionality of PoA

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Para 285 of Standard: CDM project standard for programmes of activities, v02.0 states the following: *"For renewal of the PoA period of a registered CDM PoA, the coordinating/managing entity is not required to reassess the additionality of the PoA nor update the section of the PoADD relating to additionality."*

However, given the PoA stipulates additionality assessment at CPA level and AMS II.G. version 11.1, Section 5.2 requires additionality assessment as per para 5.2.1 5.2.2. or 5.2.3 of the methodology hence the following section has been revised.

The additionality of the CPA is demonstrated as per the provisions stated in inclusion criteria #6.

SECTION D. Start date and duration of PoA

D.1. Start date of PoA

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The start date of PoA is the date on which the PoA-DD is first published for global stakeholder consultation. The PoA was uploaded on 19/11/2011.

D.2. Duration of PoA

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28 years 00 months

SECTION E. Environmental impacts

E.1. Level at which environmental impacts analysis is undertaken

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1. Environmental Analysis is done at PoA level ✓
2. Environmental Analysis is not done at CPA level

E.2. Analysis of environmental impacts

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The need for EIAs was conducted at the PoA level and the PoA does not fall under the purview of the Environmental Impact Assessment (EIA) notification of the Ministry of Environment and Forest,

Government of India, 2006. Further, an EIA is not required in either Kenya¹² or Uganda¹³. Hence, it is not required by the host parties.

E.3. Environmental impact assessment

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The PoA does not fall under the purview of the Environmental Impact Assessment (EIA) notification of the Ministry of Environment and Forest, Government of India, 2006. Further, an EIA is not required in either Kenya or Uganda¹⁴. Hence, Environmental Impact Analysis is not done.

SECTION F. Local stakeholder consultation

F.1. Level at which local stakeholder consultation is undertaken

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1. Local stakeholder consultation is done at PoA level ✓
2. Local stakeholder consultation is done at SSC-CPA level

F.2. Modalities for local stakeholder consultation

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Local stakeholder consultation done at PoA level

The stakeholder consultation was conducted at national level in India, Kenya and Uganda to get the comments of various stakeholders about the project. This was conducted to acquire details, feedback, and create preparedness for possible hindrances likely to affect the project.

The stakeholder consultation for the PoA in India was undertaken by CME as the PoA co-ordinating/managing entity as follows:

The PoA DD was made publicly available through CME's website on 18th August 2011. The stakeholders identified throughout the nation were invited to comment via mails, phone calls, personal invitation. More than one hundred stakeholders were invited to provide input to the design phase of the PoA. Stakeholders were provided with an overview of the program in the form of a non-technical summary, as well as the PoA-DD.

Wide ranges of stakeholders' pan India were identified, and their feedbacks were invited. They were grouped under the following broad categories:

- a. Corporate and Multinational representatives and industry associations such as Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce & Industries (FICCI) etc.
- b. Central and State Government Representatives
- c. Forest Officials
- d. Think tanks and academics affiliated to community development
- e. Cook Stove Manufacturers and Suppliers
- f. Investors/ Buyers of future credits
- g. Non-Government Organizations working in the fields of environment, rural and community development.

The identified categories of stake holders were all well represented in each and every sector and the feedback were received over the 30 days duration when the project details were carried on website. The design of the consultation ensured that participants were given maximum time for inputting into

¹² <http://www.kenyalawresourcecenter.org/2011/07/environmental-impact-assessment.html>

¹³ [http://greenwatch.or.ug/files/downloads/Guide to the Environment Impact Assessment Process-Issue1.pdf](http://greenwatch.or.ug/files/downloads/Guide%20to%20the%20Environment%20Impact%20Assessment%20Process-Issue1.pdf)

¹⁴ See above references

the design, airing their concerns and also highlighting what they felt was good about the overall project.

Kenya

Stakeholder consultation for the entire PoA in Kenya was held on 5th August 2016 at 8:00 a.m. at Anniversary Towers, Nairobi, Kenya. The stakeholder consultation meeting was a productive and thoughtful discussion among a group of approximately 25 participants. The stakeholder consultation was designed to take into account views from all potential stakeholders throughout Kenya for implementation of all BioLite activities planned nationwide within the country.

Uganda

The stakeholder consultation for the Uganda portion of this PoA was held on 7th of May 2015 at NOB View Hotel, Plot 6 Commercial Road, Ntinda (off Bukoto Ntinda Road), Kampala, Uganda.

F.3. Summary of comments received

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India

The comments were received from various stakeholders and their doubts or concerns about the project activity were addressed. The comments received are summarized below:

Stakeholder	Comments
T.Pradeep Chief Executive iSquareD (Cook stove manufacturer)	<ul style="list-style-type: none"> Use of Indian Standards as base for all the technologies will ensure that the common qualitative and technical standard is used.
Pearl Tiwari Director, Ambuja Cement Foundation	<ul style="list-style-type: none"> The cook stove alternates to the conventional stoves has a great advantage from the environment as well as social angle. Environmentally any emission reduction is welcome and so is reduction in traditional fuelwood and this project attempts to address that. Women besides reducing this drudgery will be in a position to spend that valuable time in some alternate livelihood activities.
Chandrakant Kumbhani Deputy General Manager-Community Development-Ambuja Cement Foundation	<ul style="list-style-type: none"> Though the technology is more or less similar to what in a typical rural household, it will require lots of training and follow up for effective utilization of the same. The project has huge scope across rural India and could be scaled up once successfully implemented at some of the locations.
Sanjay Kumar Singh Senior Manager (Corporate Environment), Ambuja Cement Limited	<ul style="list-style-type: none"> The PoA has great potential to improve environment and living conditions for rural population.
Vanani Tiwari Assistant General Manager, JSW Steel	<ul style="list-style-type: none"> The programme is a great initiative and hopefully helps to improve quality life of the women in India.
Ms. Severina Fernandes Executive Secretary to Chairperson, JSW Steel	<ul style="list-style-type: none"> The programme is good community initiative. This will help the women in rural areas who are the victims of inhaling dangerous gases let out by the normal chulhas and unaware of the consequences.
Jugal Tandon CEO Corporate Sustainability, JSW Group	<ul style="list-style-type: none"> The programme is an example of putting out technologies to the benefit of the people at the "bottom of pyramid".
Dhiren Thaker Project Manager, J Soft	<ul style="list-style-type: none"> The programme is a great initiative.

Vivek Raksha Junior Manager, JSW Steel	<ul style="list-style-type: none"> • The project not only aims to ameliorate the ambience of the kitchen but also ensures capacity building in women. • This project espouses the cause of the women who since long have been languishing in their household chores.
Ms. Natalie Barretto Executive Secretary to Vice Chairperson, JSW Steel	<ul style="list-style-type: none"> • The smokeless chulha is very good alternative than the conventional stoves used for cooking. • This not only improves the livelihood of associated people but also helps in sustainable development.
Sunita Prabhu Head – CSR, ISMT	<ul style="list-style-type: none"> • How will these cook stoves will be promoted? • Are the cook stoves totally free handouts? What is the support and monitoring mechanism to see that stoves are actually used? • What is the maintenance required for the stoves installed? How will it be made available? • What is the estimated reduction in fuel consumption?

Kenya

Drawing from diverse backgrounds ranging from policy, business and government, participants gave positive feedback on BioLite's HomeStove and the company's overall Kenyan operations. The group offered particularly positive comments related to the quality of the design of the HomeStove, the strategic plan for the company's growth in Kenya, and BioLite's commitment to social and environmental impact.

Participants were pleased to hear that the HomeStove addresses common cookstove design challenges around stability, heat retention, durability of materials, and flame size. Many participants used the Q&A session to clarify how cookstoves are categorized by efficiency and emissions, to better understand how the HomeStove compares to its peers. Participants were interested to hear more about the process of calculating and verifying carbon reductions, particularly in relation to BioLite's current carbon finance agreement with the Norwegian Government. During the discussion session, participants expressed approval for BioLite's commitment to environmental sustainability and social impact.

During the pilot phase of operations in Kenya, as an extension of the formal stakeholder consultation process, BioLite visited and surveyed thousands of users. The feedback has been consistently and overwhelmingly positive. Most commonly, users confirmed fuel savings, typically around 50% compared to their previous stove. The home visits in Kenya have affirmed that nearly all users would, will, or have recommended the HomeStove to others.

