



**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	PoA for the Reduction of emission from non-renewable fuel from cooking at household level
Version number of the PoA-DD	29
Completion date of the PoA-DD	25/01/2021
Coordinating/managing entity	Green Development AS
Host Parties	Ethiopia Kenya Madagascar Malawi Mozambique Nigeria Uganda Zambia Chad Dominic Republic Ivory Coast Liberia Namibia Rwanda Sierra Leone Somalia Ghana South Africa Zimbabwe
Applied methodologies and standardized baselines	AMS I.E., Version 10.1 AMS III.AV., Version 08.0
Sectoral scopes	01 and 03

PART I. Programme of activities (PoA)

SECTION A. Description of PoA

A.1. Purpose and general description of PoA

- a) The purpose of the PoA is to reduce the demand for wood and charcoal and to contribute to a sustainable development.
- b) The CME will have the formal responsibility for all aspects of the PoA and will be directly responsible for collecting baseline information, and the monitoring process and all dialog with DOE, DNA and UNFCCC.
- c) The PoA is a voluntary action by the CME.
- d) The goal of the project is to provide solutions that will reduce GHG emissions, and other negative effects of the use of dirty non-renewable fuel from cooking at a household level.
- e) The goal of the program is to provide development value to the host countries, reduce deforestation, provide economic and health value to the households and to reduce financing to terrorist organizations. Production and distribution of Charcoal is the main source of financing for terrorist organizations in Africa. According to a UN report, terrorist organizations and organized crime groups collect informal taxes of charcoal production and sales, equal to 30% of the value of the Charcoal¹.

Implementation of ethanol stoves, and water purification systems may be done through local partners.

General operating and implementation framework of SSC-PoA

The purpose and goal of the Small-Scale Programme of Activities ("SSC-PoA") is to reduce emissions from household cooking stoves. The use of non-renewable fuel such as wood and charcoal for cooking, leads to the emission of greenhouses gasses, deforestation and poor indoor climate. The programme will use a number of different technologies to reach this goal.

The solutions are based on two concepts that fall under two CDM methodologies:

1. Reduce the need for boiling water for drinking and thus reduce the need for non-renewable fuel for boiling water. This is achieved by providing clean and safe drinking water to participating households. The purified water is provided either through:
 - a. Water purification system provided at the household level or
 - b. Community based water purification system where the households will get the purified water at water stations.
2. Provide clean renewable fuel for cooking and thus eliminate the need for non-renewable fuel consumption for cooking. This is done through providing highly efficient stoves that are using renewable fuel. The renewable fuel will be: Denatured alcohol

Each Component project Activity (CPA) under the SSC-PoA is implemented in a limited geographical area such as a country, county or a district. The emission reduction from each CPA is within the limits of the small-scale threshold for CDM project activities.

¹ The Environmental Crime Crisis, Threats to sustainable development from illegal exploitation and trade in wildlife and forest resources. UNEP and Interpol.

The Coordinating/Managing Entity (CME) aims to set up at least one project (CPA) in each of the countries included in the SSC-PoA². The success and benefits from these projects (CPAs) will then facilitate for replication of the solutions in other areas where new CPAs could be implemented either by the CME or by its partners. The program partners might or might not be a Local Project Implementation Partner (LPIP) with responsibility for a CPA.

Each CPA will include one or several of the technologies included in the PoA depending on the local conditions. Each household may use one single solution or a combination of solutions depending on its needs and local conditions. There will be no cross over effects between the various solutions as all solutions only contribute with its part to the reduction of non-renewable fuel. Moreover, the project will only claim ER from one solution if a household selected for monitoring is found to use both ethanol stove and purified water provided by the program.

In a case a CPA is deploying one technology for renewable energy for cooking (Denatured alcohol) and the project is deploying technologies for water purification (community / household based water purification), both solutions will result in a reduction in the use of woody biomass for cooking or boiling water, without reducing the use from the other technology. If no water purification technology is deployed, the water would have to be boiled, and this could then be boiled with the renewable energy (denatured alcohol) and hence no additional emission would occur from boiling of the water. The volume of renewable energy (denatured alcohol) would however be higher as a result of the need to boil water in addition to other cooking needs. The increase in the thermal energy used to boil the water with renewable energy would be equal to the thermal energy used to boil the water with woody biomass in the baseline. Hence there is no crossover effect.

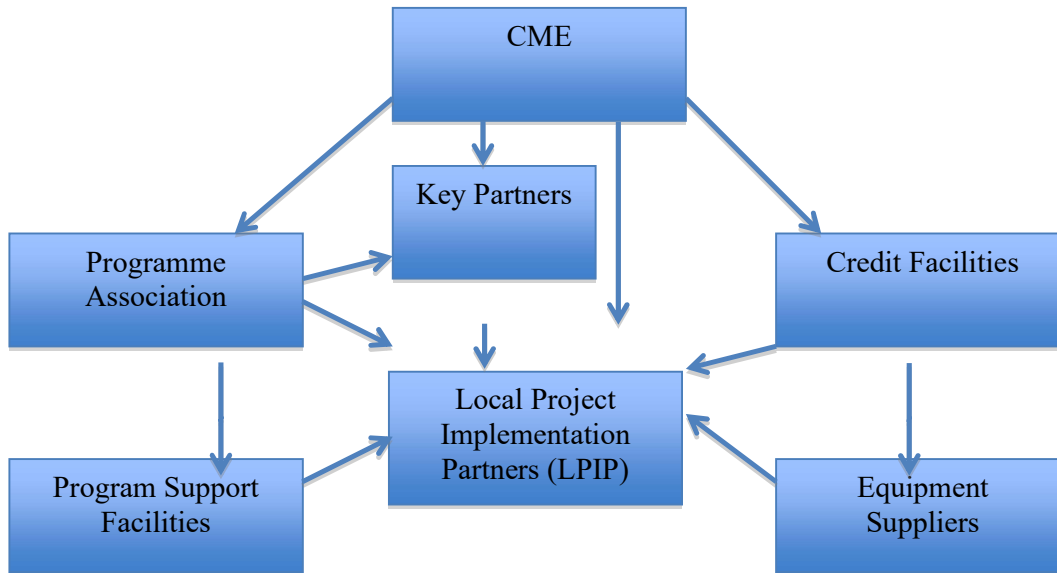
The goal of the project is to provide solutions that will reduce GHG emissions, and other negative effects of the use of dirty non-renewable fuel from cooking at a household level. The significant reduction of smoke from cooking stoves will improve the indoor air quality and greatly improve the health of the participating households. In addition, time will be saved on collecting and carrying non-renewable fuels such as wood and charcoal and on carrying water to the household. Furthermore, the project will reduce the rate of deforestation, which is a major problem in all the countries included in this PoA.

The Coordinating/Managing Entity (CME) will cooperate with LPIP to implement the SSC-PoA and the CPAs under this PoA. In some cases, particularly in the initial CPAs, CME will be responsible for the implementation of the CPAs, while it is the goal of the program to have partners to take on the role as LPIP at a later stage. Hence it is essential for the program to develop partnerships with trusted institutions that seek to assist with the project implementation.

CME aims at registering 100 CPAs, each with an emission reduction of at least 50 000 tCO₂ annually. When this goal is achieved, the program of activity will result in the reduction of 5 000 000 tCO₂ annually.

² This goal has not been achieved at the time of completion of this version of the PoA DD. The reason why this goal has not been achieved is because, and only because, of the increased risk adjusted transaction cost related to issuance process, relative to what CME expected at the time of the preparation of the PoA DD that was initially registered

Organization



Part of the income from the carbon credits will be paid from CME directly to the LPIP or to the LPIP through the key partners. In return the LPIP will provide the solutions included in the program to the participating households at a discounted price.

Coordinating/Managing Entity (CME)

Green Development AS is the Coordinating and Managing Entity (CME) for the program. CME is the owner of the carbon credits generated from the program and use the income from the carbon credits to support the structure that will make the solutions included in the program affordable and available for households that want to become program participants.

CME has set up partnerships with key partners and directly with LPIPs. The CME prequalify equipment suppliers and might set up a credit facility for the LPIP that will enable these to distribute the required equipment for households to participate in the program. Credit facilities might be provided partly by CME directly and partly through 3rd party financial institutions.

Key Partners

The Key partners are organizations that have the ability and the willingness to set up a number of LPIPs. A typical key partner is a church that has several hundred branches that want to be part of the program to provide clean renewable energy for their local community.

Local Project Implementation Partners

These will be local entrepreneurs or organizations that will manage the local project components and be the first line support to the participating households.

There might be a single LPIP in a single CPA, or there could be several LPIPs within a CPA. There may be several denatured alcohol suppliers of purified water within a single CPA.

CME will in some cases take the direct ownership in the process of producing denatured alcohol, and / or purified water to the households, in which case CME and the LPIP will be the same entity within a CPA.

Credit facility

A standard credit facility might be provided to the program participants to reduce the initial equity needed to take part in the program. Micro finance will be an option to participating households, but the preferred credit facility will be a small loan given to the LPIP.

The small-scale loan given to the LPIP will then be used to pay for part of the cost of the equipment needed to produce denatured alcohol, and purified water in order to enable the supplier to keep the unit cost of denatured alcohol and purified water as low as possible. Furthermore, the loan will be used to finance the equipment provided to the participating households, including ethanol stoves and water purification systems.

The borrower, which will be the LPIP, will be responsible for the payback of the loan, but the income from the carbon credits will go directly to the credit facility until the loan is fully paid back.

Equipment Suppliers

Equipment suppliers will provide the equipment to the LPIP. The LPIP will then distribute the equipment to the households that want to participate in the program. The households will then either lease the stoves or buy them at a discounted price from the LPIP.

Program support facilities

Pilot projects have been set up as demonstration and training of new LPIPs. These facilities are able to explain and show the various solutions that might be included in the program and explain the cost and benefit of the various solutions.

The training program support facilities also includes organizations that can provide training to new LPIPs. It is the goal of the program that the key partners gradually will take on such a role on their own, and if so, the program support facility will provide 3rd line support and training to the organizations established by the key program partners.

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

The project SSC PoA is implemented on a voluntary basis by the CME as well as by all of its partners. There is no law that mandates the adaptation of low emission stoves or the alternatives to boiling water in any of the countries or regions included in the SSC-PoA.

Policy/measure or stated goal of the SSC-PoA

During the duration of the PoA, the goal of the SSC-PoA is to transform the kitchens of households in the program area, through the distribution of solutions that will reduce emission from cooking and boiling water at household level. The program of activities will have multiple benefits of reducing global greenhouse gas emissions, reducing pressure on forests and woody biomass resources, and also reducing indoor air pollution associated with the use of traditional stove-fuel mix.

The SSC-PoA will contribute to substantial reduction in CO₂ emissions, reduction in deforestation, improved the health by the participating households, create local jobs, and improve the financial

situation of the local communities and the households that participate in the program. There are no major negative environmental or social implications by the programme.

The project participant considered all applicable national and/or sectoral policies and regulations within the countries included in the PoA. There has been found no policies or regulations in any of the countries included in the PoA that prevents or restricts households from using purified water as an alternative to boiling or from using denatured alcohol for cooking.

A.2. Physical/geographical boundary of PoA

The physical boundary of the project is the geographical boundary of the following countries:

Country	Latitude (average)	Longitude (average)
Ethiopia	8	38
Kenya	1	38
Madagascar	-20	47
Malawi	-13	34
Mozambique	-18	35
Nigeria	10	8
Uganda	1	32
Zambia	-15	30
Chad	15	19
Dominic Republic	19	-70
Ivory Coast	8	-5
Liberia	6.5	-9.5
Namibia	-22	17
Rwanda	-2	30
Sierra Leone	8.5	-11.5
Somalia	6	46
Ghana	8	-2
South Africa	-29	24
Zimbabwe	-20	30

The SSC-CPAs that included under the SSC-PoA is within the defined geographical location of the SSC-PoA and follow applicable national and / or policies and regulations.

A.3. Technologies/measures

Each Small Scale CDM Project Activity under the SSC-PoA includes one or several of the components included in the program in order to reduce the emissions from non-renewable fuel from cooking at household level.

The emission reductions will be achieved by the following solutions³

1. Reduce the need for boiling water and hence the need for fuel for this process.

³ The product descriptions used in this section refers to the solutions first CPAs implemented under the PoA. Future CPAs might use slightly different variations of the solutions with different capacity etc. as long as they still remain within the framework described in this document and comply with the methodology. The most cost-efficient solutions most suitable for the local conditions might be used as long as they still remain within the framework described in this document and comply with the eligibility criteria, the methodology and particularly section 2.1 "Scope" of AMS.III.AV., Version 08.

This may be done by providing clean drinking water as an alternative to boiling water. Clean drinking water may be provided by two alternative solutions, depending on the project specific conditions.

- a. Household water purification systems. This may be a membrane-based system, to be installed at household level which may use no energy.

The water purification technology to be installed may consist of the following process

Pouring of water into a raw water container
Filtering of the water through a water purification filter
Collection of the purified water in a safe drinking water container

Disease-causing bacteria and cysts do not pass through such membranes. Also, the concentration of heavy metals and pesticides is significantly reduced.

- b. Community based water purification systems may use filtering technology, where households can buy clean drinking water from a water station. Such solutions require that the households collect purified water to fill up a water container and carry to their home.

The deployed solutions include boreholes with hand pumps. The water is pumped from clean ground water and is filtered for further ensuring that the water meet the required quality for drinking water.

The pumps will use human power, so that there is no emission from the operation of the water purification systems.

The water purification solutions provide clean safe drinking water that meet WHO's interim performance targets on household's water treatment or applicable national standards/guidelines.

The technology deployed, based on local conditions, shall be identified and described at the time of CPA implementation and inclusion and/or shall be described as part of the monitoring process, for each household selected for monitoring.

2. Replace non-renewable fuel with renewable fuel.

This will be done by providing energy efficient ethanol stoves that will use denatured alcohol (bioethanol) which is a renewable fuel.

The income generated from the carbon credits will be used to finance the equipment included in the solutions (water purification facilities and new stoves) and or aftersales support to ensure that the system remain operational.