Uganda

Comments were generally well informed and several of them were very useful for the program. Some of the feedback BioLite had received before but other feedback was new. The overall feedback was a vote of confidence & encouragement; we were asked to do more and better of what we are already planning to do. There was consensus that this project has a positive impact in various ways and that it will have a much larger positive impact once we launch full scale. Several comments, therefore, revolved around the question how the HomeStove can be better promoted and popularized. Some of the answers, which often came from the audience and not from us, had to do with communicating the benefits of the HomeStove (e.g. through media campaigns, sensitization through schools and focusing on communicating tangible benefits on which daily users of stoves actually base their cooking habits). These are all things BioLite plans to do as part of our marketing efforts.

F.4. Consideration of comments received

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India

The comments received from the various stakeholders through mail were listed out and GC responded to the queries of the stakeholder via mail. No negative comments regarding the

programme and the stakeholders considered the programme as a well-being to the rural and/or urban communities. However, the queries asked during the consultation was responded as follows:

	Comments	Response
Sunita	How will these cook stoves will be promoted?	The cook stoves will be promoted to rural and/or urban communities with the assistance of corporates/multinationals with socially responsible investments.
	Are the cook stoves totally free handouts? What is the support and monitoring mechanism to see that stoves are actually used?	The 'stoves will be delivered to rural and/or urban communities for "free" or may charge "partial or full cost" and the implementer (NGOs/ CPA workers) will be responsible for distribution, and usage. Since carbon benefits will be generated only if the chulahs operate, it is extremely crucial for GC to ensure that the beneficiary communities understand the benefits of using the product, hence product demonstrations- getting the feedback of the community, initiating behavioural change trainings will be required, maintaining the records of each households to whom the cook stoves are distributed. Monitoring will be conducted to ensure usage of the energy efficient stoves also ensure that the traditional stoves are not being used within the region
	What is the maintenance required for the stoves installed? How will it be made available?	Minor maintenance is required for improved cook stove such as wiping it with dry cloth & maintenance is very less when compared to traditional stoves.
	What is the estimated reduction in fuel consumption?	The estimated reduction of fuel consumption would be around 50 to 60 %.

Kenya

The stakeholder consultation process did not raise any negative concerns about existing project design. Therefore, the project design will continue as planned.

Uganda

The stakeholder consultation process did not raise any negative concerns about existing project design. Therefore, the project design will continue as planned.

SECTION G. Approval and authorization

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Host country approvals have been received from each of the host countries in this PoA.

PART II. Generic component project activity (CPA)

SECTION H. Description of generic CPA

H.1. Title of generic CPA

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CPA XXX – BioLite Improved Cook stoves Programme

H.2. Reference number of generic CPA

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Generic CPA 01

H.3. Purpose and general description of generic CPA

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Purpose of the generic CPA:

The proposed small scale CDM Programme Activity “CPA XXX – BioLite Improved Cook stoves Programme” involves the distribution of fuel-efficient wood/charcoal cook stoves (ICS) with single/multiple pans in the urban/rural households/SMEs of <host country(ies)>. The ICS will replace existing, traditional stoves/three stone fires in beneficiary households/SMEs.

The CPA will be located in the country of XXX. The CPA boundary will be limited to geographical boundary of XXX

BioLite India Private Limited (BioLite) is the managing entity of the PoA.

Summary of the Technology/measures to be employed:

The CPA will implement fuel-efficient wood/charcoal cook stoves (ICS) with single/multiple pans (technology/measure). For details refer section H.4 below.

The CPA is a type II CPA.

The CPA qualifies for Microscale project type: <yes/no>

CPA capacity: The CPA capacity is limited to <XXXX project devices (in case the project devices qualify as microscale units) or otherwise annual thermal energy savings of 180GWh_{th}>.

H.4. Technologies/measures

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a) Technology/measure to be employed by the CPA

The CPA involves the distribution of energy efficient wood/charcoal fuel-based ICS, with single/multiple pans. The technical description of the ICS model is listed as follows¹⁵:

Stove Model	Fuel	Portability	Pots	Chimney	Rated Thermal Efficiency
Model 1	<Charcoal / wood / processed fuel>	<Portable / Fixed>	<single / multiple>	<Yes / No>	XX%
Model 2	<Charcoal / wood / processed fuel>	<Portable / Fixed>	<single / multiple>	<Yes / No>	XX%
....
Model n	<Charcoal / wood / processed fuel>	<Portable / Fixed>	<single / multiple>	<Yes / No>	XX%

b) Types and levels of services provided by the ICS installed under the CPA

The ICS distributed under this CPA will meet the thermal energy requirements of the beneficiary households/SMEs. They will replace traditional, inefficient cookstoves and have the following types and levels of service:

¹⁵ models other than those listed above may also be included in the CPA over its crediting period, if such models meet the methodological applicability, CPA inclusion criteria and in line with technology/measures designed in section A.3 above.

Stove Model	Rated Lifetime	Level of service
Model 1	<XX years>	Domestic / Commercial / both
Model 2	<XX years>	Domestic / Commercial / both
....
Model n	<XX years>	Domestic / Commercial / both

Prior to the implementation of the CPA, the project user would have used inefficient traditional stoves/ three stone fire for meeting equivalent thermal energy needs (baseline scenario)

SECTION I. Application of methodologies and standardized baselines

I.1. References to methodologies and standardized baselines

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AMS II.G. - Energy efficiency measures in thermal applications of non-renewable biomass, version 11.1;

<https://cdm.unfccc.int/UserManagement/FileStorage/R1YKFOXZNTJQSG53IVCL8BDP2EU904>

ASB0002-2017: Fuel switch, technology switch and/or methane destruction in the charcoal sector of Uganda, version 1.0;

https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20171103152129841/EB97_repan02_ASB0002_2017_Charcoal_Uganda.pdf

Standard: Sampling and surveys for CDM project activities and programmes of activities, version 08.0;

https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20191129115244256/Meth_stan05.pdf

Tool30: Calculation of the fraction of non-renewable biomass version 2.0;

<https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v2.0.pdf>

I.2. Applicability of methodologies and standardized baselines

>>

Methodology Applicability:

Applicability Criteria	Justification
This methodology comprises efficiency improvements in thermal applications of non-renewable biomass. Examples of applicable technologies and measures include the introduction of high efficiency biomass fired project devices (cook stoves or ovens or dryers) to replace the existing devices and/or energy efficiency improvements in existing biomass fired cook stoves or ovens or dryers.	The CPA includes dissemination of high efficiency biomass fired ICS, to replace the existing traditional cookstoves/three stone fires in beneficiary households / SMEs. The same has been developed as eligibility criteria #4 for inclusion of CPA in the PoA.
In the case of cookstoves, the methodology is applicable to the introduction of single pot or multi pot portable or in-situ cookstoves with rated efficiency of at least 20 per cent. Refer to the requirements indicated in "Data / Parameter table 12" which details the options for testing and certification as well as supporting documentation (e.g. certificate issued by third party or test results) that needs to be presented to the validating DOE.	The CPA shall include only those ICS that have a rated thermal efficiency of at least 20% (for Kenya and Uganda) and at least 25% (for India). The same has been developed as an eligibility criterion #4 for inclusion of CPA in the PoA.