A.4. Coordinating/managing entity

The coordinating and managing entity of the SSC-PoA is Green Development AS (GD).

A.5. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Norway	Green Development AS	No
Republic of Korea	Green Development AS Samsung Electronics Co., Ltd. EcoEye Co., Ltd	No
Ethiopia (host Party)	Green Development AS	No
Kenya (host Party)	Green Development AS	No
Madagascar (host Party)	Green Development AS	No
Malawi (host Party)	Green Development AS	No
Mozambique (host Party)	Green Development AS	No
Nigeria (host Party)	Green Development AS	No
Uganda (host Party)	Green Development AS	No
Zambia (host Party)	Green Development AS	No
Chad (host Party)	Green Development AS	No
Dominic Republic (host Party)	Green Development AS	No
Ivory Coast (host Party)	Green Development AS	No
Liberia (host Party)	Green Development AS	No
Namibia (host Party)	Green Development AS	No
Rwanda (host Party)	Green Development AS	No
Sierra Leone (host Party)	Green Development AS	No
Somalia (host Party)	Green Development AS	No
Ghana (host Party)	Green Development AS	No
South Africa (host Party)	Green Development AS	No
Zimbabwe (host Party)	Green Development AS	No

A.6. Public funding of PoA

No public funding from Annex 1 countries is provided for the program.

SECTION B. Management system**Record keeping for each CPA**

The CME is responsible for collecting all the data needed for identifying the baseline and for the monitoring to determine the emission reductions for each CPA included in the program.

The baseline data in hardcopy (or a scanned copy of a hard copy) is forwarded to CME that keep all the data for all the CPAs. The data is then put into a database and stored for the duration of the program plus two years. Baseline data is collected for each CPA prior to each CPA inclusion.

Monitoring data is collected at least every two years to determine the annual emission reduction.

Registration of data related to each project participating household is registered electronically in a database. This data might be submitted through a smartphone application, through a written end user contract or through any other means that technology will allow for that provide a safe and verifiable registration of end user households included in the program.

Unique Identification Number

Under the “PoA for the Reduction of emission from non-renewable fuel from cooking at household level”, each SSC-CPA is assigned a unique code by CME for easy identification.

Furthermore, each project participating household is registered with a unique identification number under each CPA. The code is assigned as per scheme below:

Country Code	CPA code	Region name	Participating households ID nr.
The name in which the CPA is located. E.g. MA is for Madagascar.	CME assigned serial number of SSC-CPA. E.g. 001, 002, 003 etc. for each CPA registered in each country.	The name of the region in which the CPA is located. Additional names might also be added to the CPA	Number from 1 to 50 000

Example of the unique ID of a household included in a CPA in Kenya:

CPA – KE - 012 Kenya Samsung Project – 05.

This unique identification refers to the 5th project participating household, registered in CPA 012 Kenya Samsung, which is the 12th CPA registered in the country of Kenya under this CDM PoA.

The database for the project participating households is updated continuously as households become project participating households. A household will be considered a project participating household when it has been assigned a unique identification number and it has been registered in the database. The household will hence become a project participating households after accepting the terms in the contract stating that the solutions used by the household is part of the CDM PoA and that the carbon credits generated from this belong to Green Development AS, as it might take a few days from a contract is signed until it is provided to CME for registration in the database.

CME will be responsible for assigning a unique Identification number to each project participating household, register the data in the database and archive the contract with the project participating household. The file name of the stored copy of the end user agreement shall be the unique identification number, so that it can easily be found for cross-reference with the data in the database.

The database is designed so that it is easy to confirm that the same unique identification number is not used twice and hence eliminate the risk for double counting.

Supply and distribution of the water purification systems and ethanol stoves

The various technical solutions are distributed by CME and/or LPIPs, to the participating households and local communities.

The equipment are purchased from 3rd party vendors and the purchasing records are kept as records of how many, and what kind of stoves and water purification systems that are being distributed within the relevant CPA. The sales records for all the equipment are forward to the CME. The number of items that will be supplied are compared to the number of participating households that is part of the CPAs.

The stoves and water purification systems are sold or leased to the end user at a price that is below cost. The actual number of units which it is claimed carbon credits for are however based on the number of participating households multiplied with the average emission reduction from each of

the households monitored.

Ensure that CPA is aware that they are part of the PoA

There is a contract between each CPA implementer and CME, where it is stated that the proposed CPA is part of the PoA.

Ensure that project participating households are aware that they are part of the PoA

There is a contract with each project participating household, where it is stated that the household is part of the PoA and that the carbon credits will be the sole ownership of CME.

The CME is responsible for the inclusion of CPAs, for quality assurance of the documentation, and all other issues related to the CDM PoA documentation. CME is also responsible for training of the individuals that carry out surveys to ensure that the surveys are carried out in accordance with the applicable CDM rules and requirements.

CME is responsible for part of the PoA and outsource part of the management process. An external consultant, which might be the same consultant that carry out monitoring and baseline surveys, may be engaged for quality control of CPA DD prior to request of CPA inclusion is submitted to DOE for validation of CPA inclusion.

Potential cross over effect is avoided by only claiming Emission Reduction from one solution from each household selected for monitoring, even if a households selected for monitoring is found to have been provided with both an ethanol stove and purified drinking water solutions.

Double counting is avoided as ER is only claimed from households with a unique ID number.

SECTION C. Demonstration of additionality of PoA

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Each SSC-CPA under this PoA reduce anthropogenic CO₂ emission below those that would have occurred in the absence of the registered PoA by deploying solutions based on renewable energy, which will reduce woody biomass consumption from non-renewable sources.

(i) The SSC CPA under this PoA is a voluntary coordinated action;

The PoA is a voluntary and coordinated action. There are no mandatory requirements in any of the countries included in the PoA stipulating the use of renewable energy solutions as alternative to using woody biomass. In addition, the PoA requires individual households to take voluntary action to participate in project activities.

(ii) The proposed voluntary coordinated action would not be implemented in the absence of the PoA.

The solutions promoted by the PoA is new to the users and hence there is a barrier due to prevailing practice. Furthermore, there are financial barriers, as the project participant has no other revenues from the projects than the income from the carbon credits generated. The proposed solutions cost more than alternative solutions and hence the project participant will ensure that the proposed solutions are provided to end user at a price that is below cost.

Ethanol stoves are considered additional in accordance with the positive list in accordance with option 1, paragraph 17 of the methodology AMS-I.E version 10.1. It shall be documented that less than 5% of households use ethanol stoves within the CPA boundary.

In the case of CPAs implementing water purification systems, the CPAs are considered additional if they demonstrate that there is no public distribution network supplying SDW or a public distribution network exists, but is not supplying SDW within the CPA boundary in line with paragraph 4 a) of AMS-III.AV version 8.0, and paragraph 10 c) of the methodological TOOL21: Demonstration of additionality of small-scale project activities-v13.0, and that the prevailing practice is the use of non-renewable biomass to achieve clean-drinking water.

SECTION D. Start date and duration of PoA**D.1. Start date of PoA**

30/11/2012

D.2. Duration of PoA

28 years, 0 months (fixed)

SECTION E. Environmental impacts**E.1. Level at which environmental impacts analysis is undertaken**

Environmental Analysis is done at CPA level if required by national or local authorities.

Environmental Analysis may be done at national level for the first CPAs in that particular country.

The choice of having the Environmental Analysis done at a national level for first CPAs in each country is justified by the fact that there are no major negative social or economic or environmental implications from the project. The national environmental analysis will be used as a base for the environmental analysis for each subsequent CPA, where local conditions will be considered as additional input to the CPA specific environmental analysis.

E.2. Analysis of environmental impacts

To be provided at CPA level. National Environmental Impact Analysis may be done prior to the registration of the first CPA in that country.

E.3. Environmental impact assessment

Not applicable, as this is provided at CPA level.

SECTION F. Local stakeholder consultation**F.1. Level at which local stakeholder consultation is undertaken**

Solicitation from local stakeholder will be done prior to CPA registration for each CPA.

For the first CPA in each country the stakeholder consultation may be done by inviting stakeholders from the whole country.

The choice of having the stakeholder consultation at a national level for the first CPA is to ensure that stakeholders with a better understanding of the solutions promoted, can provide input to the program. The national stakeholder consultation will be followed up with a stakeholder consultation for each subsequent CPA, where local conditions will be considered as additional input to the CPA specific stakeholder consultation.

The stakeholder consultation conducted at national level will enable the program to include stakeholders with good understanding of the program. Description on how comments by local stakeholders has been invited and complied will be provided at SSC-CPA-DD

F.2. Modalities for local stakeholder consultation

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Stakeholder consultations was carried out in each country prior to registration of the first CPA in each host country.

F.3. Summary of comments received

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Summary of comments received will be provided in SSC-CPA-DD.

F.4. Consideration of comments received

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Report on consideration of comments received will be provided in SSC-CPA-DD.

SECTION G. Approval and authorization

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The letter of approval has been received from all parties involved in the PoA.

The coordinating/managing entity is authorized by each host Party of the PoA for its coordination in the respective letters of approval.

Each project participant listed in the PoA-DD is authorized by at least one Party involved in the PoA in the respective letter of approval.

PART II. Generic component project activity (CPA)

SECTION H. Description of generic CPA

H.1. Title of generic CPA

SSC Generic CPA 1.

H.2. Reference number of generic CPA

7359-P1-XXXX-CP1

H.3. Purpose and general description of generic CPA

The purpose of the CPA is to reduce the demand for wood and charcoal and to contribute to sustainable development.

The generic CPA are made for the two broad types of solutions included in the PoA-DD. The generic CPA applies for both the ethanol stoves and the solutions providing drinking water to households. Two methodologies are used in the generic CPA-DD.

A typical CPA will include a district or a county or any other easily defined area. In this area households will be offered a number of solutions that they might adapt to reduce their usage of non-renewable fuel for cooking and for improving their indoor environment. The solutions will be dependent on local conditions such as the availability of fuel (denatured alcohol) and to what degree drinking water is being cooked for sterilization in the baseline scenario.

A typical CPA will be a country, district, county, town or city, which is well defined. In a typical CPA most of the households will use inefficient stoves for cooking, causing extensive emission of CO₂ and extensive emission of soot, which causes indoor pollution. In a typical CPA the households are poor and have limited funds to invest in clean energy solutions, and hence they rely on suboptimal solutions that do not require large upfront investments.

Ethanol stoves will be provided as the standard solution for the households, thus eliminating the use of non-renewable fuel such as wood and charcoal. The denatured alcohol might be provided by local micro distilleries, which will be making denatured alcohol from molasses from local sugarcane farmers or other renewable sources. Denatured alcohol will also be sourced from sugar factories that produce ethanol as a by-product from sugar production. Dried bagasse might be used as energy source for the boiler for the distillation process. The supply of denatured alcohol is outside of the project boundary as described in the AMS I.E.

The stoves will be provided to the households at a subsidized price, as it will be partly financed by the income from the carbon credits. It is of absolute importance for the project that the initial investment in the stove is minimal and that the cost of fuel is below that of charcoal.

Baseline survey is conducted prior to CPA inclusion for each CPA. The baseline survey shall include 68 randomly selected households in the proposed CPA area.

SSC Generic CPA type 1 is based on small-scale threshold type 1 for the solutions in which emission reduction are claimed in accordance with AMS I.E and small-scale threshold type II for the solutions in which emission reduction is claimed in accordance with AMS III.AV. The Small-scale threshold above refers to CDM Project Standard for programmes of activities, version 02.0, paragraph 126 (a) and (b).

The baseline scenario will be updated to the most recent baseline values available both for;

- Registered CPAs seeking renewal of the crediting period, and
- New CPAs to be included in the PoA after the renewal of the PoA period.

In both cases the baseline values shall be determined as described in the latest version of the registered PoA-DD and the latest rules and regulations approved by the CDM EB.

H.4. Technologies/measures

Each Small-Scale Component Project Activity under the SSC-PoA will include one or several of the components included in the program in order to reduce the emissions from non-renewable fuel from cooking at household level.

The emission reductions will be achieved by the following solutions⁴

1. Reduce the need for boiling water and hence the need for fuel for this process.

This will be done by providing clean drinking water as an alternative to boiling water. Clean drinking water is provided by two alternative solutions, depending on the project specific conditions.

a. Household water purification systems.

This might be a membrane-based system, installed at household level which might use no energy, and which has been designed so that no unsafe drinking water will ever be available through the system. Such systems might be gravity based and require no external power consumption.

The water purification technology to be installed might consist of the following process:

Pouring of water into a raw water container.

Filtering of the water through a water purification filter.

Collection of the purified water in a safe drinking water container.

Disease-causing bacteria and cysts might not pass through such membranes. Also, the concentration of heavy metals and pesticides might be significantly reduced.

The technologies/measures will be a range of clean water solutions to be provided where there is no public distribution network, or the same is not supplying SDW, and meet the equivalent energy demand for boiling water at baseline level, as per paragraph 14 of the applied methodology AMS-III.AV, version 08.0.

At CPA level, and as per the Eligibility criterion 12, the clean water devices will specify the technologies provided if available from the manufacturer, or if not available, the thermal energy demand can be calculated from relevant fixed and monitored parameters when the purified water is supplied and meets an applicable national standard or guideline, or the WHO standard (WHO, 2011).

The unique location of each system (household and community-based water supply system) shall be provided as part of the monitoring process for each household that has been selected for monitoring.

b. Community based water purification systems

- i. Equipment to be installed and/or modified in order to provide drinking water from a community drinking water system will include boreholes with handpump and will include water filters. The handpump will be or will be based on the design of the India Mark-2 and 3 deep well handpump (Monopump) has a 50mm piston and 63.5 mm piston for a maximum water lift height of 50 meters and 30 meters respectively. The piston types are differentiated by the delivery rate, for the 50mm piston is 600 liters per hour while for the 63.5mm piston is 900 liters per hour, this however depends on well depth, the lift height and level of water.

ii. The types and levels of services

- a. Type of service provided. Provide drinking water from a water well / ground water.
- b. Level of service. The water shall meet national or WHO interim microbiological standards for drinking water (as specified in section B5.1).