<p>The aggregate energy savings of a single project activity shall not exceed the equivalent of 60 GWh per year or 180 GWh_{th} per year in fuel input</p>	<p>The CPA is a type II category CPA. Para 51 of the AMS II.G. version 11.1 states that in case a CPA is solely comprised of “microscale CDM units” as defined in Tool 19, the coordinating / managing entity is not required to demonstrate compliance with the small-scale CDM thresholds at the aggregate level of the CPA. In such cases:</p> <ul style="list-style-type: none"> • The definition of ‘microscale CDM units’ provided under Tool 19, “Demonstration of additionality of microscale project activities” version 9.0, section 6, para 14 and 15, shall apply; • For CPAs applying microscale thresholds at the unit level rather than at the aggregate level of the CPA, the term ‘project activities’ in paragraphs 4 and 11-13 above shall be read as ‘units’. If each of the units contained in the CPA satisfies the condition to qualify as a ‘microscale CDM unit’, then the coordinating/managing entity is not required to demonstrate compliance of the CPA with the methodological thresholds at the aggregate level of the CPA. In such cases, the requirements related to de-bundling stated in paragraphs 6 above do not apply. <p>If the CPA does not qualify with para 51 of the methodology, then aggregate annual thermal energy savings shall be limited to 180GWh_{th} for the CPA.</p> <p>Thus, compliance with the requirement of methodology and para 124(m) of Standard: CDM project standard for programmes of activities, version 2.0, shall be ensured, by eligibility criteria #6):</p>
<p>Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics</p>	<p>India: State of Forest Report (FSI) 1987¹⁶ i.e., prior to 1989 clearly states for India that the firewood consumption in 1987 is estimated at 157 million tonnes or 235 million m³. However, the production of firewood from forests estimated by FSI (Forest Survey of India) is only 40 million m³. Thus, there was a gap of 195 million m³ in demand and production of firewood. This also leads to a conclusion that upto 83% (195/235) of the firewood used was non-renewable prior to 1989. It may also be noted that FSI is an organisation under the Ministry of Environment & Forests, Government of India and its principal mandate is to conduct survey and assessment of forest resources in the country. Thus, it is established that non-renewable biomass</p>

¹⁶ http://www.fsi.nic.in/sfr1987/sfr_1987.pdf (page 46 ; 3.7 - 3.9)

	<p>has been used in India since 31 December 1989, using official reports of the Government of India. Hence the applicability criterion is met.</p> <p>Kenya: Many examples from published literature show how cutting and usage of non-renewable biomass have been a critical issue on the Kenyan territory in the last decades. In particular, UNESCO ¹⁷ reported in 2006. how "Since independence in 1963, Kenya's forest cover has shrunk from 10% of its 582,650 km² territory to a mere 1.7%". Likewise, FAO data show a decline in forest areas and growing stock in forest land. In the last 20 years, the forested area in Kenya reduced by 0.35% per year between 1990 and 2000, by 0.34% per year between 2000 and 2005 and by 0.31% per year between 2005 and 2010¹⁸.</p> <p>Uganda: Forest degradation in Uganda has been a consistent problem for decades, and non-renewable biomass has been used since before 31 Dec 1989. According to the FOSA study in Uganda, from 1988 to 1999, wood production increased by 1% faster than the population growth. In a country with already high levels of population growth, this implies an over exploitation of forest resources.¹⁹ During the rule of Idi Amin (1971-1979), civil and political conflict had severe consequences for forest resources in Uganda. From 1971 to 1987, Uganda lost 50 percent of its forests, including virtually all of its primary forests. Between 1990 and 2005, Uganda lost 26.3 percent of its remaining forest cover, and current deforestation continues at a rate of 2.2 percent per year.²⁰ Altogether, after analyzing the renewability of the biomass from forests and non-forests in Uganda, there is strong evidence of the use of non-renewable biomass in Uganda since before 1989.</p>
For cases where the biomass is sourced from renewable sources, the project participants should use a corresponding Type I methodology	Not Applicable (refer f _{NRB} assessment above)
If the project device requires a specific fuel for this device (e.g. briquettes, pellets, woodchips), the consumption of the fuel should be monitored during the crediting period.	Refer the monitoring plan section I.7.1. below. The same has been developed as a monitoring parameter, <i>Cons_{processed fuel}</i> , applicable in case of processed fuels (briquettes, pellets, woodchips).

¹⁷ UNESCO (2006). Fighting desertification in Kenya, one tree at a time. Courier, 3, p.7,

<http://unesdoc.unesco.org/images/0019/001915/191578e.pdf#193846>

¹⁸ Source: FAO (2010): Global Forest Resources Assessment 2010, Country Report Kenya, p.9 and p.25,

<http://www.fao.org/docrep/013/al543E/al543E.pdf>

¹⁹ FOSA 2001, <http://www.fao.org/DOCREP/004/AC427E/AC427E07.htm>

²⁰ MongaBay, <http://rainforests.mongabay.com/20uganda.htm>

The CDM-PDD or CDM-PoA-DD/CPA-DD shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end-user locations (e.g. programme logo).	Refer the applicability criterion #2 for inclusion of CPA in the PoA. This shall ensure that neither the CPA nor the project devices are counted twice.
The CDM-PDD or CDM-PoA-DD/CPA-DD shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices.	At the time of ICS distribution, the stove beneficiary transfers the ownership of the emission reductions, generated from the use of the project device, to the CME thereby avoiding any subsequent double claim on ownership of credits. Refer the applicability criterion #2 for inclusion of CPA in the PoA.

Applicability of standardized baseline ASB0002-2017

Please refer the clarification approved by meth panel on 12 December 2019 available: https://cdm.unfccc.int/methodologies/standard_base/2015/sb154.html, which confirms the applicability of ASB002 to AMS II.G. projects in Uganda.

I.3. Application of multiple methodologies

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NA

I.4. Project boundary, sources and greenhouse gases (GHGs)

>>

The small-scale CPA is located in XXXX and is within the geographical boundary of India, Kenya or Uganda. Emissions sources to be included in, or excluded from, each SSC-CPA boundary in the proposed PoA:

Source		GHG	Included?	Justification/Explanation
Baseline	Combustion of fuelwood for cooking	CO ₂	Yes	Major source of emissions
		CH ₄	Yes	Minor source of emissions
		N ₂ O	Yes	Minor source of emissions
Project activity	Combustion of fuelwood for cooking (efficient stove)	CO ₂	Yes	Major source of emissions
		CH ₄	Yes	Minor source of emissions
		N ₂ O	Yes	Minor source of emissions

I.5. Establishment and description of baseline scenario

>>

As per para 23 of the methodology AMS.II.G. it is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels to meet similar thermal energy needs as those provided by project devices.

Para 288 of the PS for PoA, version 02.0 states the following:

To demonstrate the validity of the original baseline or its update, the coordinating/managing entity is not required to re-assess the baseline scenario. Instead, the coordinating/managing entity shall assess the modalities to calculate GHG emission reductions or net anthropogenic GHG removals that would have resulted from that scenario.

Para 289 of the PS for PoA, version 02.0 states the following:

The coordinating/managing entity shall assess and incorporate the impact of national and/or sectoral policies and circumstances existing at the time of requesting renewal of the PoA period on the

modalities to estimate baseline GHG emissions for the subsequent crediting period of each corresponding CPA, without reassessing the baseline scenario.

The modalities for calculation of GHG emissions have been updated based on AMS II.G. version 11.1 as explained in section I.6 below.

Assess impact of national and/or sectoral policies on the modalities to estimate baseline GHG emissions

As per latest India National Family Health Survey Report, published in December 2017, 54.7% of Indian households use solid fuels for cooking, with fuelwood being used in 40.5% of households for cooking purposes. For households using solid fuels for cooking, 98.8% users cook on open fire/chullah as the cooking technology/device²¹.

There are no mandatory national/sectoral policies in India that mandate use of improved stoves. The government's *Unnat Chulha Abhiyan* (scheme aimed at creating market awareness and demand for improved biomass stoves) could meet just one per cent of its ICS deployment target of 2.75 million between 2014 and 2017²². Besides, the government's *Pradhan Mantri Ujjwala Yojana* (scheme aimed at providing 80 million LPG connections to women below poverty level) has successfully provided over 57 million connections²³. However, despite acquiring LPG connections, most households continue to use traditional biomass for some of their cooking due to the high recurring cost of LPG and the availability of free biomass.²⁴

The Government of Kenya has recognized clean cooking as a nexus issue and has included it in government policies and development plans such as the National Climate Change Action Plan (2018-2022)²⁵. As per International Energy Agency, Kenya Energy Outlook (last updated on Jan 27, 2020), there is little or no penetration of improved cookstoves by 2018 (Refer snapshot below). By 2030, the government policy is to achieve a penetration rate of 25% for improved stoves.

²¹ India National Family Health Survey Report, December 2017, Table 2.3

²² Access to Clean Cooking Energy in India, Report | October 2017 by CEEW, page 1

²³ Access to Clean Cooking Energy and Electricity, Survey of States 2018, Report | November 2018 by CEEW, page 2

²⁴ Access to Clean Cooking Energy and Electricity, Survey of States 2018, Report | November 2018 by CEEW, page XXIV

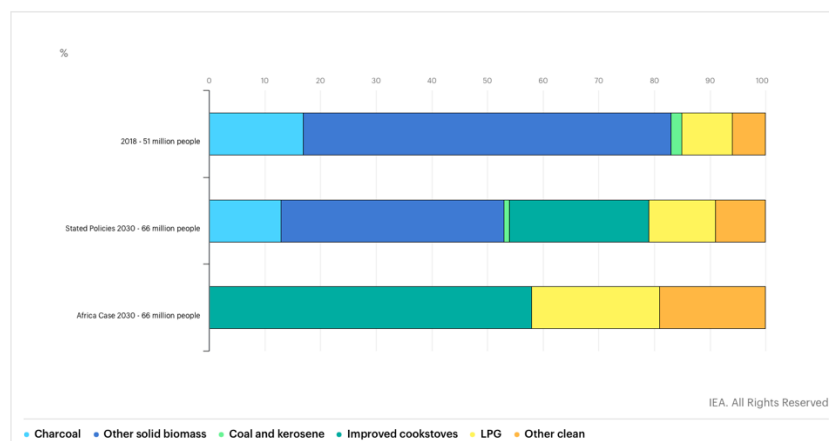
²⁵ <https://www.cleancookingalliance.org/country-profiles/focus-countries/4-kenya.html>

Kenya fuels and technologies used for cooking by scenario, 2018-2030

Last updated 27 Jan 2020

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Appears in
Kenya Energy Outlook

However, under the Finance Act 2020, the Government of Kenya reinstated a standard rate of 14% VAT on various clean cooking products, including stoves, biogas and LPG. This is a reversal from the Government of Kenya's decision in 2016 to exempt clean cooking stoves and fuels from VAT and will obviously have a significant impact on the industry in that it will increase prices for consumers²⁶ and is deemed prohibitive towards the improved stoves penetration.

In Uganda, unprocessed biomass makes up the majority with over 85 percent; charcoal is used by 13 percent of the population, mainly in urban and peri-urban areas; LPG and kerosene are used in small portions, less than 0.5 percent each; the remaining 0.8 percent is a mix of fuels produced from small enterprises and possibly some electricity.²⁷

Uganda's Renewable Energy Policy was adopted in 2007 whose targets were to increase the rate of adoption of efficient charcoal stoves from 20,000 in 2007, to 2,500,000 by 2017 in urban areas and efficient fuel wood stoves from 170,000 in 2007, to 500,000 by 2012 and 4,000,000 by 2017 (SNV, 2014). In addition, the policy was to offer training opportunities for artisans at the village level for the manufacture, installation and maintenance of efficient cooking stoves. However, the current status of how much has been achieved is unknown. The country has not had the financial and technical support, nor created the enabling conditions required to attract the level of private investment needed to create a thriving market for clean cookstoves and fuels. There is also weak collaboration between government and private sector in the drive to meet the policy targets²⁸.

Thus, the penetration of project technology is insignificant in the host country(ies) and the current baseline scenario is deemed valid.

Step 1.2: Assess the impact of circumstances

²⁶ <https://www.cleancookingalliance.org/country-profiles/focus-countries/4-kenya.html>

²⁷ "Clean" Cooking Energy in Uganda – technologies, impacts, and key barriers and enablers to market acceleration, a Helpdesk Report by Institute of Development Studies, 2017

²⁸ "Clean" Cooking Energy in Uganda – technologies, impacts, and key barriers and enablers to market acceleration, a Helpdesk Report by Institute of Development Studies, 2017

As explained above, biomass remains to be the most consumed fuel for meeting primary energy demand in Host country(ies) over last several decades. The existing circumstances / policies do not have an impact on the modalities to calculate baseline GHG emissions.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

The continuation of current baseline is the most likely scenario for the period for which renewal is sought as demonstrated above. The use of traditional biomass cooking is prevalent across the host country(ies) and their penetration rate in the host country remains significantly unchanged.

Step 1.4: Assessment of the validity of the data and parameters

Data and parameters used for determining the original baseline, that were determined ex ante and not monitored during the PoA period and which are no longer valid have been updated according to paragraph 291, PS for PoA; version 02.0 as follows:

Step 2.1: Update the current baseline

The ex-ante parameters for baseline emissions for the subsequent crediting period, have been updated, based on the latest approved version of the methodology, as follows:

Step 2.2: Update the data and parameters

Ex-ante Parameter	2 nd PoA Period
B _{old,i,j} (tonnes/year)	To be determined at CPA level as per methodological choices and section I.6.2 of the PoA-DD
f _{NRB} (fraction)	India: to be determined as per section I.6.2 below Kenya: to be determined as per section I.6.2 below Uganda: 0.88 (as per standardized baseline ASB0002)
NCV _{biomass} (TJ/ton)	0.0156 (as per methodological choices and section I.7.1 below)
EF _{projected_fossilfuel} (t CO ₂ /TJ)	As per methodological choices and section I.6.2 below: India – 64.4 Kenya – 73.2 Uganda – 73.2

I.6. Estimation of emission reductions

I.6.1. Explanation of methodological choices

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As per para 25 of AMS II.G. version 11.1, for parameter EF_{projected_fossil fuel}, default regional values as stated in table 2 of the methodology is used. Thus, para 26 is not deemed applicable to the CPA.

As per para 27(a) of AMS II.G. version 11.1, the f_{NRB} is established ex-ante, thus not requiring monitoring / recalculation during the crediting period. As per para 49 AMS II.G. version 11.1, f_{NRB} is to be determined using Tool 30 or default national values approved by the Board (if available) or standardized baseline, as applicable

As per para 32 and 50 of AMS II.G. version 11.1, B_{y,savings} is determined using equation 7.

As per para 35 of AMS II.G. version 11.1, in cases where charcoal is used as a fuel in the baseline and/or project device, the quantity of woody biomass may is determined using a default wood to charcoal conversion factor of 6kg of firewood (wet basis) per kg of charcoal (dry basis).

As per para 37 of AMS II.G. version 11.1, loss in efficiency of the project devices is determined using either option c) or d) to be defined ex-ante in section I.7.1 below. Hence, the monitoring parameter “Life Span” (being deemed applicable in case of para 37(a) only), is not included in section 1.7.1 below.

As per para 39 and 48 of AMS II.G. version 11.1, Leakage related to the non-renewable woody biomass saved by the project activity is accounted using by multiplying B_{y,savings,i,j} by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.

I.6.2. Data and parameters fixed ex ante

Based on the methodological choices made above, the following ex-ante parameters specified in section 5.5 of AMS II.G. version 11.1 are not being listed as they are not deemed applicable:

1. x_j - Percentage share of fossil fuel use (a fraction representing the share of fossil fuel type j in total fossil fuel used in the region/country or project area for cooking)
2. SC_{old} - Specific fuel consumption or fuel consumption rate of the pre-project devices
3. $HC_{i,j}$ - Rated capacity for delivering heat as per manufacturer specification (kW)

Ex-ante fixed parameters for all CPAs under this PoA are as follows:

Data/Parameter	$B_{old,p}$
Data unit	tonnes/person/year
Description	Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices
Source of data	national data / published reports / official statistics / baseline surveys
Value(s) applied	XXXX (established via national data, published reports, official statistics, surveys or standardized baseline if available); or 0.5 (default value for households as per data/parameter table 2)
Choice of data or measurement methods and procedures	AMS II.G. version 11.1, page 15
Purpose of data	To calculate baseline emission (For parameter $B_{old,HH}$)
Additional comment	Values established in the first CPA for a country may be used for other subsequent CPAs in the same country.

Data/Parameter	$N_{p,HH}$
Data unit	Number
Description	Average number of persons served per household
Source of data	national data / published reports / official statistics / baseline surveys
Value(s) applied	XXXX (established via national data, published reports, official statistics, surveys);
Choice of data or measurement methods and procedures	AMS II.G. version 11.1, page 15
Purpose of data	To calculate baseline emission (For parameter $B_{old,HH}$)
Additional comment	Values established in the first CPA for a country may be used for other subsequent CPAs in the same country.