⁴ The product descriptions used in this section refers to the solutions deployed in the first CPAs implemented under the PoA. Future CPAs may use different variations of the solutions with different capacity etc., as long as they still remain within the framework described in this document and comply with the methodology, and particularly with section 2.1 "Scope" of AMS.III.AV version 08 as well as the Eligibility criteria in this document. The most cost-efficient solutions most suitable for the local conditions might be used as long as they still remain within the framework described in this document and comply with the methodology.

The operations of the pump do not depend on electricity or any other type of non-renewable fuel. The system operates independently from any other systems. The water is carried in buckets from the community water station to the house the project participating households.

- iii. The age and average lifetime of the equipment is in excess of 10 years. Monthly and tri-monthly checks combined with yearly replacements can extend the life of the pump. Such frequent checks and replacement of components is to be funded by the income from sales of Carbon Credits. Hence the life of the equipment will be negatively affected by delay in issuance of CERs. 10 years life of the system is based on CERs being issued within 5 months of request for issuance in which case the recommended checks and replacement of components can be followed.
- iv. The energy and mass flows and balances of the facilities, systems and equipment. Water flow will be between 13.3 liter per minute and 30 liter per minute depending on the depth of the borehole. The system uses no external power other than human power.
- v. There is no monitoring equipment included in the deployed systems.

The boreholes and wells (Soil filtration schemes) may include container disinfection solutions. Solutions for disinfection such as chlorination, or other solutions based on local requirements, may be applied. The systems shall provide water that meet the required national or international standard for drinking water.

Rehabilitation and/or Construction of the wells shall comply with relevant national and/or international standards and measures shall be taken to ensure that water and well are not contaminated.

The goal of the program is to provide the solutions that is most suitable and cost-efficient, based on local conditions, as long as the systems comply with the methodology and the PoA DD.

The water purification solutions provide clean safe drinking water that meet WHO's interim performance targets on household's water treatment or applicable national standards/guidelines.

2. Replace non-renewable fuel with renewable fuel.

This is done by providing energy efficient stoves that use renewable fuel (denatured alcohol).

The ethanol stoves may be single burners or double burners. The ethanol stoves shall comply with national requirements, if any, or international standards that might apply at the time of CPA inclusion or renewal of crediting period. The stoves shall have a thermal efficiency of at least 50%.

The expected life of the equipment to be deployed depend on service and repair provided. The systems shall be operated and supported so as to last for the duration of the crediting period. The expected lifetime of the deployed technology shall be described in the CPA DD at the time of CPA inclusion, or CPA renewal of crediting period.

The income generated from the carbon credits will be used to finance the equipment included in the solutions (water purification facilities and new stoves) and or aftersales support to ensure that the system remain operational.

The level of service basically provides better solutions than the baseline.

SECTION I. Application of methodologies and standardized baselines

I.1. References to methodologies and standardized baselines

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a) Methodology

- AMS I.E., Sectoral Scope:01, title “Switch from non-renewable biomass for thermal application by the user” (Version 10.1).
<https://cdm.unfccc.int/methodologies/DB/XA6RFKB3QM9T8S6ELI0V4P8SY8RR2U>
- AMS III.AV., Sectoral Scope: 03, title “Low greenhouse gas-emitting safe drinking water production systems” version 08.0.

<https://cdm.unfccc.int/methodologies/DB/DKCLAOGT0S146VR70ZADDFGOVD61JK>

b) Guidelines:

- Guidelines on the demonstration of additionality of small-scale project activity. Version 09, EB 68, Annex 27.
https://cdm.unfccc.int/Reference/Guidclarif/meth/methSSC_guid05.pdf
- General guidelines for SSC CDM methodologies_v23.0
<https://cdm.unfccc.int/Reference/Guidclarif/index.html>

c) Tools:

- TOOL 30: Calculation of the fraction of non-renewable biomass.
https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v2.0.pdf/history_view

d) Standards:

- Standard for “Sampling and surveys for CDM project activities and programme of activities”

I.2. Applicability of methodologies and standardized baselines

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AMS I.E is applicable for the following reasons:

AMS-I.E applicability criteria	Basis of justification
1. The methodology is applicable for technologies displacing use of non-renewable biomass by renewable energy	The CPA will deploy energy efficient stoves that use renewable fuel (denatured alcohol) as one of two measures to reduce reliance on non-renewable woody biomass in households and SMEs as per eligibility criterion 12
2. Project participants or coordinating and managing entities shall describe in the PDD/PoA-DD how the double counting of emission reductions has been addressed (e.g. between end users, distributors and producers of stoves)	Double counting is avoided via unique identification of project participating households and avoidance of duplication of records, as well as none participation in other schemes. CPA eligibility criteria 6 and 16
3. For project activities introducing bio-ethanol cookstoves, project participants or coordinating and managing entities shall demonstrate that the bioethanol cookstoves are designed, constructed and operated to the requirements (e.g. with regard to safety) of a relevant national or local standard or comparable literature. Latest guidelines issued by a relevant national authority or an international organization may also be used	This applicability condition is ensured by each CPA via eligibility criterion 12.
4. 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	Double counting is avoided via unique identification of project participating households and avoidance of duplication of records, as well as none participation in other schemes. CPA eligibility criteria 6 and 16

AMS-I.E applicability criteria	Basis of justification
identifications of product and end-user locations (e.g. programme logo)	
5. 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 also claim credit for emission reductions from the project devices	Double counting in this respect is avoided as per eligibility criterion 19
6. For validation and verification of CDM projects and programme of activities by a designated operational entity (DOE) using this methodology, application of sectoral scope 01 is mandatory and sectoral scopes 13 and 15 are conditional	Sectoral Scope 01 has been applied and described in the generic CPA-DD

AMS III.AV is applicable for the following reason

AMS-III.AV applicability criteria	Basis of justification
1. Prior to the implementation of the project activity, a public distribution network supplying SDW to the project boundary does not exist, or a public distribution network exists, but is not supplying SDW.	CPAs can only be implemented in areas where there is no public distribution of safe drinking water. The same shall be demonstrated at CPA level as per eligibility criterion 8.
2. It shall be demonstrated based on laboratory testing or official notifications (for example notifications from the national authority on health) that the application of the project technology/equipment achieves compliance either with: (i) the Comprehensive Protection performance target as per "Evaluating household water treatment options: Health based targets and microbiological performance specifications" (WHO, 2011) and "International Scheme to Evaluate Household Water Treatment Technologies" (WHO, 2014); or (ii) an applicable national standard or guideline. Applicable national standard should be based on laboratory efficacy testing that, at a minimum, includes quantitative microbial measures of pre- and post-treatment challenge waters ⁶ that are representative of potential drinking water sources, and that includes measured reductions based on at least one pathogen class (bacteria, viruses, protozoa)	All distributed water quality shall be based on laboratory testing from an accredited entity or authority and shall meet the quality standards specified in this applicability condition. The same shall be demonstrated at CPA level as per Eligibility criterion 12.
3. In cases where the life span of the water treatment technologies is shorter than the crediting period of the project activity, there shall be documented measures in place to ensure that end users have access to replacement purification systems of comparable quality	The same shall be demonstrated at CPA level as per eligibility criterion 12.
4. It should be demonstrated that the project appliances use technologies that meet the technology standards as per paragraph	The same shall be demonstrated at CPA level as per Eligibility criterion 12.

AMS-III.AV applicability criteria	Basis of justification
4(b), and that they deliver microbiologically safe drinking water	

TOOL 30 is applicable for the following reason

TOOL 30: Calculation of the fraction of non-renewable biomass	Basis of justification
1. This tool may be used by: (a) DNAs to submit region/country-specific default fNRB values, following the procedures for development, revision, clarification and update of standardized baselines (SB procedures); or	Will be one of the options available for project proponents at CPA level as prescribed in this PoA-DD.
(b) project proponents to calculate project or PoA-specific fNRB values.	Will be one of the options available for project proponents at CPA level as prescribed in this PoA-DD.
2. For project or PoA specific fNRB values, project proponents shall assess the area where biomass is sourced and justify the selection of the area in CDM project design documents	To be demonstrated at CPA-level.

The first component of proposed generic Component Project Activity utilizes methodology AMS-I.E and therefore it is a Type I measure under the CDM. The second proposed component of the CPA will employ AMS-III.AV to provide isolated units of efficient water purification solutions to end-users. Therefore, this will be a Type II project activity.

The generic CPA contains two different components. Each component under the two methodologies will ensure that the small-scale threshold is not exceeded in the determination of annual emission reductions.

I.3. Application of multiple methodologies

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The PoA applies two SSC methodologies.

AMS-I.E Version 10.1

AMS-III.AV version 08.0

The methodology AMS III.AV version 08 has been included in the PoA as part of the renewal of the POA Period. This was done as the deployed technology related to providing clean drinking water to households has been removed from the list of deployable technologies applicable from AMS-I.E., as was specified as an example in AMS I.E version 04 and which was used for the initial registration of the PoA DD. The initial 66 CPAs registered under this PoA all allowed for the use of drinking water solutions to be deployed as part of the CPAs under AMS-I.E version 04.

The Generic CPA type 1 includes all the technologies and both the methodologies included in the PoA. This is in accordance with the CDM project standard for programmes of activities version 02, paragraph 93 (a).

Analysis of potential cross effects between the applied methodologies or technologies

Cross effects may occur when multiple technologies/measures are implemented, applying either one methodology or multiple methodologies.

In accordance with §93 and Appendix 1 of the CDM project standard for programmes of Activities_v2.0, the CME has considered potential cross effects. Under this programme, the same combination of technologies/measures under the same combination of the two methodologies are

applied consistently in every CPA in the PoA. Therefore, in line with §4 b) of Appendix 1 of the CDM project standard for programmes of Activities_v2.0, cross effects could also occur when several measures rely on the same information when estimating GHG emission reductions (Type II).

The CME contends that there is no crossover effect from the use of the different technologies or methodologies under this PoA. For this PoA renewal, there is no change to the programme to significantly alter the design and lead to cross effects between the applied methodologies AMS-I.E and AMS-III.AV.

Replacing a solution deployed by the project by another solution deployed by the project does not impact baseline scenario, either simultaneously or sequentially. If for example a household is provided with an ethanol stove, and after some time the household acquires a new ethanol stove, the baseline, and hence, the emission reductions, are the same as before the old ethanol stove was replaced. If, not, then a household that is replacing its ethanol stove would no longer be eligible for emission reduction as it could be argued that the new ethanol stove is replacing a solution in which there is no emission.

The same logic applies if part of the ethanol stove usage is replaced with another, and a more cost-effective solution, such as a water purification system.

If for example a household is provided with both drinking water solutions and an ethanol stove, the fuel consumption from the ethanol stove will be reduced as a result of reduced need for boiling drinking water. The consumption of ethanol and hence the ER from the use of ethanol stoves will therefore be reduced if the ER is also claimed from the use of drinking water. Therefore, §5 b) of the Appendix 1 of the PoA standard is not applicable in this case, as the baseline is still the same, and the applied default values are not impacted.

To eliminate any risk of potential crossover effect, the program will only claim ER from one of the solution provided to a households selected for monitoring, even if the households have been provided with two solutions that contribute to Emission Reductions. If a household is found to use both an ethanol stoves and being provided with a water system, then Emission Reduction will be claimed from the the solution that result in the lowers Emission Reductions only.

Hence there is no crossover effects under this PoA.

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

Source		GHG	Included?	Justification/Explanation
Baseline	Source 1 Emission from combusting non-renewable woody biomass.	CO ₂	Included	Main emission source.
		CH ₄	Excluded	Excluded for simplification. The emission source is assumed to be very small.
		N ₂ O	Excluded	Excluded for simplification. The emission source is assumed to be very small.
		---	-	-
	Source 2 Not applicable	CO ₂	-	-
		CH ₄	-	-
		N ₂ O	-	-
		---	-	-
Project activities	Source 1 Emission from combustion of	CO ₂	Excluded	No net CO ₂ emission from renewable fuel.

Source		GHG	Included?	Justification/Explanation
	renewable fuel	CH ₄	Excluded	Excluded for simplification. The net emission source is assumed to be very small.
		N ₂ O	Excluded	Excluded for simplification. The emission source is assumed to be very small.
		---	-	-
	Source 2 Emission from cultivation, use and processing of biomass	CO ₂	Excluded	Excluded as Not Applicable in accordance with AMS I.E.
		CH ₄	Excluded	Excluded as Not Applicable in accordance with AMS I.E.
		N ₂ O	Excluded	Excluded as Not Applicable in accordance with AMS I.E.
		---	-	-
	Source 3 Emission from fossil fuel combustion	CO ₂	Excluded	Excluded as no fossil fuel combustion in the project scenario under AMS-III.AV.
		CH ₄	Excluded	Excluded as no fossil fuel combustion in the project scenario under AMS-III.AV.
		N ₂ O	Excluded	Excluded as no fossil fuel combustion in the project scenario under AMS-III.AV.
		---	-	-
	Source 4 Emission from electricity consumption	CO ₂	Excluded	Excluded as no electricity consumption in the project scenario under AMS-III.AV.
		CH ₄	Excluded	Excluded as no electricity consumption in the project scenario under AMS-III.AV.
		N ₂ O	Excluded	Excluded as no electricity consumption in the project scenario under AMS-III.AV.
		---	-	-
	Source 1 Leakage Emission	CO ₂	Included	A standard adjustment factor of 0.95 has been used in accordance with AMS I.E & AMS-III.AV.
		CH ₄	Excluded	Excluded for simplification. The emission source is assumed to be very small.
		N ₂ O	Excluded	Excluded for simplification. The emission source is assumed to be very small.
		---	-	-

I.5. Establishment and description of baseline scenario

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The baseline scenario is the same as the current practice in accordance with the definitions in the applied baselined and monitoring methodologies. The baseline scenario is that households use non-renewable woody biomass for cooking and where applicable boil their drinking water.

The baseline as defined by respective methodologies, and its validity is not affected by national policies and circumstances in the host countries, but rather, changes in IPCC default values as

well as default values recommended by the applied methodologies used the estimation of baseline emissions. Therefore, these values, as indicated in section I.6.2 are largely unaffected by changes in the national policies of countries in the PoA boundary, at the PoA level.

For the renewal of crediting period of a PoA, the coordinating/managing entity/CPA implementer is not required to re-assess the baseline scenario. The CME shall however assess and incorporate the impact of national and/or sectoral policies and circumstances existing at the time of requesting renewal of the PoA period in line with para. 289 of the CDM project standard for programmes of Activities_v2.0 .

The coordinating/managing entity or CPA implementer shall also be required to update data and parameters used for determining the original baseline, in accordance with the “Methodological tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”.

I.6. Estimation of emission reductions

I.6.1. Explanation of methodological choices

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Methodological Choices for the methodology AMS-I.E version 10.1:

The methodology I.E version 10, requires methodological choices to be made: The SSC-CPA shall indicate choices in the following manner:

Calculation of Baseline Emissions (BE_y)

Baseline Emissions are calculated using equation 1 of the applied methodology as follows

$$BE_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil_fuel}$$

Where:

BE_y = Baseline emissions during the year y in t CO₂e.

B_y = Quantity of woody biomass that is substituted or displaced in tonnes.

f_{NRB} = Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable biomass (f_{NRB}).

NCV_{biomass} = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne).

EF_{projected_fossil_fuel} = Emission factor for the substitution of non-renewable woody biomass by similar consumers.

Determination of EF_{projected_fossil_fuel}

The emission factor for the substitution of non-renewable woody biomass by similar consumers may be the default regional values in Table 2 of the methodology.

The Parameter EF_{projected_fossil_fuel} shall be determined from a) Default value in the methodology, or b) Calculated based on the fuel mix in which EF_{project_fossil_fuel} should be calculated from.

Option a) will be used when the default value in the methodology is perceived as being representative for the project area.

Determination of f_{NRB}

The value of f_{NRB} shall be calculated using either of the following two options and shall be fixed for each CPA crediting period in line with §26 a) of the applied methodology.

- Calculated using the TOOL 30: Calculation of the fraction of non-renewable biomass.
- Applying a default national value as endorsed by the DNA and approved by the EB which is also fixed to the end of the crediting period.

Determination of B_y (Quantity of woody biomass that is substituted or displaced in tonnes)

B_y may be determined by using one of four options available in the methodology AMS-I.E. version 10.1.

Option d) in the methodology will be used by the SSC CPA to calculate $B_{y, \text{Denatured alcohol}}$.

The formulae in this option are:

$$B_y = \sum_i^n HG_{p,y} \div (NCV_{\text{biomass}} \times \eta_{old,i})$$

Where:

$HG_{p,y, \text{Denatured alcohol}} = HG_{p,y}$ = Quantity of thermal energy generated by the new renewable energy technology in the project in year y (TJ).

$\eta_{old,i}$ = Efficiency of pre - project device per type of device i.

Determination of η_{old} (Efficiency of systems being replaced).

η_{old} is determined by using one of the following options:

- (i). Default 0.1 or 0.2.
- (ii). Established prior to start of implementation of n survey.

Option (i), is used, and the weighted average of stoves with a default value of 0.10 and stoves with a default value of 0.2 is used to determine η_{old} by the SSC-CPA.

Determination of NCV_{biomass}

NCV_{biomass} will be determined from the following options;

- a) Literature when this is available for the area included in the CPA.
- b) From studies and calculations based on local baseline conditions if the value cannot be found in available literature.
- c) From generic values approved by the CDM EB if point a) or b) is not possible to obtain in a verifiable way.

NCV_{charcoal} will be determined from;

- a) Literature when this is available for the area included in the CPA.
- b) From studies and calculations based on local baseline conditions if the value cannot be found in available literature.

From generic values approved by the CDM EB, if point a) or b) is not possible to obtain in a verifiable way.

Determination of $f_{NRB,y}$ ⁶

Paragraph 42 of the methodology provides two choices for how to determine the value $f_{NRB,y}$ ex-ante.

Option (b) will be used, when this is available, option (a) will be used when option (b) is not available.

Option (b) use default national values approved by the Board.

Option (a) conduct own studies to determine the local f_{NRB} value as per "TOOL30: Calculation of the fraction of non-renewable biomass"

Calculation of Project Emissions (PE_y)

As per para. 29 of the applied methodology, the project emissions (PE_y) from cultivation, use and processing of biomass shall be calculated using the latest version of "TOOL16: Project and leakage emissions from biomass". This is not applicable for this generic CPA-DD Type 1 as no cultivation, use or processing of biomass is involved. Furthermore, no fossil fuel or electricity consumption takes place.

Bioethanol is a renewable fuel and the CPAs under this PoA will take advantage of their availability in the project regions.

Therefore,

$$PE_y = 0$$

Calculation of Leakage Emissions (LE_y)

In line with §31 of the methodology AMS-I.E version. 10.1, leakage relating to the non-renewable woody biomass shall be accounted for. Potential leakage is therefore accounted for by multiplying the baseline equation with the leakage factor (LF) of 0.95.

Methodological Choices for the methodology AMS-III.AV version 08.0:**Calculation of Baseline Emissions (BE_y)**

The emissions are calculated based on the energy demand for boiling water, and in case of displacement of NRB the baseline emissions are corrected for the fraction of the biomass that can be demonstrated to be non-renewable. Only purified water consumed for drinking purposes can be used in the baseline calculation.

Baseline Emissions are calculated using equation 1 of the methodology as follows: -

$$BE_y = QPW_y \times m \times X_{boil} \times SEC \times \sum (BL_{fuel,i} \times f_i \times EF_{projected_fossil\ fuel,i} \times 10^{-9}) \times LF$$

Where:

$$BE_y = \text{Baseline emissions during the year } y \text{ in (t CO}_2\text{e)}$$

⁶ Any optional choices used in a CPA in connection with AMS-I.E version 10.1 shall also be used for calculations related to AMS-III.AV version 08, in the same CPA if the same parameter is used for both the methodologies. The choices might not be repeated under both the methodologies in this document.

QPW_y = Total quantity of water purified by the project in year y (L)

m = Fraction of functional appliances that are providing the SDW (%).

Only project appliances that (i) use technologies that meet the technology standards as per paragraph 4(b) and (ii) are operating or replaced by an equivalent in service appliance and (iii) deliver microbiologically safe drinking water, are counted for emission reductions.

X_{boil} = Fraction of the population served by the project activity for which the common practice of water treatment is or would have been water boiling. It is determined ex ante through surveys.

SEC = Specific energy consumption required to boil one litre of water (kJ/L)

$BL_{fuel,i}$ = Proportions of baseline fuel type i (NRB and/or fossil fuels) used in the absence of the project activity (fraction)

f_i = Fraction of non-renewable fuel type i used in the absence of the project activity in year y. For biomass, it is the fraction of woody biomass that can be established as non-renewable biomass (f_{NRB}). If the baseline fuel is fossil fuel, the value to be applied is 1.

$EF_{projected_fossilfuel,i}$ = Emission factor of the fuel type i substituted (t CO₂/TJ)

LF = Net to gross adjustment factor of 0.95 to account for leakage.

Determination of QPW_y .

Total quantity of water purified by the project in period y. This is also understood to refer to total quantity of purified water consumed by project participating households.

This will be done in accordance with paragraph 17 (b) in the methodology (equation 3).

P_y . Population who consumes the purified water services by the project activity in period y. This value will be determined by multiplying the number of project participating households registered as having been provided with drinking water as part of the project during a monitoring period, with the average number of people in each household, as determined by monitoring survey.

$$P_y \times \min (QPW_{pp} ; 3) \times 365$$

Where:

P_y = Population who consumes the purified water serviced by the project activity in year y

QPW_{pp} = Average volume of drinking water per person per day

Determination of SEC (specific energy consumption required to boil one liter of water (kJ/L))

This parameter will be determined in accordance with equation 5 in the methodology

$$SEC = (357.48 \text{ kJ/L}) / \eta_{wb}$$

Where:

SEC = Specific energy consumption required to boil one liter of water (kJ/L)

η_{wb} = Efficiency of the water boiling systems being replaced, estimated ex ante. Default values in Data / Parameter table 3 in the methodology may be used.

Calculation of Project Emissions (PE_y)

The operation of the CPA water purification systems does not involve consumption of fossil fuels and/or electricity.

Therefore, PE_y = 0

Calculation of Leakage Emissions (LE_y)

In line with §21 of the applied methodology, leakage relating to the non-renewable woody biomass shall be assessed as per leakage procedures of AMS-I.E. Leakage is therefore accounted for by multiplying the baseline equation with the leakage factor (LF) of 0.95.

I.6.2. Data and parameters fixed ex ante

For AMS-I.E_v10.1

Data / Parameter	$f_{NRB,y}$
Data Unit	Fraction.
Description	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass.
Source of data	To be determined in CPA.
Value(s) applied	To be determined by SSC-CPA.
Choice of data or Measurement methods and procedures	<p>Paragraph 42 of the methodology provide two choices for how to determine the value $f_{NRB,y}$.</p> <p>Option (b) will be used, when this is available, option (a) will be used when option (b) is not available.</p> <p>Option (b) use default national values approved by the Board.</p> <p>Option (a) conduct own studies to determine the local f_{NRB} value as per "TOOL30: Calculation of the fraction of non-renewable biomass"</p>
Purpose of data	Calculation of baseline emission.
Additional comment	<p>Also defined as f_i in AMS-III.AV version 8.0.</p> <p>If the baseline fuel is fossil fuel, the value to be applied is 1</p>

Data / Parameter	$EF_{\text{projected_fossilfuel},i} / EF_{\text{projected_fossil fuel}}$
Data Unit	tCO ₂ /TJ.
Description	Emission factor for the substitution of non-renewable woody biomass that is substituted by similar consumers. Emission factor of the fuel type i substituted (t CO ₂ /TJ) ⁷
Source of data	Project activity site.
Value(s) applied	To be determined in SSC-CPA.
Choice of data or Measurement methods and procedures	The Parameter $EF_{\text{projected_fossil fuel}}$ shall be determined from a) Default value in Table 2 of the applied methodology, or b) Calculated based on the fuel mix using Equation 2 (paragraph 25) of the applied methodology.
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

Data / Parameter	NCV_{biomass}
Data Unit	TJ/Tonne
Description	Net Calorific Value of the non-renewable woody biomass.
Source of data	Methodology AMS I-E version 10.1, paragraph 23.
Value(s) applied	0.0156
Choice of data or Measurement methods and procedures	Calculation of baseline emissions.
Purpose of data	Calculation of baseline emissions.
Additional comment	Wood fuel will however not be used in project devices. The value of NCV_{biomass} will only be used to estimate baseline emissions

⁷ Description in AMS-III.AV Version 8.0

Data / Parameter	NCV _{Denatured alcohol}
Data Unit	TJ/m ³
Description	Energy Content of denatured alcohol.
Source of data	2006 IPCC Guidelines for National Greenhouse Gas inventories combined with default density of ethanol.
Value(s) applied	0.0213
Choice of data or Measurement methods and procedures	<p>“Pure ethanol and alcoholic beverages are heavily taxed as a psychoactive drug, but ethanol has many uses that do not involve consumption by humans. To relieve the tax burden on these uses, most jurisdictions waive the tax when an agent has been added to the ethanol to render it unfit to drink. These include bittering agents such as denatonium benzoate and toxins such as methanol, naphtha, and pyridine. Products of this kind are called denatured alcohol”.</p> <p>http://en.wikipedia.org/wiki/Ethanol</p> <p>Denatured alcohol will consist mostly Ethanol. Net calorific value of ethanol is 27.0 TJ/Gg according to 2006 IPCC Guidelines for National Greenhouse Gas inventories. Volume 2 – Energy, Chapter 1 – Introduction, Table 1.2 “Default Net Calorific Values (NCVs)”.</p> <p>Density of ethanol is 0.789 g/cm³. http://en.wikipedia.org/wiki/Ethanol</p> <p>NCV for ethanol is hence calculated as $(27.0 * 0.789 / 1000) = 0.0213 \text{ TJ / m}^3$</p> <p>Denatured alcohol will consist of a mix of ethanol and other types of alcohol or toxins or bittering agents. Ethanol or methanol shall always be the predominant type of fuel in the denatured alcohol mix that will be used by the project.</p>
Purpose of data	Calculation of baseline emissions.
Additional comment	Ethanol is the same as bio gasoline. See 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2 Energy, Chapter 1 Introduction, Table 1.1 – Definitions of fuel types used in the 2006 IPCC guidelines. The terms ethanol, alcohol, denatured ethanol and denatured alcohol might be used with the same meaning both in the text and in the formulas of this PoA DD.

Data / Parameter	NCV_{Charcoal}
Data Unit	TJ/Tonne.
Description	Net Calorific Value of charcoal
Source of data	To be determined in CPA.
Value(s) applied	To be determined in CPA.
Choice of data or Measurement methods and procedures	<p>NCV_{charcoal} will be determined from;</p> <ul style="list-style-type: none"> a) Literature when this is available for the area included in the CPA. b) From studies and calculations from a lab analysis based on local baseline conditions if the value cannot be found in available literature. <p>From generic values approved by the CDM EB, if point a) or b) is not possible to obtain in a verifiable way.</p>
Purpose of data	Calculation of baseline emissions.
Additional comment	Charcoal will however not be used in project devices. The value of NCV_{charcoal} will only be used to estimate baseline emissions

Data / Parameter	$\eta_{\text{old},i}$
Data Unit	Fraction
Description	Efficiency of pre-project device.
Source of data	Baseline survey.
Value(s) applied	To be determined by SSC-CPA.
Choice of data or Measurement methods and procedures	<p>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; for other types of devices, a default value of 0.2 may be optionally used. 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.</p> <p>Will use the weighted average of the default values of 0.1 and 0.2 according to the definition in the methodology</p>
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

Data / Parameter	C _{CF}
Data Unit	Number
Description	Charcoal conversion factor.
Source of data	To be determined by CPA.
Value(s) applied	To be determined by CPA.
Choice of data or Measurement methods and procedures	<p>Credible local conversion factors shall be used if available. If this is not available, then a study might be carried out to determine the wood to Charcoal conversion factor. Such study may then be carried out by independent 3rd party which might be carried out by, in cooperation with, the United Nations or the host country government or DNA. Such studies might be carried out in accordance with guidelines from https://www.grida.no/.</p> <p>If such a study is perceived as too risky to carry out, then the default value of 6 kg of firewood (wet basis) per kg of charcoal (dry basis). may be used. It should be noted that Charcoal production and distribution is a criminal undertaking and such activities is the main source of financing of terrorist activities in Africa. It might hence be of great danger to engage in studies on how such production is carried out. If such studies can be carried out, then such studies will be carried out if there is no credible local conversion to be found in literature.</p>
Purpose of data	Calculation of baseline emissions.
Additional comment	GRIDA has quantified the impact on terrorist financing from charcoal production and sales in east Africa on behalf of UNEP and INTERPOL. GRIDA or other UN organizations might in the future engage in process to determine CCF values so as to provide even better quantification of the development value of reducing charcoal usage.