Data/Parameter	$B_{old,HH}$
Data unit	tonnes/household/year
Description	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices
Source of data	Calculated / national data / published reports / official statistics / baseline surveys
Value(s) applied	XXX
Choice of data or measurement methods and procedures	1. $B_{old,HH} = B_{old,p} \times N_{p,HH}$; or 2. Based on the historical data or a sample survey conducted as per the latest version of "sampling and surveys for CDM project activities and programme of activities".
Purpose of data	To calculate baseline emission (For parameter $B_{old,i,j}$)
Additional comment	Values established in the first CPA for a country may be used for other subsequent CPAs in the same country.

Data/Parameter	$B_{old,i,j}$
Data unit	Tonnes/year

Description	Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j
Source of data	Calculated / national data / published reports / official statistics / baseline surveys
Value(s) applied	XXXX
Choice of data or measurement methods and procedures	<p>Use one of the following options for Households:</p> <ol style="list-style-type: none"> 1. $B_{old,i,j} = B_{old,HH}$ if the CPA envisages distributing only one ICS unit per household/SMEs; 2. $B_{old,i,j} = B_{old,HH} \div N_{d,HH}$ if the CPA envisages distributing more than one ICS unit per household/SMEs; <p>For SMEs use one of the following options:</p> <ol style="list-style-type: none"> 1. Based on the historical data or sample survey conducted as per the latest version of "sampling and surveys for CDM project activities and programme of activities". 2. Based on national data, published reports, official statistics etc.
Purpose of data	To calculate baseline emission (For parameter $B_{old,i,j}$)
Additional comment	<p>Values established in the first CPA for a country may be used for other subsequent CPAs in the same country.</p> <p>Values used in other schemes (e.g. registered Gold Standard carbon offset projects) from the same region are acceptable when it is demonstrated to be suitable for use as per the procedures indicated in "General guidelines for SSC CDM methodologies (version 22.1)"</p>

Data/Parameter	$EF_{projected_fossil\ fuel}$
Data unit	tCO ₂ e/TJ
Description	Emission factor for fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers
Source of data	AMS-II.G. version 11.1, table 2 and Appendix 1
Value(s) applied	India – 64.4 Kenya – 73.2 Uganda – 73.2
Choice of data or measurement methods and procedures	As per para 25 of AMS II.G. version 11.1
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/Parameter	LAF_y
Data unit	Fraction
Description	Net to Gross Leakage Adjustment factor
Source of data	AMS-II.G. version 11.1
Value(s) applied	0.95
Choice of data or measurement methods and procedures	As per para 39 and 48(c) of the methodology
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/Parameter	$f_{NRB,y}$
Data unit	Fraction
Description	Fraction of woody biomass saved by the project activity in period y that can be established as non-renewable biomass
Source of data	India: Calculated as per Tool 30 Kenya: Calculated as per Tool 30 Uganda: Standardized baseline ASB0002-2017, version 1.0
Value(s) applied	India: XXXX Kenya: XXXX

	Uganda: 0.88
Choice of data or measurement methods and procedures	As per para 49 AMS II.G. version 11.1
Purpose of data	Calculation of baseline emissions
Additional comment	For Kenya and India: Values to be established in the first CPA being included in the country. The value once established in the first CPA may be used for subsequent CPAs in the given country. For Uganda: The f_{NRB} shall be revised in the next PoA period

I.6.3. Modalities for ex ante calculation of emission reductions

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As per applicable meth, AMS-II.G. version 11.1; formula to calculate emission reductions (ERs)²⁹ is:

$$ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y \quad (1)$$

Where

- i = Indices for the situation where more than one type of project device is introduced to replace the pre-project devices³⁰
- j = Indices for the situation where there is more than one batch of project device
- ER_y = Emission reductions during year y in t CO₂e
- $ER_{y,i,j}$ = Emission reductions by project device of type i and batch j during year y in t CO₂e
- LE_y = Leakage emissions in the year y

Where

$$ER_{y,i,j} = B_{y,savings,i,j} \times N_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil\ fuel} \quad (2)$$

Where

- $B_{y,savings,i,j}$ = Quantity of woody biomass that is saved in tonnes per cook stove device of type i and batch j during year y
- $f_{NRB,y}$ = Fraction of woody biomass 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, based on the gross weight of the wood that is 'air-dried')
- $EF_{projected_fossilfuel}$ = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers
- $N_{y,i,j}$ = Number of project devices of type i and batch j operating during year y

²⁹ The methodology directly gives formulae for emission reductions without giving separate algorithms for baseline, project and leakage emissions. Hence $ER_y = BE_y$ and $PE_y = LE_y = 0$. The purpose of data in parameter tables is therefore mentioned as 'to calculate baseline emissions'

³⁰ For example, in some instances, full replacement of the pre-project device would require the implementation of more than one project device (e.g. one stove suitable for cooking and the other stove suitable for cooking/boiling water)

μ_y = Adjustment to account for any continued use of pre-project devices during the year y when applying equations 7 or 9 (fraction). Use 1.0 in other cases

$$B_{y,savings,i,j} = B_{old,i,j} \times \left(1 - \frac{\eta_{old,i,j}}{\eta_{new,i,j}}\right) \times LAF_y \quad (7)$$

Where

$B_{old,i,j}$ = Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j

$\eta_{new,i,j}$ = Efficiency of the device of each type i and batch j implemented as part of the project activity.

$\eta_{old,i,j}$ = Efficiency of pre - project device, which is a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney;

LAF_y = Net to Gross Leakage adjustment factor

$$B_{old,i,j} = (B_{old,HH} \div N_{d,HH}) \quad (11)$$

Where

$B_{old,HH}$ = Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices

$N_{d,HH}$ = Average number of project devices per household

I.7. Monitoring plan

I.7.1. Data and parameters to be monitored

Based on the methodological choices made above, the following monitoring parameters specified in section 6.1 of AMS II.G. version 11.1 are not being listed, as they are not deemed applicable:

1. $t_{y,i,j}$ – this is applicable in case para 29 of methodology is used for determining $B_{y,savings,i,j}$. The PoA uses para 32 instead.
2. $SC_{new,i,j}$ - this is applicable in case para 33 of methodology is used for determining $B_{y,savings,i,j}$. The PoA uses para 32 instead.
3. $f_{NRB,y}$ – this is being fixed ex-ante as per para 27(a) of the methodology
4. $B_{y=1,new,i,j,survey}$ - this is applicable in case of equation 8 of the methodology is used for determining $B_{y,savings,i,j}$. The PoA uses equation 7 of the methodology instead.
5. $B_{new,KPT,i,j}$ - this is applicable in case para 31 of methodology is used for determining $B_{y,savings,i,j}$. The PoA uses para 32 instead.
6. Date of commissioning of batch j - The project ICS are manufactured using standard material and design specification by CME, or by different local manufacturing partners, established under the PoA and hence batches are not deemed applicable. For each installation, the date of commissioning of ICS (deemed as date of installation) is recorded and ERs shall be calculated accordingly from corresponding date of installation. However, for the purpose of sampling and determining ex-post thermal efficiency, project devices of type i installed in one calendar year will be deemed under one sampling frame or strata.

Data/Parameter	$N_{y,i,j}$
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Data unit	Number
Description	Number of project devices of type i and batch j operating during year y
Source of data	Sales database and monitoring survey records
Value(s) applied	XXX
Measurement methods and procedures	<p>CME shall maintain the database of all stoves distributed. The number of operating stoves for each device i and batch j shall be determined on a sampling basis. The results from monitoring shall be used to calculate $N_{y,i,j}$ as follows</p> $N_{y,i,j} = (n_{i,j, \text{operational}} / n_{i,j, \text{total}}) * N_{y,i,j, \text{installed}}$ <p>Where: N = number of stoves n = number of samples</p>
Monitoring frequency	At least once every two years (biennial)
QA/QC procedures	<p>A 95 /10 confidence / margin of error shall be achieved for the sampling parameter in case of following:</p> <ol style="list-style-type: none"> 1. Single sampling plan covering all (or a group of) CPAs 2. CPA(s) solely comprise of Micro Scale units 3. Monitoring frequency is biennial <p>Otherwise, 90/10 confidence / margin of error shall be applied.</p> <p>In the case the desired precision is not met, lower bound values shall be used instead of repeating the survey</p>
Purpose of data	To calculate baseline emissions
Additional comment	<p>If $N_{d,HH} = 1$, the following shall apply</p> <p>During the stove distribution, the presence of existing project ICS, if any, shall be monitored and in case an existing project ICS is found installed in the same household/SME, the subsequent (second) ICS shall not be included in the ER calculations. Alternatively, the presence of multiple project ICS in a household/SME facility may be determined ex-post during surveys and the total ICS population shall be discounted by the fraction of sampled households/SMEs found using more than one project ICS</p>

Data/Parameter	μ_y
Data unit	Fraction
Description	Adjustment to account for any continued use of pre-project devices during the year y
Source of data	Monitoring survey records
Value(s) applied	XXX
Measurement methods and procedures	<p>Option 2, page 19 of AMS II.G., version 11.1 is used to determine μ_y. The sampled users will be checked for presence of baseline stove and whether it is used along with project stove for cooking. For samples where baseline stove is found not being used, $\mu_y = 1.0$</p> <p>For samples where the baseline stove is found to be in use, μ_y shall be determined as:</p> <ul style="list-style-type: none"> • ratio of frequency of usage (i.e. number of meals cooked on ICS Vs Total number of meals cooked on ICS and baseline stove) <p>For example, during the survey if was found that total average use of project ICS is 3 times per day and that of baseline stove is 5 times per week, $\mu_y = 3*7 / (3*7 + 5)$.</p>
Monitoring frequency	At least once every two years (biennial)

QA/QC procedures	<p>A 95 /10 confidence / margin of error shall be achieved for the sampling parameter in case of following:</p> <ol style="list-style-type: none"> 1. Single sampling plan covering all (or a group of) CPAs 2. CPA(s) solely comprise of Micro Scale units 3. Monitoring frequency is biennial <p>Otherwise, 90/10 confidence / margin of error</p> <p>In the case the desired precision is not met, lower bound values shall be used instead of repeating the survey</p>
Purpose of data	To calculate baseline emissions
Additional comment	-

Data/Parameter	$\eta_{new,i,j}$
Data unit	Fraction
Description	Efficiency of the project device of each type i and batch j implemented as part of the project activity
Source of data	Certificate or Manufacturer's specification for design / rated efficiency; and/or Ex-post WBT Records to determine efficiency loss as per para 37
Value(s) applied	XXX
Measurement methods and procedures	<p>The CPA shall select from one of the following options to determine the design/rated efficiency of a project device:</p> <ol style="list-style-type: none"> 1. The efficiency of the project devices shall be based on certification by a national standards body or an appropriate certifying agent recognized by that body 2. Alternatively, manufacturer specifications on efficiency based on water boiling test (WBT) may be used. The WBT shall be carried out in accordance with national standards (if available) or international standards or guidelines (e.g. the WBT protocols listed by CCA. The sampling test of stoves by such certification bodies/agents or manufacturers shall conducted following a 90/10 precision in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities". 3. However, the following simplified approach may be used, when the efficient cook-stoves are produced by a manufacturer with a good quality management system in place to ensure that the individual equipment produced do not vary beyond the range of acceptance limits (e.g. characteristics such as materials, critical dimensions): <ol style="list-style-type: none"> (i) Conduct a sample test on three cook stoves with three tests conducted for each stove. The test can be carried out by project proponents by themselves or stove manufacturers; (ii) If the standard deviation of the nine test results indicated above is very small and 95/10 precision requirement is met (in this case, the value of the t-distribution for 95 per cent confidence shall be used instead of Z value), the efficiency determined is acceptable, otherwise more sample tests would be required until 95/10 precision is met 4. For project activities that implement cookstoves with saucepan capacities both greater than 30 L as well as smaller than 30 L, the most conservative value among the results of efficiency tests conducted (i.e. the least efficiency determined) on cookstoves of sizes equal to or smaller than 30 L may be used for stoves that are larger than 30 L in lieu of actual testing of the efficiency of stoves that are above 30 L capacity. The simplified approach above may also be used to comply with eligibility requirements under paragraph 3 and can be used only if the following conditions are met: <ol style="list-style-type: none"> (i) Stoves that can hold saucepans that are larger than 30 L are from the same manufacturer¹⁶ and of similar design (e.g. with respect to construction materials including insulation material, placement of grate, cooking vessels and if applicable chimney) as compared to the stoves that are smaller than 30 L;

	(ii) Project proponents should demonstrate that comparable repair and maintenance practices are undertaken on all project stoves, irrespective of the size
Monitoring frequency	<ol style="list-style-type: none"> Once at the time of inclusion of first unit of stove model in the CPA to define the design/rated efficiency Annually for first batch of ICS type i in case of option c) of para 37 At-least biennially in case of option d) of para 37
QA/QC procedures	<p>A 95 /10 confidence / margin of error shall be achieved for the sampling parameter in case of following:</p> <ol style="list-style-type: none"> Single sampling plan covering all (or a group of) CPAs CPA(s) solely comprise of Micro Scale units Monitoring frequency is biennial <p>Otherwise, 90/10 confidence / margin of error</p> <p>In the case the desired precision is not met, lower bound values shall be used instead of repeating the survey</p>
Purpose of data	To calculate baseline emissions
Additional comment	<p>To calculate efficiency loss, CPAs shall use any one of the following options given in para 37 of AMS II.G. version 11.1</p> <p>(c) Determine the rate of efficiency drop for a representative sample of the first batch of project device i in year y and assume that same rate of loss in efficiency applies to all other batches. In other words, it may be assumed that the degradation of efficiency measured in a representative sample of the first batch of project devices i apply to all subsequent batches. The efficiency of the project devices in the first batch has to be monitored annually through representative samples and this rate of loss in efficiency may be applied correspondingly to all batches</p> <p>(d) Determine the loss in efficiency annually from a representative sample of each batch and use the actual loss rate that is measured</p>

Data/Parameter	$\eta_{old,i,j}$
Data unit	Fraction
Description	Efficiency of the baseline device
Source of data	Survey Records / AMS II.G. version 11.1
Value(s) applied	0.1 or 0.2
Measurement methods and procedures	0.1 In case of a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney; 0.2 for other types of baseline devices.
Monitoring frequency	Only Once at the time of stove distribution for each individual household/SME in the project database
QA/QC procedures	--
Purpose of data	To calculate baseline emissions
Additional comment	Use weighted average values (taking the amount of woody biomass consumed by each device as the weighting factor) if more than one type of device is being replaced.

Data/Parameter	$NCV_{biomass}$
Data unit	TJ/tonne
Description	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices
Source of data	Fuel NCV Measurement Records; or AMS II.G. version 11.1
Value(s) applied	XXXX in case of fuel measurements records for briquettes/pellets 0.0156 in case of woody biomass
Measurement methods and procedures	1. IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried' may be used if fuel used in project device is also woody biomass (charcoal/wood)

	2. If briquettes, pellets are used, NCV shall be monitored
Monitoring frequency	Once in the crediting period in case of woody biomass Annual for briquettes/pellets
QA/QC procedures	--
Purpose of data	To calculate baseline emission
Additional comment	--

Data/Parameter	Cons _{processed fuel}
Data unit	Tonnes/device
Description	Consumption of processed fuel (briquettes/pellets) per device
Source of data	Fuel Consumption Measurement Records
Value(s) applied	XXXX
Measurement methods and procedures	If briquettes, pellets are used, their consumption shall be monitored via survey sampling to get the best estimate of processed fuel consumption per device.
Monitoring frequency	At-least biennially
QA/QC procedures	A 95 /10 confidence / margin of error shall be achieved for the sampling parameter in case of following: <ol style="list-style-type: none"> 1. Single sampling plan covering all (or a group of) CPAs 2. CPA(s) solely comprise of Micro Scale units 3. Monitoring frequency is biennial Else, 90/10 confidence / margin of error In the case the desired precision is not met, lower bound values shall be used against repeating the survey
Purpose of data	In line with methodology para 7
Additional comment	Applicable only in case when the project device runs on briquettes/pellets or any other processed fuel. Leakage emissions in case of consumption of processed fuel shall be determined on the basis of Tool 16 - Project and leakage emissions from biomass, as applicable.