Data / Parameter	C _P
Data Unit	Fraction.
Description	Portion of woody biomass that is used in the form of Charcoal in the project area.
Source of data	Baseline survey.
Value(s) applied	To be determined by CPA.
Choice of data or Measurement methods and procedures	Not applicable.
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

Data / Parameter	LF
Data Unit	Fraction.
Description	Net to gross adjustment factor of 0.95 to account for leakage.
Source of data	Default value in methodology.
Value(s) applied	0.95
Choice of data or Measurement methods and procedures	Not applicable.
Purpose of data	Calculation of leakage.
Additional comment	Not applicable.

For AMS-III.AV_v8.0⁸

Data / Parameter	QPW _{pp}
Data unit	Litres
Description	Average volume of drinking water per person per day.
Source of data	Estimated through ex ante survey or official data, or peer reviewed literature or local expert opinion. Alternatively, a default value of 3 litres per person per day can be used. The maximum value of 5.5 litres per person per day shall not be exceeded.
Value(s) applied	3
Choice of data or Measurement methods and procedures	-
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

Data / Parameter	LS
Data unit	Years
Description	Life span of water treatment technologies.
Source of data	Manufacturer's specifications.
Value(s) applied	-
Choice of data or Measurement methods and procedures	-
Purpose of data	-
Additional comment	In cases where the life span of the water treatment technologies is shorter than the crediting period of the project activity, the project proponent shall ensure that the units are replaced in order to continue claiming emission reductions. There shall be measures in place to ensure that end users have access to replacement purification systems of comparable quality. These measures shall be documented in the CPA-DD.

⁸ Values that might be used by both methodology AMS-I.E version 10.1 and by methodology AMS-III.AV version 08 might be listed only once in the tables for values determined ex-ante or during monitoring survey.

Data / Parameter	η_{wb}
Data Unit	%
Description	Efficiency of the water boiling systems being replaced.
Source of data	Project activity site.
Value(s) applied	Use one of the options below: (a) The efficiency of the water boiling system shall be established using representative sampling methods or based on referenced literature values (fraction), use weighted average values if more than one type of systems is encountered; (b) 0.10 default value may be optionally used if the replaced system or the system that would have been used is a three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system that is without a grate as well as a chimney; for the rest of the systems using woody biomass 0.2 default value may be optionally used; (c) 0.5 default value may be used if the replaced system or the system that would have been used is a fossil fuel combusting system
Choice of data or Measurement methods and procedures	Calculation of baseline emissions.
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

Data / Parameter	$BL_{fuel, i}$
Data Unit	Fraction.
Description	Proportions of baseline fuel type i (NRB and fossil fuel).
Source of data	Estimated ex ante through a survey or official data or peer reviewed literature or local expert opinion.
Value(s) applied	To be determined in SSC- CPA.
Choice of data or Measurement methods and procedures	Estimated ex ante through a survey or official data or peer reviewed literature or local expert opinion .
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

Data / Parameter	X_{boil}
Data Unit	%
Description	Fraction of the population serviced by the project activity for which the common practice of purification is or would have been water boiling.
Source of data	Established ex ante through survey.
Value(s) applied	To be determined in SSC-CPA.
Choice of data or Measurement methods and procedures	To be determined in SSC-CPA.
Purpose of data	Calculation of baseline emissions.
Additional comment	Not applicable.

1.6.3. Modalities for ex ante calculation of emission reductions

Emission reductions would be calculated as:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y = Emission reductions in year y (t CO₂e/yr)

BE_y = Baseline emissions in year y (t CO₂/yr)

PE_y = Project emissions in year y (t CO₂e/yr)

LE_y = Leakage emissions in year y (t CO₂e/yr)

LE is calculated as 5% of baseline emission. LE is hence not calculated separately value. This in accordance with Paragraph 31 of AMS-I.E version 10.1 and AMS-III.AV version 08.0 paragraph 21.

Baseline Emission:

$$BE_y = BE_{y, \text{Denatured alcohol}} + BE_{y, \text{Water}}$$

Where:

$$BE_{y, \text{Denatured alcohol}} = B_{y, \text{Denatured alcohol}} * f_{NRB, y} * NCV_{\text{biomass}} * EF_{\text{projected_fossil fuel}}$$

$$BE_{y, \text{Water}} = ((QPW_y * m * X_{\text{boil}} * SEC * \sum (BL_{\text{fuel}, i} * f_i * EF_{\text{projected_fossil fuel}, i} * 10^{-9}) * (1 - C_P)) + ((QPW_y * m * X_{\text{boil}} * SEC * \sum (BL_{\text{fuel}, i} * f_i * EF_{\text{projected_fossil fuel}, i} * 10^{-9}) * (C_P * C_{CF}))) * LF$$

Where:

- BE_y = Baseline Emissions during the year y, in tCO₂e
- B_y = Quantity of biomass that is substituted or displaced in tonnes
- $f_{NRB, y}$ = Fraction of biomass used in the absence of the project activity in year y, that can be established as non-renewable biomass.
- NCV_{biomass} = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonnes)
- $EF_{\text{projected_fossil fuel}, i}$ = Emission factor of the fuel type i substituted (t CO₂/TJ)
- QPW_y = Total quantity of water purified by the project in year y (L)
- m = Fraction of functional appliances that are providing the SDW (%).
Only project appliances that (i) use technologies that meet the technology standards as per paragraph 4(b) and (ii) are operating or replaced by an equivalent in service appliance and (iii) deliver microbiologically safe drinking water, are counted for emission reductions.
- X_{boil} = Fraction of the population served by the project activity for which the common practice of water treatment is or would have been water boiling. It is determined ex ante through surveys.
- SEC = Specific energy consumption required to boil one litre of water (kJ/L), to be calculated according to paragraphs below. The value equals 357.48 KJ/L/ n_{wb} .

$BL_{fuel,i}$ = Proportions of baseline fuel type i (NRB and/or fossil fuels) used in the absence of the project activity (fraction). If the baseline fuel is only non-renewable biomass then the value to be applied might be 1.

f_i^9 = Fraction of non-renewable fuel type i used in the absence of the project activity in year y. If the baseline fuel is only non-renewable woody biomass or fossil fuel, the value to be applied might be 1

LF Net to gross adjustment factor of 0.95 to account for leakage

Step 1: $B_{y, \text{Denatured alcohol}}$ is determined:

$$B_{y, \text{Denatured alcohol}} = \left(\left(\frac{HG_{p,y, \text{Denatured alcohol}}}{(NCV_{\text{Biomass}} * \eta_{\text{old}})} * (1 - C_P) \right) + \left(\frac{HG_{p,y, \text{Denatured alcohol}}}{(NCV_{\text{Charcoal}} * \eta_{\text{old}})} * (C_P * C_{CF}) \right) \right) * LF$$

Where

NCV_{Biomass} = Net Calorific Value of the non-renewable woody biomass that is substituted.

NCV_{Charcoal} = Net Calorific Value of the non-renewable woody biomass that is used in the form of charcoal and which is substituted.

$\eta_{\text{old},i}$ = Efficiency of the old stoves that has been replaced by the project.

$B_{y, \text{Denatured alcohol}}$ = Quantity of woody biomass that is substituted or displaced in ton as a result of the denatured alcohol used by the project in year y.

$HG_{p,y, \text{Denatured alcohol}}$ = Quantity of thermal energy generated by the denatured alcohol used by the project participating households in year y, measured in TJ.

C_{CF} = Charcoal Conversion Factor.

C_P = Portion of woody biomass that is used in the form of charcoal in the project area.

LF = Net to gross adjustment factor of 0.95 to account for leakage.

Step 2. P_y is determined.

P_y is the population who consumes the purified water serviced by the project activity in period y.

P_y is determined by multiplying the average number of people in households provided with drinking water as registered as part of monitoring survey, multiplied with the number of households registered as provided with drinking water solutions¹⁰.

Step 3. QPW_y is determined

The quantity of purified water shall be monitored and calculated based on option 2.2 (equation 3) of §17 b) of the applied methodology, as follows:

⁹ $f_i = f_{NRB}$

¹⁰ The value P_y is the total number of people provided with drinking water, and is not used in the calculation of ER. Rather the value of P_y for each household is used for calculating ER from each of the households monitored as part of monitoring survey. It is the average ER from the household selected for monitoring that is used to calculate total ER from a CPA or a batch of CPAs, not the average of the monitored values. The same principle applies for all the parameters used for calculation of emission reductions.

$$QPW_y = P_y \times \min (QPW_{pp}; 3)^{11} \times 365$$

Where:

P_y = Population who consumes the purified water serviced by the project activity in year y.

QPW_{pp} = Average volume of drinking water per person per day (L/person/day).

Step 4. $HG_{p,y}$ is determined

HG_{py} calculations;

$$HG_{p,y,Denatured\ alcohol} = NCV_{Denatured\ alcohol} * ET_{Usage,y} / 1000 * ET_{Stoves,Units,y} * (ET_{stove, efficiency} / 100) * 365$$

Where

$HG_{p,y,Denatured\ alcohol}$ = Quantity of thermal energy generated by the new renewable energy technology in the project area in year y (TJ).

$NCV_{Denatured\ alcohol}$ = Net Calorific Value of denatured alcohol. Based on default value.

$ET_{Usage,y}$ = Average denatured alcohol usage per litre per household in year y. Divided by 1000 to get value in m^3 .

$ET_{Stoves,Units,y}$ = Ethanol stoves in use in the project area in year y.

$ET_{stove, efficiency,y}$ = Average thermal efficiency of ethanol stove used by the project participating households.

Step 5. $\eta_{old,i}$ is determined by:

$\eta_{old,i}$ = Efficiency of pre-project device.

Will be determined using default values provided by the SSC methodology AMS-I.E version 10.1

Step 6. $f_{NRB,y}$ is determined by:

f_{NRB} may be determined by a third party according to nationally approved methods or based on default values.

f_{NRB} may also be determined by "TOOL30: Calculation of the fraction of non-renewable biomass";

Step 7. Project Emissions (PE_y)

Bioethanol is a renewable fuel and the CPAs under this PoA will take advantage of their availability in the project regions.

Therefore,

$$PE_y = 0$$

¹¹ Cap of 5.5 has been proposed by §18 of the methodology based on the population (P) serviced by the project activity and the maximum quantity of drinking water per person per day (L/person/day), as recommended by WHO. Therefore, this is conservative. A default value of 3 can also be used in accordance with the methodology.

Step 8. Leakage Emissions (LE_y)

As per para. 21 of the applied methodology AMS-III.AV, 'where relevant leakage relating to the non-renewable woody biomass shall be assessed as per the relevant procedures of AMS-I.E'.

Therefore, By, Denatured alcohol in Step 1 above is multiplied by a net to gross adjustment factor of 0.95 to account for leakages (LF), in line with para. 31 of AMS-I.E version 10.1.

Step 9. Determine the average emission reduction from project participating households.

Emission reduction will be calculated based on the project participating households selected for monitoring survey. When biennial inspection is chosen a 95 per cent confidence interval and a 10 per cent margin of error requirements shall be achieved for the sampling parameters. On the other hand, when the project proponents choose to inspect annually, a 90 per cent confidence interval and a 10 per cent margin of error requirement shall be achieved for the sampled parameters. In case were survey result indicate that 90/10 percent or 95/10 precision is not achieved, the lower bound of a 90 per cent or a 95 per cent confidence interval of the parameter value may be chosen as an alternative to repeating the survey effort to achieve the 90/10 Or 95/10 precision. The total emission reduction from these households will then be divided by the number of households that has been subject to monitoring in order to determine the average emission reduction per project participating household.

Step 9. Determine total CPA emission reduction.

Total emission reduction from the CPA is determined by multiplying the average emission reduction per project participating households with the total number of project participating households at the time of the monitoring.

I.7. Monitoring plan

I.7.1. Data and parameters to be monitored

For AMS-I.E

Data / Parameter	Date of commissioning of project device type i
Data unit	Date
Description	Actual date of commissioning of the project device.
Source of data	Internal records.
Value(s) applied	To be determined by SSC-CPA.
Measurement methods and procedures	Not applicable.
Monitoring frequency	Fixed and recorded at the time of commissioning/distribution.
QA/QC procedures	Not applicable.
Purpose of data	Calculations of baseline emissions.
Additional comments	Not applicable.

Data / Parameter	Date of commissioning of batch j.
Data unit	Date.
Description	To establish the date of commissioning, the Project Participant may opt to group the devices in “batches” and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch.
Source of data	Internal records.
Value(s) applied	To be determined by SSC-CPA.
Measurement methods and procedures	Not applicable.
Monitoring frequency	Fixed and recorded at the time of commissioning/distribution of the last project device in the batch.
QA/QC procedures	Not applicable.
Purpose of data	Calculation of baseline emissions.
Additional comments	To be reported in the monitoring report.

Data / Parameter	ET _{stoves, units.y.}
Data unit	Number.
Description	Average number of ethanol stoves used by project participating households in year y.
Source of data	Monitoring of random sample of project participating households.
Value(s) applied	To be determined by SSC-CPA.
Measurement methods and procedures	Monitoring of randomly selected project participating household. The sample size shall be sufficient to obtain the required 90/10 confidence level for annual monitoring or 95/10 confidence level if monitoring is done biennially.
Monitoring frequency	At least every two years.
QA/QC procedures	The number of households that use ethanol stoves in the project area will be cross-checked with the sales records from the ethanol stove suppliers.
Purpose of data	Calculations of baseline emissions.
Additional comments	A project participating household will normally have no ethanol stove, or they will have 1 ethanol stove. The average will hence be a value between 0 and 1 ethanol stove per household.