Data/Parameter	Date of commissioning of project device i
Data unit	Date
Description	Actual Date of commissioning of project device
Source of data	Sales database
Value(s) applied	XX
Measurement methods and procedures	Each sale will be recorded in sales database along with the name of recipient, contact details, location (address, village, district etc). The date of installation is deemed as date of commissioning of the ICS.
Monitoring frequency	Recorded at the time of installation of project devices
QA/QC procedures	NA
Purpose of data	To calculate baseline emissions
Additional comment	Record will be archived for 2 years after the end of the crediting period

Data/Parameter	N_{d,HH}
Data unit	number
Description	Number of project devices distributed per household/SME
Source of data	Internal records
Value(s) applied	XX
Measurement methods and procedures	Each sale will be recorded in sales database along with the name of recipient, contact details, location (address, village, district etc). The date of installation is deemed as date of commissioning of the ICS.
Monitoring frequency	Recorded at the time of installation of project devices
QA/QC procedures	NA
Purpose of data	To calculate baseline emissions
Additional comment	Applicable only in case of multiple devices are being given per household/SME. In case only one project devices is given per household/SME, this parameter may be ignored.

I.7.2. Sampling plan

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Sampling Framework:

As per paragraph 46 of AMS-II.G. version 11.1, all representative sampling performed during monitoring shall satisfy the requirements of the methodology and other CDM sampling guidelines and standards as indicated in this section, with the applicable methodology taking precedent. to be a statistically valid sample. The following shall apply:

1. 90% confidence, 10% precision/margin of error
 - In case of annual sampling at CPA level
2. 95% confidence, 10% precision/margin of error
 - In case of biennial sampling at CPA level
 - In case of annual/biennial sampling at cross CPA level (i.e. for all or a group of CPAs being sampled together)
 - In case of annual/biennial sampling for CPA solely comprising of micro scale units³¹

In cases where the margin of error are not achieved by results, the lower bound of the 95 or 90 per cent confidence interval will be chosen as an alternative to repeating the survey. Alternatively, the survey may be expanded to reach the required confidence/precision.

Parameters determined through a representative sample will perform sampling as specified by the “Standard for sampling and surveys for CDM project activities and programme of activities”, version 08.0, and “Guidelines for sampling & surveys for CDM project activities and programme of activities”, version 04.0.

Details of sampling plan are as follows:

Sampling Methodology

Sampling Objective – The sampling objective for each parameter is to determine, via sampling survey / test, a statistically significant parameter value for the emission reduction calculations. These parameters are as listed I.7.1 above.

Field Measurement Objective and data to be collected – As listed in Section I.7.1.

Target population and sampling frame – The target population is the total population served under the PoA, and the sampling frame consists of aggregated data of end-users of the ICS as recorded in the CPA Databases. The sampling frame will be kept for 2 years following the crediting period or the last issuance of the CERs of the project activity.

Sample method –Sampling will be conducted using either simple random sampling (in case of homogeneous population) or stratified random sampling (in case of heterogeneous population) techniques over the sampling frame, and detailed calculations are provided below as per CDM guidelines “Sampling and surveys for CDM project activities and programmes of activities” the ICS in the sampling frame shall be stratified by ICS model type i and batch j.

In case of simple random sampling, samples will be drawn from the homogeneous sampling population. In case of stratified sampling, the CME shall select the strata applicable based on the heterogeneity in the sampling population. These may be based on either service level (household/SME) or ICS model or ICS vintage etc or a combination thereof for example. The stratification should be synchronised with ex-ante parameters/ex-post parameters, as deemed appropriate.

³¹ The Standard (paragraph 22) mandates application of 95/10 confidence/precision for CPAs solely composed of micro-scale CDM units hence the same shall be applied as a conservative measure despite the methodology taking precedence.

Accordingly, Simple / Stratified Random Sampling will be used to select samples from the Project Database for monitoring parameters. Optionally, other sampling approaches may be used in accordance with Standard “Sampling and surveys for CDM project activities and programmes of activities” and Guideline for Sampling and Surveys for CDM Project Activities and Programme of Activities, when sampling techniques or statistical analysis necessitate it.

The sample size shall be determined using the following formula:

$$n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$$

Where,

n = number of ICS to be sampled

N = Total number of ICS in the population

Z = Constant referring to level of confidence (1.96 for 95 % confidence)

Precision = Required precision (e.g. 10% = 0.1)

For Proportion based parameters:

Simple Random Sampling	Stratified Random Sampling
$V = \frac{p(1-p)}{p^2}$ <p>Where,</p> <p><u>p = expected proportion of parameter of interest</u></p>	$V = \frac{SD^2}{p^2}, \quad \bar{p} = \frac{\sum_{i=1}^k g_i * p_i}{N}$ <p>Where,</p> <p><u>g_i = weight of strata i in the population</u></p> <p><u>p_i = expected proportion of strata i in the population</u></p> <p>k = total number of strata in the population</p>

For Mean based parameters:

Simple Random Sampling	Stratified Random Sampling
$V = \left(\frac{SD}{Mean} \right)^2$ <p>Where,</p> <p>SD = expected standard deviation of the parameter of interest</p> <p>Mean = expected mean of the parameter of interest</p>	$SD^2 = \frac{\sum_{i=1}^k g_i * SD_i^2}{N}, \quad Mean = \frac{\sum_{i=1}^k g_i * m_i}{N}$ <p>Where,</p> <p>SD_i = expected standard deviation of strata i in the population</p> <p>m_i = expected mean of strata i in the population</p>

To ensure a random stratified sample selection, random number generators shall be applied. Each ICS in the target population is uniquely identifiable by its Serial ID number. Each ICS can thus be allocated a Sample Selection Number in each monitoring period. Applying the random number generators, the ICS can then be randomly chosen from the defined population up to the required sample size as calculated by the CME.

During sampling, there may be non-response from the target population. Over-sampling may be used to avoid non-responses; however, sampling may cease once required confidence/precision is met.

Efficiency of devices may be monitored in a common survey with other monitoring parameters; therefore, a random sub-sample within the common survey can be taken for which stove efficiency is tested, as long as the required precision for stove efficiency is achieved

The expected mean/proportion value for a parameter may be based on results from similar studies, pilot studies, or from the project planner's own knowledge / experience of the data (as per para 13 of Standard).

I.7.3. Other elements of monitoring plan

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Each CPA will maintain a specific CPA Database where information on ICS distributed under that CPA is recorded. An individual sales record will be collected from each stove user at the point of sale. The CME will make effort to retrieve this information (paper form or electronically (eg. SMS)). ICS with end-user details recorded will serve as the sampling frame for monitored parameters.

To reduce monitoring efforts, a single sample set may be drawn based on which various parameters are monitored. The CME will determine the number of samples to be monitored for each of the parameters separately. The CME may decide to stop monitoring of a parameter during the monitoring campaign once the required precision for this parameter is achieved. The monitoring team may continue to monitor appliances in the sample with respect to the remaining parameter(s) until again the required precision for these parameters is achieved. The design of the survey questionnaire will ensure that the questions are non-intrusive and easy to understand for both the interviewee and interviewer.

Also, for determining thermal efficiency, the CME may select sub-sample within the common survey sample (as per simple random/stratified random requirements) in line with para 47 of the methodology.

Training will ensure that all monitoring staff has the appropriate skills and experience to administer relevant surveys / tests and quality checks will ensure the integrity of information flow to the CME. The CME will review the efficacy of information gathering techniques and information flow and assess enumerator and partner feedback to make improvements as deemed necessary.

Any third parties hired by the CME, if any, to carry out monitoring should have requisite skills and appropriate experience with data entry and data management. The CME will ensure that contractors are adequately trained for the tasks for which they are contracted for (eg. carrying out of WBTs). Training will also be provided on how to deal with non-responses, refusals and other problems should these occur.

SECTION J. Crediting period type and duration

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Renewable crediting period, 7 years 00 months

SECTION K. Eligibility criteria for inclusion of CPAs

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No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion
1.	Geographical boundaries	Each CPA will be located within the geographical boundary of India, Kenya or Uganda.	Sales database listing the country of installation of ICS under the CPA
2.	Avoiding double counting of GHG ERs	For each CPA, CME will check for avoidance of double counting of ERs by: 1. Ensuring system of Unique Serial numbering of ICS included in the CPA	1. Sales database listing the following: a. Unique Serial number of ICS distributed under the PoA

		<p>2. Maintaining a database of end users (name, address and telephone number (if available))</p> <p>3. Provisioning a system to transfer the ownership of emission reductions, generated by project devices, from end user to CME.</p>	<p>b. end users' details (name, address and telephone number (if available))</p> <p>2. System by which the project device beneficiary is made aware of CER ownership with CME</p>
3.	Avoiding double counting of CPA	<p>For each CPA, CME will check for avoid double counting of CPA proposed for inclusion in the PoA to be:</p> <ol style="list-style-type: none"> 1. neither registered as an individual CDM project activity 2. nor included in another registered PoA 3. neither de-registered as a CPA from an existing PoA 	Confirmation by CME
4.	Specification of technology / measure	<p>The CPA shall include:</p> <p>For India:</p> <p>fuel-efficient wood / charcoal cook stoves (ICS) with single / multiple pots model that meet the following:</p> <ol style="list-style-type: none"> 1. Thermal efficiency greater than or equal to 25% (IS Standard 13152 (Part I):1991 by the Bureau of Indian Standard) 2. CO/CO₂ emission ratio less than 0.04³² 3. Total Solid particulate emission less than 2mg/m³ 4. Surface temperature not exceeding 60°C 5. Temperature of synthetic rubber/plastic components if used shall not exceed 60°C. 6. Portable/fixed & stable 7. Biomass savings of more than 50%³³ <p>For Kenya and Uganda:</p> <ol style="list-style-type: none"> 1. fuel-efficient wood / charcoal cook stoves (ICS) with single / multiple pots 2. The design /rated efficiency of project devices shall be more than 20%. <p>Additionally, information pertaining to section H.4 of the PoA-DD above, shall be made available for each ICS model included in the CPA.</p>	<ol style="list-style-type: none"> 1. Project device specifications 2. Thermal efficiency Test results
5.	Start date	<p>For each CPA</p> <p>The start date will be the date of Purchase order / Sales record for the first cook stove included in the CPA</p> <p>The start date of CPA shall not be prior to commencement of validation of PoA.</p>	<ol style="list-style-type: none"> 1. Purchase order / Sales record of first ICS in the CPA

³² Except in the case of charcoal stoves, where the ratio should be less than 0.08

³³ http://www.mepred.eu/docs/Improved_stoves-V2.5.I.26.pdf, section 1.2

		date of webhosting of PoA-DD for validation (19/11/2011).	
6.	Applicability of applied methodology	Each CPA shall confirm the following: 1. If the CPA qualifies as solely comprised of micro-scale units (as per para 51), total number of project devices proposed for inclusion under CPA 2. If the CPA does not qualify with para 51, then aggregate annual thermal energy savings shall be limited to 180GWh _{th} for the CPA.	1. Proposed Implementation plan if CPA complies with para 51 of methodology 2. Aggregate thermal energy savings from the CPA ($\leq 180\text{GWh}_{\text{th}}$).
7.	Additionality	Each CPA shall demonstrate compliance with either one of the following: 1. Para 12 of Tool 19 (version 9.0); or 2. Para 10/Figure 1 of Tool 21 (Version 13.1); or 3. Para 11 of Tool 21 (Version 13.1);	Evidence as per Tool 19 or 21
8.	Stakeholder consultation and environmental impact assessment	Not applicable as being demonstrated at PoA level	Not applicable as being demonstrated at PoA level
9.	No ODA diversion	Each CPA will demonstrate that no Official Development Assistance (ODA) is being used.	This may be evidenced through Undertaking by CPA implementer to the coordinating /managing entity
10.	Target group	The target group of each CPA will be households/SMEs currently using biomass based inefficient / traditional cook stoves	Described in CPA-DD
11.	Sampling	Each CPA will conduct sampling and surveying for baseline ³⁴ and project scenarios as per following: 1. Sampling & survey methods described in the approved methodology AMS II.G, version 11.1, <i>Energy efficiency measures in thermal applications of non-renewable biomass</i> 2. "Standard for sampling and surveys for CDM project activities and programme of activities", and "Guidelines for sampling and surveys for CDM project activities and programme of activities".	Described in CPA-DD section I.7.2
12.	Small-scale threshold	CPA will meet the following small-scale threshold criteria: 1. Annual thermal energy savings not exceeding 180 gigawatt hours (GWh _{th}) equivalent per year every year throughout the crediting period. 2. However, if CPAs are solely comprised of micro-scale units, then the above is not required	Covered in #6,7 above

³⁴ A CPA may conduct Baseline surveys/studies to establish fuel consumption patterns, prevalent baseline technologies. Where appropriate, sampling across multiple CPAs is allowed

13.	Debundling	As per Tool 20: para 17, If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a de-bundled component of a large scale activity.	Confirmation by calculating thermal output of one unit of independent subsystem / measure.
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Appendix 1. Contact information of coordinating/managing entity and project participants

Coordinating/managing entity and/or project participants	<input checked="" type="checkbox"/> Coordinating/managing entity <input type="checkbox"/> Project participant
Organization name	BioLite India Private Limited
Country	USA
Address	65 Jay St, Floor 4, Brooklyn, NY 11201
Telephone	+1.347.529.5720
Fax	NA
E-mail	erik@bioliteenergy.com
Website	www.bioliteenergy.com
Contact person	Erik Wurster, Director of Carbon Finance

Appendix 2. Affirmation regarding public funding

Public funding from Annex I countries and diversion of official development assistance (ODA), is not involved in this project activity.

Appendix 3. Applicability of methodologies and standardized baselines

xxx

Appendix 4. Further background information on ex ante calculation of emission reductions

xxx

Appendix 5. Further background information on monitoring plan

xxx

Appendix 6. Summary report of comments received from local stakeholders

See section F of the PoA-DD.

Appendix 7. Summary of post-registration changes

Not applicable

Appendix 8. Contact information of entity completing the CDM-PoA-DD-Form (additional)

Organization name	Climate Secure India Private Limited
Address	65, Pragati Apartments, Club Road, Paschim Vihar, West Delhi, Delhi – 110063
Country	India
Telephone	+91 11 2521 3080
E-mail	info@climate-secure.com
Website	www.climate-secure.com
Contact person	Rohit Lohia

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
09.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN); • Make editorial improvements.
08.1	28 June 2017	Revision to: <ul style="list-style-type: none"> • Remove a duplicated instruction; • Make editorial improvement.
08.0	7 June 2017	Revision to: <ul style="list-style-type: none"> • Improve consistency with the “CDM project standard for programmes of activities” and with the PDD and CPA-DD forms; • Make editorial improvement.
07.0	25 May 2017	Revision to: <ul style="list-style-type: none"> • Ensure consistency with the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN) (version 01.0); • Incorporate the “Programme design document form for small-scale CDM programmes of activities” (CDM-SSC-PoA-DD-FORM); • Make editorial improvement.
06.0	15 April 2016	Revision to ensure consistency with the “Standard: Applicability of sectoral scopes” (CDM-EB88-A04-STAN) (version 01.0).

Version	Date	Description
05.0	9 March 2015	Revision to: <ul style="list-style-type: none"> • Include provisions related to choice of start date of PoA; • Include provisions related to delayed submission of a monitoring plan; • Provisions related to local stakeholder consultation; • Add exception for generic CPA where technology is under positive lists; • Make editorial improvement.
04.1	5 August 2014	Editorial revision to correct the document information table.
04.0	25 June 2014	Revision to: <ul style="list-style-type: none"> • Include the Attachment: Instructions for filling out the project design document form for CDM programme of activities (these instructions supersede the Guideline: Completing the programme design document form for CDM programme of activities (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for the application of the methodology (ies) to the PoA in B.4 and Appendix 1; • Add general instructions on post-registration changes in paragraphs 2 and 3 of general instructions and Appendix 6; • Change the reference number from F-CDM-PoA-DD to CDM-PoA-DD-FORM; • Make editorial improvement.
03.0	3 December 2012	EB 70 Revision to reflect changes to the <i>Guideline: Completing the programme design document form for CDM programmes of activities</i> (EB 70, Annex 6).
02.0	13 March 2012	EB 66 Revision required to ensure consistency with the "Guidelines for completing the programme design document form for CDM programmes of activities" (EB 66, annex 12).
01.0	27 July 2007	EB 33, Annex 41 Initial publication.
Decision Class: Regulatory		
Document Type: Form		
Business Function: Registration		
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