Data / Parameter	ET _{Usage,y}
Data unit	Litres.
Description	Average daily denatured alcohol usage by project participating households in year y.
Source of data	Monitoring of a random sample of project participating households.
Value(s) applied	To be determined by SSC-CPA.
Measurement methods and procedures	<p>The usage of denatured alcohol will be physically recorded in a representative number of households over a period of 7 days. This will be used to calculate the average daily denatured alcohol consumption per household that use ethanol stoves. The sample size shall be sufficient to obtain the required 90/10 confidence level for annual monitoring.</p>
Monitoring frequency	Annually.
QA/QC procedures	<p>The denatured alcohol consumption will be based on pure denatured alcohol. Hence the denatured alcohol used by the household will be measured to determine its purity. If the NCV of the denatured alcohol is below that of the default NCV_{denatured alcohol} 0.0213 TJ/m³ then the ET usage shall be adjusted for the lower NCV of the denatured alcohol used.</p> <p>If the NCV of the denatured alcohol used is 10% lower than the default value for NCV_{denatured alcohol} then the ET_{usage,y} shall be reduced by 10% relative to the measured volume of denatured alcohol used.</p> <p>The purity of the denatured alcohol will be measured and registered by the representative sample of households monitored for ET_{usage,y}.</p>
Purpose of data	Calculations of baseline emissions.
Additional comments	<p>The purity or strength of the denatured alcohol will be measured at every household which are monitored for ET_{usage, y}. This value will then be multiplied with the volume of denatured alcohol used in order to determine the equivalent of denatured alcohol with 100% purity.</p> <p>Example. A household use 5 litre of denatured alcohol with 90% purity, then the calculation will be 5 * 90% = 4.5 liter of denatured alcohol with 100% purity.</p>

Data / Parameter	ET _{stove, Efficiency, y}
Data unit	%
Description	Average thermal efficiency of ethanol stove used by the project participating households.
Source of data	Monitoring of random sample of project participating households.
Value(s) applied	-
Measurement methods and procedures	<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. 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 Protocol 17, 18 or ISO 19867-1 listed by Clean Cooking Alliance (See https://www.cleancookingalliance.org/technology-and-fuels/testing/protocols.html)). <p>The sampling test of stoves by such certification bodies/agents or manufacturers shall be conducted following a 90/10 precision in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities".</p>
Monitoring frequency	Annually.
QA/QC procedures	Not applicable.
Purpose of data	Calculation of baseline emissions.
Additional comments	<p>Manufacturer of project devices may confirm with technical justification based on certification by a national standards body or an appropriate certifying agent recognized by that body that no decrease in efficiency of project device is envisaged during the crediting period; or</p> <p>Alternatively, the rate of efficiency drop will be determined for a representative sample of the first batch of project devices <i>i</i> in year <i>y</i> and assumed that same rate of loss in efficiency applies to all other batches.</p> <p>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>i</i> apply to all subsequent batches. The efficiency of the project devices in the first batch has to be monitored annually through a representative sample and this rate of loss in efficiency may be applied correspondingly to all batches;</p> <p>The above in accordance with AMS II.G, version 11.1, paragraph 37 b and c.</p>

Data / Parameter	HG _{p,y}
Data unit	TJ
Description	Quantity of thermal energy generated by the new renewable energy technology in the project in year y.
Source of data	Calculated in accordance with step 4 in section I.6.3.
Value(s) applied	-
Measurement methods and procedures	-
Monitoring frequency	Yearly.
QA/QC procedures	-
Purpose of data	Calculation of baseline emissions.
Additional comments	<p>The total value of HG_{p,y} is calculated from other monitored values and the number of households included in the project(s) at the time of calculation of the value HG_{p,y}.</p> <p>If Emission Reduction is claimed for a monitoring period that ends after the monitoring is done, then the number of households at the end of the monitoring period might be used for calculating the HG_{p,y} value for the whole CPA(s) for the period in which HG_{p,y} is calculated.</p>

For AMS-III.AV

Data / Parameter	P _y
Data unit	Number.
Description	Population who consumes water provided by the project activity in year y.
Source of data	Survey records.
Value(s) applied	-
Measurement methods and procedures	The number of people in each household is determined from the households that is monitored as part of the monitoring surveys. This value is used to calculate the ER for the households that has been monitored.
Monitoring frequency	Annually.
QA/QC procedures	Not applicable.
Purpose of data	Calculation of baseline emissions.
Additional comments	The value is used to calculate ER for each household monitored as part of the monitoring survey. The total value of P _y , for the whole CPA or batch of CPAs monitored, is not used for calculation of ER.

Data / Parameter	QPW _y
Data unit	Liters.
Description	Quantity of purified water in year y.
Source of data	Calculated.
Value(s) applied	-
Measurement methods and procedures	Default value in methodology.
Monitoring frequency	Annually.
QA/QC procedures	A default value of 3 litres per person per day may be used.
Purpose of data	Calculation of baseline emissions.
Additional comments	Not applicable.

Data / Parameter	m
Data unit	Fraction.
Description	Fraction of functional appliances that are providing the SDW.
Source of data	Survey records.
Value(s) applied	To be determined by SSC-CPA.
Measurement methods and procedures	Yes, will be registered as 1. No will be registered as 0.
Monitoring frequency	Annually.
QA/QC procedures	<p>This parameter shall be determined through checking all appliances or a statistically representative sample of the appliances to ensure the following conditions that:</p> <ul style="list-style-type: none"> a) They only use technologies that are meeting the SDW technology standards as per paragraph 4(b); b) They are still operating or are replaced by an equivalent in service appliance. The use of appliances shall be monitored through self-report measures (survey data from respondents) as well as physical signs that are observable (e.g. wetness of the unit, water in storage receptacle, functionality of parts) as per "Objective measures of functionality and use of project appliances" described in the Appendix. c) They are delivering microbiologically safe drinking water. Appliances shall deliver treated water verified to be <1 cfu / 100 ml E. coli, using methods for measurement with a lower detection limit (LDL) of 1 cfu E. coli per 100 ml sample (See Box 3 below). Emission reductions cannot be claimed if over 10% of appliances in the project activity fail to meet the final water quality requirements mentioned above. <p>The sampling plan may also include provisions to collect information for records of replacement of appliances, filters and maintenance.</p>
Purpose of data	Calculation of baseline emissions.
Additional comments	<p>A statistically valid sample of the appliances may be used to determine the parameter value, as per the relevant requirements for sampling in the "Standard for sampling and surveys for CDM project activities and programme of activities".</p> <p>Point c) above refers to the quality of the drinking water. This might be checked bi-annually in accordance with "parameter "Quality of safe drinking water" as specified in methodology AMS-III.AV version 08.0.</p> <p>90% confidence interval and a 10% margin of error requirement shall be achieved for the sampled parameters.</p>

Data / Parameter	Check for SDW public distribution network.
Data unit	Yes or No.
Description	Check if there is a public distribution network supplying SDW is installed.
Source of data	Surveys (for example, this may be checked through a signed questionnaire/statement from relevant local authority/organizations based on laboratory testing or end-user surveys.)
Value(s) applied	-
Measurement methods and procedures	Monitoring if there is public distribution network supplying SDW available to the project participating household.
Monitoring frequency	Annually.
QA/QC procedures	Not applicable.
Purpose of data	Calculation of baseline emissions.
Additional comments	If the value is 0, then the value in parameter “m” will be registered as 0. If so, no ER will be claimed from the households in which this parameter is 0, and hence reduce the average ER from the households monitored for ER.

Data / Parameter	Quality of safe drinking water.
Data unit	-
Description	The quality of the safe drinking water.
Source of data	Monitoring of random sample of project participating households.
Value(s) applied	To be determined by SSC-CPA.
Measurement methods and procedures	The safe drinking water quality is monitored on sample basis at least once every two years (biennial).
Monitoring frequency	At least once every two years.
QA/QC procedures	Not applicable.
Purpose of data	Calculation of baseline emissions.
Additional comments	Emission reductions will not be claimed if project activities that fails to meet SDW standards.

I.7.2. Sampling plan

>>

Several data and parameters to be monitored in section I.7.1 are to be determined by a sampling approach. The CPA shall establish the sampling plan in accordance with the recommended outline for a sampling plan in the “Standard: Sampling and surveys for CDM project activities and programme of activities” and provisions of the applied methodologies.

CPA implementers shall develop a sampling plan in line with the following.

AMS-I.E version 10.1

Sampling approach

Simple random sampling: To obtain unbiased and reliable estimates, CPAs will pursue simple random sampling approach or alternatively stratified random sampling of both ethanol stoves and purified water is provided in the batch of CPAs monitored. This also ensures that the sample is representative of the population. The sample size should be determined manually or using appropriate statistical software such as random selection function in excel.

Confidence level and precision

When biennial inspection is chosen a 95% confidence interval and a 10% margin of error requirement shall be achieved for sampled parameters.

When the project proponent chooses to inspect annually, a 90% confidence interval and a 10% margin of error requirement shall be achieved for the sampled parameters.

In cases where survey results indicate that 90/10 precision or 95/10 precision is not achieved, the lower bound of a 90 per cent or 95 per cent confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve the 90/10 or 95/10 precision.

According to §22 of the sampling standard (v8.0), “parameter values shall be estimated by sampling in accordance with the requirements in the applied CDM methodologies separately and independently for each of the CPAs included in the PoA except when a single sampling plan covering a group of CPAs is undertaken applying 95/10 confidence/precision for the sample size calculation”.

If the sample size calculation returns a value of less than 30 samples, a minimum sample size of 30 shall be chosen when the parameter of interest is a proportion. If the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the Student's t-distribution shall be used if the resulting sample size is less than 30.

AMS-III.AV version 8.0

The AMS-III.AV version 8.0 does not have specific sampling guidance. However, several parameters are proposed to apply 90% confidence interval and a 10% margin of error reliability requirement for the parameters monitored annually. Which is consistent with §40 of the AMS-I.E version 10.1 as well as §10 and §11 of the sampling standard, version 08.0.

I.7.3. Other elements of monitoring plan

>>

Monitoring will consist of the following activities:

1. Select a time for monitoring. The monitoring shall be done in different months of the year for each year of the crediting period.
2. Randomly selecting a sample of the number of project participating households that will be subject to monitoring¹².
3. Identifying the households to be subject to monitoring according to a sampling plan.
4. Ensure that equipment is calibrated, if relevant.
5. Sending pre trained staff to the selected households to conduct the monitoring.
6. The test results are sent to CME where the data will be put into a data base and emission reductions will be calculated.

The data collected as part of the monitoring survey will be kept for the duration of the program plus two years.

The monitoring of the households selected for monitoring will provide data to quantify the average emission reduction achieved by each participating household.

The average emission reduction achieved from participating households in a period will be multiplied with the total number of project participating households within the CPA or the group of CPAs at the time of the verification, to determine the total emission reduction achieved in the CPA.

¹² The survey of the project participating households selected for monitoring will also include assessment of the solutions provided by the program. This means that the sum of the number of ethanol stoves and water purification solutions that will be inspected as part of the monitoring survey will be the same as the number of households visited as part of the monitoring survey

Area including in the monitoring process:

The monitoring can be done for a single CPA, or a group of CPAs. The project participant might decide to do the monitoring on groups of CPAs to reduce the total cost of monitoring. The group of CPAs might include all the CPAs included in the Program of Activities¹³.

Monitoring plan

The monitoring plan sets out to quantify the emission reduction at each CPA or group of CPAs included in the monitoring process. The required data is obtained by monitoring key data for a random sample of project participants. The monitored data is used to determine the emission reduction achieved from each of the monitored households, and this is used as a basis to determine the average emission reduction from participating households in the CPA or group of CPAs included in the monitoring process. The average emission reduction per participating household that is monitored is then multiplied with the number of participating households in the group of CPAs that has been included in the monitoring process, at the time of request for verification, in order to obtain the total emission reduction for a given period.

Determine the Sample size

The sample size shall be calculated to assure the required 90/10 confidence level for annual monitoring or 95/10 confidence level if monitoring is done biennially.

For selection of sample size prior to monitoring process, CME might choose the sample sized needed in previous monitored surveys in order to achieve the required confidence level.

In cases where the initial households selected for annual monitoring do not include sufficient samples of one or more of the parameters to be monitored, then stratified random sample shall be used to select the additional households needed for monitoring those parameters in which more samples were needed in order to obtain the required sample size in order to obtain the required 90/10 confidence level for annual monitoring or 95/10 confidence level if monitoring is done biennially. Alternative to account for failure to reach required precision level might be used in accordance with CDM rules and regulations available at the time of verification. This include the option provided in the methodology where it is stated that "In cases where survey results indicate that 90/10 precision or 95/10 precision is not achieved, the lower bound of a 90% or 95% confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve the 90/10 or 95/10 precision". Moreover, AMS-IE version 10.1, paragraph 40 also specify that the lower bound of the confidence interval might also be used.

If additional samples are needed to determine one parameter, let's say ethanol usage, then the additional households to be sampled shall be selected from the households that are registered as using ethanol stoves.

Summary

- Monitoring survey will be done at least annually or biennially depending on the parameter.
- Monitoring of a representative sample will be done over a 7-day period for each household monitored. Except for households monitored for water usage. Such households do not need to be monitored for 7 days, but can be monitored with one site visit.
- The monitoring will be done in different months each year of the crediting period.
- Emission reductions will be calculated based on the average emission reduction from the

¹³ EB105, Annex 1, paragraph 22

households monitored in each CPA multiplied with the number of participating households at the time of the request for verification

- Monitoring shall be done by a trained person from the survey and data collection department. Local assistance might be used, but the trained representative from the survey and collection department must quality check and sign off on all the data collected from each household that is monitored.
- The households selected for monitoring shall be selected randomly, and the number of households shall be sufficient to meet the sample size requirement set forth by the UNFCCC guidelines (see guidelines above)

Equipment to bring to the households to be monitored

- Equipment to measure the quality of the water.
- Ethanol containers. Denatured alcohol shall be bought locally.
- Equipment to measure the ethanol content in the fuel
- Digital camera, with GPS
- Tablet with monitoring form and copies of all the product data sheets.

Monitoring Process

1. Selection of households to be monitored:

The households shall be selected randomly. Households may be selected with the random selection function, from the spreadsheet of all project participating household registered in the CPA or the batch of CPAs included in the program at the time of selection of households to be monitored.

2. Process conducted by the surveyor conducting the monitoring

- a. Register the household to be monitored and fill in the monitoring form with the household identification criteria.
 - i. Write down the GPS coordinates for the household to be monitored.
 - ii. Write down the starting time of the monitoring process.
 - iii. Write down the type of solutions used by household.
 1. Ethanol stove.
 2. Household water purification system.
 3. Community water purification system.
 - iv. Write down the type of ethanol stove used. It shall be determined if the ethanol stove provided is operating or replaced by an equivalent in service appliance.
 - v. In the case of households being provided with water from a community water solution, the borehole shall be visited. It shall be determined if the solution provided by the program is operating or replaced by an equivalent in service appliance.
 - vi. Take picture of the equipment.
 - vii. Take picture of the house and the household representative.
- b. Start monitoring:

In case the household use ethanol stove, the ethanol stove shall be filled up with new denatured alcohol, and the households will be provided with 20 liters or alternatively 12 liters of denatured alcohol to be used during the 7-day monitoring period. The denatured alcohol will be purchased by the participating households from their primary denatured alcohol supplier. All the denatured alcohol the household have in containers at the start of the monitoring will be set aside and the household will be instructed not to use this denatured alcohol during the following

week. A sample of the purity of the denatured alcohol purchased shall be tested for strength (Purity) of denatured alcohol or NCV.

- c. Complete the monitoring. This shall be done exactly one week after the start of the monitoring for each household.

- i. The ethanol tank (canister) in the ethanol stove shall be filled up. The remaining of the 20 (or alternatively 12) litre of denatured alcohol given to the household at the start of the monitoring period shall be measured. The total denatured alcohol consumption for the household during the week will then be 20 (or alternatively 12) litre – minus – the denatured alcohol they have left at the completions of the monitoring period. The value shall be recorded.

Households monitored that has been provided with purified water only need to be visited once if Emission Reduction is claimed from a default of 3 liter of drinking water per day per person. In such case there is no need for a second visit to the households.

- d. Filling in the monitoring form. All the findings from the monitoring process, shall be filled in the monitoring form provided in this document.

- e. Quality control.

- i. The monitoring manager shall review all the monitoring forms to make sure they are all correctly filled in. He/she shall also ensure that the forms correspond to the households that were preselected for monitoring
 - ii. In case of unusual replies or readings, the quality control manager shall visit the household and provide a short report explaining the reason for the unusual reading, or alternatively redo the monitoring process.

- f. The portion of households selected for monitoring that can be monitored, shall be in accordance with applicable CDM rules and regulations.

- g. Returning the monitoring reports to the PoA recording and Data manager. This shall be done by email.

- i. The surveyor or the survey manager shall save the survey forms on their tablet as a backup.
 - ii. Data Recording and Data Manager shall confirm by email that the survey form has been received and that it is correctly filled.

3. Data processing

- a. PoA recording and Data manager shall review all the monitored data and save these data into a database.
- b. CME will calculate the emission reduction from each of the sampled households and calculate the average emission reduction and multiply this with the number of project participating households in the group of CPAs in order to determine the total emission reduction during the period. This shall be done through the standard spread sheet used to calculate emission reductions.

Monitoring form

Country	
CPA reference	
Household identification reference	
Name of person in the household	
Address	
Phone number	
GPS data	
People in Household	
CPA registration data	
Date and time of Start of Monitoring	
Data and time of completion of Monitoring	
Type of solutions used provided by the program	
Ethanol stove (Yes or No)	
Type of ethanol stove	
Denatured alcohol volume at start of monitoring (liter)	
Denatured alcohol volume at end of monitoring (Liter)	
Purity of the denatured alcohol (%)	
Household water purification system (Yes or No)	
Type of purification system	
Water quality within predefined qualify standard (Yes or No)	
Did household have access to purified water prior to project registration date? Yes or No	
Thermal energy output from the water purification system (If available)	
Do the household continue to boil their drinking water (Yes or No)	
Is a public water supply system available to the household (Yes or No)	
Solution distributed under project activity operational or non-operational	
Is the water supply functioning at the time of the survey (Yes or No)	
Whom is the primary fuel supplier:	
Phone Number	
Address	
Fuel supplied	
Name of person that conducted the monitoring	
Phone number of person conducting the monitoring	
Supplier of denatured alcohol, and purified water:	
Special comments or issues:	

Representative sampling.

A stratified random sample of households might be selected among all project participating households registered under the PoA. The average emission reductions from each of the households subject to monitoring survey will be used as the values to determine emission reduction in each CPA included in the PoA at the time of the monitoring.

The sampling approach follows the Standard - Sampling and survey for CDM project activities and programmes of activities" version 08.

The number of samples required to achieve the required 90/10 confidence level for annual monitoring or 95/10 confidence level if monitoring is done biennially shall be used.

SECTION J. Crediting period type and duration

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Renewable.

7 years, 0 months.

SECTION K. Eligibility criteria for inclusion of CPAs

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The SSC-CPAs to be included under this SSC-PoA must present the following characteristics:

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion
AMS-I.E (Ethanol stoves)			
1	Geographical boundary.	All distributed units/systems in each CPA are located within the geographical boundaries of the PoA.	<ul style="list-style-type: none"> GPS Coordinates. Maps or address.
2	Start date.	CPA start date shall not be before start date of PoA [30/11/2012].	<p>The start date of the CPA is [<i>specify the date</i>], the date at which the real action started:</p> <ul style="list-style-type: none"> It is the date at which the order for the first project unit/system in the CPA is placed. It is the date at which the first project unit/system in the CPA is installed.
3	Life time (Crediting Period).	CPA crediting period shall be within the life time of PoA [30/09/2040].	<p>CPA start date is [<i>specify the date</i>], with</p> <ul style="list-style-type: none"> Renewable crediting period [<i>specify the period</i>]
4	No diversion of ODA.	For all CPAs, funding from Annex I Parties, if any, does not result in a diversion of official development assistance (ODA).	The CPA-DD shall, in case of public funding (or an Annex 1 party), review the structure of the public funding and confirm that there is no diversion of Official Development Assistance.

5	De-bundling.	<p>The CPA is exempted from performing the de-bundling check since each individual sub-system and each participating household has thermal energy savings of less than 1% of the SSC threshold and will remain within this threshold throughout the crediting period.</p> <p>Please note that not all equipment and solutions may have been deployed at the CPA inclusion stage but the 1% threshold can however also be checked during verification, and in case of any participating household will be found not in line with the De-bundling requirements, those households will not be counted for in the emission reduction calculations.</p>	<p>The maximum thermal output of any equipment included in the program is defined as 10 kW in accordance with the eligibility criteria. As the SSC threshold is 45 MW, the threshold for exemption from performing a de-bundling check will be 450 kW.</p> <p>The threshold for exemption from performing the de-bundling check will not be reached, and De-Bundling check is therefore not required.</p>
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6	Double Counting.	<p>A unique numbering system for each project participating household within the CPA. The unique numbering will consist of a country code, a CPA number within the country and a unique ID number for each project participating household in the CPA. A contract with all the participating households will confirm that the households are not part of any other system that generates carbon credits. The contract can be a written contract signed by individually households, or it can be a contract submitted through the representative from the LPIP through a smart phone application, subject to the households approving all the information filled out by the LPIP.</p> <p>The Reporting and Data Recording Department shall implement a system where it will be automatically registered if two project participating households has:</p> <ol style="list-style-type: none"> 1. The same contact phone number, or, 2. The same ID number 	<ul style="list-style-type: none"> • End user details (i.e. name, address). • Unique ID number of system/unit recorded in a database. <p>Documentation:</p> <p>End user agreement template.</p>
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7	Local stakeholder consultations and environmental impact.	<p>Stakeholder consultation and environmental impact assessment will be done for each CPA, if required by the host country.</p> <p>For the first CPA in each Country, the Stakeholder consultation and the Environmental Impact Assessment might be done on the National level as an alternative to the CPA specific Stakeholder Consultation and the CPA specific Environmental Assessment. If so, the stakeholder consultation must include stakeholders that are represented in the CPA area and or are familiar with the conditions in the CPA area. If a national level Environmental Assessment is done for the first CPA in the country, the conditions in the CPA area should be representative for the country.</p>	<p>Documentation:</p> <ol style="list-style-type: none"> 1. Stakeholder consultation report. 2. Environmental Assessment report.
8	Target group and distribution mechanism.	<p>The CPA specifies the target group of the project unit/system and distribution mechanisms.</p> <p>The solutions are provided to domestic households and small businesses only.</p>	<ul style="list-style-type: none"> • CPA specifies the distribution mechanism, e.g. direct installation. • CPA specifies the target group, i.e., households or SME.

9	Sampling.	<p>Sampling design and calculation shall meet the requirements of the applied methodology, and the sampling standard</p> <p>Sampling will be done for;</p> <ol style="list-style-type: none"> 1. The baseline survey. and 2. To determine the emission reduction during the monitoring process. <p>For both of these processes the project will comply with the requirement of a 90% confidence interval and a 10% margin of error.</p> <p>In case it the option for doing verification for a group of CPAs, then the confidence level of 95/10 shall be achieved.</p> <p>The emission reduction will be calculated based on ex-post survey.</p> <p>The baseline survey shall be done on a sample size of at least 68 households.</p>	<ul style="list-style-type: none"> • Parameter [specify the parameter] is determined through sampling at [PoA or CPA] level: • [specify sampling method, e.g. simple random sampling] sampling is designed. • Sampling size is [number], which gives a result of [specify the confidence/precision].
10	SSC threshold.	<p>The SSC threshold shall be met. Equivalent to maximum [number] project unit/system units that can be covered under one CPA. The small-scale threshold is not exceeded.</p>	<p>CPA [specify title or reference number] distributes [number] project units/systems.</p>

11	Additionality.	<p>The technology (Ethanol stoves) is automatically additional in accordance with option 1, paragraph 17 of the methodology.</p> <p>It shall be demonstrated that the penetration of renewable energy based thermal energy technologies (Ethanol stoves) is equal to or less than 5 per cent of the technologies/measures providing similar services in the region (country) in order to be considered as automatically additional.</p>	<p>The penetration shall be determined using one of the following options.</p> <p>(a) Official statistics or reports, relevant industry association reports or peer-reviewed literature;</p> <p>(b) Results of a sampling survey conducted by project participants or a third party as per the latest version of "Standard: Sampling and surveys for CDM project activities and programme of activities"; covering technologies/measures providing similar services as the project technology/measure.</p> <p>Documentation</p> <p>To determine the penetration using the above paragraph, the most recent data available at the time of submission of the CDM-CPA-DD for validation/inclusion or renewal shall be used, and the data vintage used shall not include data older than three years prior to: (a) the start date of the CDM project activity; or (b) the start of validation/inclusion, whichever is earlier.</p>
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12	Technology.	<p>The CPA consists of solutions to reduce emission from burning non-renewable woody biomass for cooking. The solutions include:</p> <ul style="list-style-type: none"> Ethanol stove that shall have a thermal output of no more than 10 kW and a thermal efficiency of no less than 50%. For project activities introducing bio-ethanol cookstoves, CPA implementers shall demonstrate that the cookstoves are designed, constructed and operated to the requirements (e.g. with regard to safety) of a relevant national, local or international standard. 	<p>The thermal output and thermal efficiency of the ethanol stoves used in the CPA shall be determined by product specification provided by the equipment (stove) supplier.</p> <p>In cases where such documentation is unavailable the thermal output and thermal efficiency shall be determined by a qualified laboratory.</p> <p>Document: Product Data sheet or product specification provided by the product supplier or a certified laboratory product test.</p> <p>This will be provided during monitoring and such documentation shall then be provided for all the equipment used in each CPA.</p>
13	Use of NRB.	The CPA demonstrates that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics	<p>The use of NRB is demonstrated by:</p> <ul style="list-style-type: none"> Survey report, or Published literature, or Official reports and/or statistics, or Other means [...] It is demonstrated at: CPA level.
14	Approval of CPA by CME.	CME approved each CPA to be included into the registered PoA.	Documentations: Statement of CME giving approval for the CPA to be included into its registered PoA.
15	Legal requirements.	CME has commissioned studies in each country included in the program to determine if there are any legal or policy requirements for households to use the equipment promoted by the PoA or that there are any law or policy against using such solutions.	<p>Documentation: Letter from 3rd party for each country included in the PoA.</p> <p>The study shall be no more than 2 years old at the time of the request for CPA inclusion. A copy of such documentation shall be enclosed as part of the request for CPA inclusion.</p>

16	Confirm that the project is not generating carbon credits from any other program or projects.	<p>The baseline survey will confirm that the solutions to be employed by the program of activities in the particular CPA have not been employed prior to the project registration.</p> <p>The end user contracts will confirm that the end user solutions provided as part of the CPA is not part of any other program that might generate carbon credits</p>	<p>Documentations: Baseline survey.</p> <p>End user contract.</p>
17	Exclusivity of boundary.	<p>No component of a project activity of one CPA shall be part of any other CPA. Every project participating household is exclusive to one CPA¹⁴.</p> <p>The proposed CPA will not be a deregistered CPA or project activity.</p>	<p>Documentations: Confirmation from CME that no component of the CPA is part of any other CPA under the PoA. And that the CPA is not a deregistered CPA or project activity.</p> <p>"Unique ID system for each household shall be defined at the time of CPA inclusion in order to avoid any double counting. This unique id shall be verified at the time of CPA inclusion. This unique id(code) shall be archived in CME database."</p> <p>End user agreement.</p>

¹⁴ Every project component, that is every project participating household, shall be exclusive to one CPA. When the small scale threshold is reached, a new CPA might be registered which might include the same geographical area as a previously registered CPA, but the project participant shall ensure that each project participating household is only part of one CPA so as to avoid double counting.

18	Validation of the baseline scenario.	<p>The baseline is defined by the applied methodology and shall be valid at the time of inclusion or renewal CPA crediting period.</p> <p>In the case of renewal of crediting period, CPAs shall validate the baseline values following the guidance of the methodological TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period.</p> <p>The project shall be in compliance with the current baseline with relevant mandatory national and/or sectoral policies. Including confirmation, the validity of the IPCC values and all other values used for calculation of ER.</p>	Confirmed from CME that the CPA is in compliance with the current baseline scenario and with relevant mandatory national and or sectoral policies. Including the confirmation of the values used in the CPA-DD including the IPCC values and other values used to calculate emission reductions.
19	CER Ownership.	<p>The CERs shall be the sole ownership of the CME, and the CME shall provide part of the income generated from the CERs to pay for subsidies of the equipment to be deployed in the CPA.</p> <p>Please note that loan agreements might be made so that the equipment will be financed by loans to be paid for with the income generated from the sales of the CERs.</p>	<p>Documentations:</p> <p>The contractual agreement between CME and the key partners or LPIP and distributors shall specify that part of the income from the carbon credits shall be used to subsidize the equipment deployed in the CPA.</p> <p>The end user agreement shall state that the carbon credits generated belong to CME.</p>
AMS-III.AV (Clean Water Solutions)			
1	Geographical boundary.	All distributed units/systems in each CPA are located within the geographical boundaries of the PoA.	<ul style="list-style-type: none"> • GPS Coordinates. • Maps or address.

2	Start date.	CPA start date shall not be before start date of PoA [30/11/2012].	<p>The start date of the CPA is [<i>specify the date</i>], the date at which the real action started:</p> <ul style="list-style-type: none"> • It is the date at which the order for the first project unit/system in the CPA is placed. • It is the date at which the first project unit/system in the CPA is installed.
3	Life time (Crediting Period).	CPA crediting period shall be within the life time of PoA [30/09/2040].	<p>CPA start date is [<i>specify the date</i>], with</p> <ul style="list-style-type: none"> • Renewable crediting period [<i>specify the period</i>].
4	No diversion of ODA.	For all CPAs, funding from Annex I Parties, if any, does not result in a diversion of official development assistance (ODA).	The CPA-DD shall, in case of public funding (or an Annex 1 party), review the structure of the public funding and confirm that there is no diversion of Official Development Assistance.
5	De-bundling.	<p>The CPA is exempted from performing the de-bundling check since each individual sub-system and each participating household has thermal energy savings of less than 1% of the SSC threshold and will remain within this threshold throughout the crediting period.</p> <p>Please note that not all equipment and solutions may have been deployed at the CPA inclusion stage but the 1% threshold can however also be checked during verification, and in case of any participating household will be found not in line with the De-bundling requirements, those households will not be counted for in the emission reduction calculations.</p>	<p>The energy savings from any equipment included in the project shall be less than 1% of a maximum energy saving of 60 GWh per year (or an appropriate equivalent) in any year of the crediting period. In this context, for project activities that improve thermal energy efficiency, the maximum energy saving of 60 GWh(e) per year is equivalent to 180 GWh(th) per year saving.</p> <p>Documentation It is demonstrated through Installed capacity of each project unit is [value], less than 1 per cent of SSC threshold.</p>

6	Double Counting.	<p>A unique numbering system for each project participating household within the CPA. The unique numbering will consist of a country code, a CPA number within the country and a unique ID number for each project participating household in the CPA. A contract with all the participating households will confirm that the households are not part of any other system that generates carbon credits. The contract can be a written contract signed by individually households, or it can be a contract submitted through the representative from the LPIP through a smart phone application, subject to the households approving all the information filled out by the LPIP.</p> <p>The Reporting and Data Recording Department shall implement a system where it will be automatically registered if two project participating households has:</p> <ol style="list-style-type: none"> 3. The same contact phone number, or, 4. The same ID number 	<ul style="list-style-type: none"> • End user details (i.e. name, address). • Serial numbers of system/unit recorded in a database. <p>Documentation:</p> <p>End user agreement template.</p>
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7	Local stakeholder consultations and environmental impact.	<p>Stakeholder consultation and environmental impact assessment will be done for each CPA, if required by the host country.</p> <p>For the first CPA in each Country, the Stakeholder consultation and the Environmental Impact Assessment might be done on the National level as an alternative to the CPA specific Stakeholder Consultation and the CPA specific Environmental Assessment. If so, the stakeholder consultation must include stakeholders that are represented in the CPA area and or are familiar with the conditions in the CPA area. If a national level Environmental Assessment is done for the first CPA in the country, the conditions in the CPA area should be representative for the country.</p>	<p>Documentation:</p> <p>3. Stakeholder consultation report.</p> <p>4. Environmental Assessment report.</p>
8	Target group and distribution mechanism.	<p>The CPA specifies the target group of the project unit/system and distribution mechanisms</p> <p>The solutions are provided to domestic households and small businesses where a public distribution does not exist in the CPA boundary, or a public distribution network exists, but is not supplying SDW.</p>	<ul style="list-style-type: none"> • CPA specifies the distribution mechanism, e.g. direct installation. • CPA specifies the target group, i.e., households or SME. • Confirmed information via survey that a public distribution network does not exist, or a public distribution network is not supplying SDW.

9	Sampling.	<p>Sampling design and calculation shall meet the requirements of the applied methodology, and the sampling standard</p> <p>Sampling will be done for;</p> <p>3. The baseline surveys .</p> <p>and</p> <p>4. To determine the emission reduction during the monitoring process.</p> <p>For both of these processes the project will comply with the requirement of a 90% confidence interval and a 10% margin of error.</p> <p>In case it the option for doing verification for a group of CPAs, then the confidence level of 95/10 shall be achieved.</p> <p>The emission reduction will be calculated based on ex-post survey.</p> <p>The baseline survey shall be done on a sample size of at least 68 households.</p>	<ul style="list-style-type: none"> Parameter [specify the parameter] is determined through sampling at [PoA or CPA] level: [specify sampling method, e.g. simple random sampling] sampling is designed. Sampling size is [number], which gives a result of [specify the confidence/precision].
10	SSC threshold.	<p>The SSC threshold shall be met. Equivalent to maximum [number] project unit/system units that can be covered under one CPA. The small-scale threshold is not exceeded.</p>	<p>CPA [specify title or reference number] distributes [number] project units/systems.</p>

11	<p>Additionality.</p>	<p>Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to “Barrier due to prevailing practice: prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions”.</p> <p>Reference to Tool 21, paragraph 10 (c).</p>	<p>Supporting evidence. The projects is only applicable for areas where water supply system is not in place, or a public distribution network exists, but is not supplying SDW.</p> <p>In such areas, where water supply is not in place, the alternatives is always solutions which leads to higher emissions.</p> <p>Documentation</p> <ul style="list-style-type: none"> • Baseline survey or, • Published data indicating the absence of a Public Distribution Network (PDN) to supply SDW or presence of a PBN but not supplying SDW or, • Signed confirmation by government officials or • Survey and Interviews with locals.
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12	Technology.	<p>The CPA consists of solutions to reduce emission from burning non-renewable woody biomass for boiling water. The solutions include:</p> <ul style="list-style-type: none"> • The community water purification systems shall be soil filtration schemes (boreholes, wells) that may include container disinfection such as chlorination. The system shall be manually operated (handpump). Rehabilitation and/or construction of the wells shall provide water comply with relevant national and/or international standards for drinking water and measures are taken to ensure that water and well are not contaminated. • The Household water purification systems shall provide purified water that meet applicable national microbiological water quality standards/guidelines or WHO's interim performance target on household water treatment. • The product lifespan shall be specified in the water purification technology and if shorter than the crediting period, there shall be documented measures in place to ensure that end users have access to replacement purification systems of comparable quality. 	<p>Document: Product Data sheet or product specification provided by the product supplier or a certified laboratory product test.</p> <p>This will be provided during CPA validation and such documentation shall then be provided for all the equipment used in each CPA.</p>
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13	Use of NRB.	The CPA demonstrates that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	The use of NRB is demonstrated by: <ul style="list-style-type: none"> • Survey report, or • Published literature, or • Official reports and/or statistics, or • Other means [...]. • It is demonstrated at CPA level.
14	Approval of CPA by CME.	CME approved each CPA to be included into the registered PoA.	Documentations: Statement of CME giving approval for the CPA to be included into its registered PoA.
15	Legal requirements.	CME has commissioned studies in each country included in the program to determine if there are any legal or policy requirements for households to use the equipment promoted by the PoA or that there are any law or policy against using such solutions.	Documentation: Letter from 3rd party for each country included in the PoA. The study shall be no more than 2 years old at the time of the request for CPA inclusion. A copy of such documentation shall be enclosed as part of the request for CPA inclusion.
16	Confirm that the project is not generating carbon credits from any other program or projects.	The baseline survey will confirm that the solutions to be employed by the program of activities in the particular CPA have not been employed prior to the project registration. The end user contracts will confirm that the end user solutions provided as part of the CPA is not part of any other program that might generate carbon credits	Documentations: Baseline survey. End user contract.

17	Exclusivity of boundary.	<p>No component of a project activity of one CPA shall be part of any other CPA. Every project participating household is exclusive to one CPA¹⁵.</p> <p>The proposed CPA will not be a deregistered CPA or a CDM project activity.</p>	<p>Documentations: Confirmation from CME that no component of the CPA is part of any other CPA under the PoA. And that the CPA is not a deregistered CPA or project activity.</p> <p>"Unique ID system for each household shall be defined at the time of CPA inclusion in order to avoid any double counting. This unique id shall be verified at the time of CPA inclusion. This unique id(code) shall be archived in CME database."</p> <p>End user agreement.</p>
18	Validation of the baseline scenario.	<p>The baseline is defined by the applied methodology and shall be valid at the time of inclusion or renewal CPA crediting period.</p> <p>In the case of renewal of crediting period, CPAs shall validate the baseline values following the guidance of the methodological TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period.</p> <p>The project shall be in compliance with the current baseline with relevant mandatory national and/or sectoral policies. Including confirmation, the validity of the IPCC values and all other values used for calculation of ER.</p>	<p>Confirmed from CME that the CPA is in compliance with the current baseline scenario and with relevant mandatory national and or sectoral policies. Including the confirmation of the values used in the CPA-DD including the IPCC values and other values used to calculate emission reductions.</p>

¹⁵ Every project component, that is every project participating household, shall be exclusive to one CPA. When the small scale threshold is reached, a new CPA might be registered which might include the same geographical area as a previously registered CPA, but the project participant shall ensure that each project participating household is only part of one CPA so as to avoid double counting.

19	CER Ownership.	<p>The CERs shall be the sole ownership of the CME, and the CME shall provide part of the income generated from the CERs to pay for subsidies of the equipment to be deployed in the CPA.</p> <p>Please note that loan agreements might be made so that the equipment will be financed by loans to be paid for with the income generated from the sales of the CERs.</p>	<p>Documentations:</p> <p>The contractual agreement between CME and the key partners or LPIP and distributors shall specify that part of the income from the carbon credits shall be used to subsidize the equipment deployed in the CPA.</p> <p>The end user agreement shall state that the carbon credits generated belong to CME.</p>
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The PoA involves combinations of technologies / measures and the eligibility criteria relevant to each of them have been proposed to demonstrate additionality.

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 checked="" type="checkbox"/> Project participant
Organization name	Green Development AS
Country	Norway
Address	Wergelandsveien 27, 0167 Oslo
Telephone	+4793630730
Fax	Not available
E-mail	hn@greendevlopment.no
Website	www.greendevlopment.no
Contact person	Havard Norstebo

Coordinating/managing entity and/or project participants	<input type="checkbox"/> Coordinating/managing entity <input checked="" type="checkbox"/> Project participant
Organization name	EcoEye Co., Ltd.
Country	Republic of Korea
Address	B-1503, 70 Dusan-ro, Geumcheon-gu, 08584 Seoul.
Telephone	+82264807346
Fax	Not available
E-mail	Sangsun_ha@ecoeye.com
Website	www.ecoeye.com
Contact person	Sangsun Ha

Coordinating/managing entity and/or project participants	<input type="checkbox"/> Coordinating/managing entity <input checked="" type="checkbox"/> Project participant
Organization name	Samsung Electronics Co., Ltd.
Country	Republic of Korea
Address	129, Samsung-ro, Yeongtong-ru, Suwon-si, 16677 Gyeonggi-do
Telephone	+82312002455
Fax	Not available
E-mail	Jyrosa.kim@samsung.com
Website	www.samsung.com
Contact person	Jeeyoun Kim

Appendix 2. Affirmation regarding public funding

No public funding is provided for the proposed program.

Appendix 3. Applicability of methodologies and standardized baselines

AMS I.E., Version 10.1, Sectoral Scope:01, title “Switch from non-renewable biomass for thermal application by the end user”.

AMS III.AV version 08.0, sectoral scope: 03, title “Low greenhouse gas-emitting safe drinking water production systems.

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

CPA emission reductions will depend on the emission reduction per project participating household and the number of project participating households at the end of the monitoring period. The number of project participating households will increase from year to year, hence the project emission is expected to increase over time.

Appendix 5. Further background information on monitoring plan

The monitoring plan is described in detail in section I.7.3.

Appendix 6. Summary report of comments received from local stakeholders

Not applicable.

Appendix 7. Summary of post-registration changes

PRC to Version 11.0 of the PoA DD

A number of corrections have been made to the CDM PoA to provide further clarify of issues that could be open for interpretation and to remove grammatical and editorial faults in the CDM PoA DD. These corrections include:

- Correction to the document version number and the date of the completion of the CDM PoA DD.
- Correct from Ethanol to Denatured Alcohol to clarify that ethanol which has not been denatured will not be included in the program. CDM PoA DD version 10 allowed could be understood to allow for un-denatured ethanol to be used by the program. Such un-denatured ethanol could be used for drinking, which could contribute to negative social impacts. By requiring that the liquid fuel used by the projects are to be denatured, the risk of negative social impacts is greatly reduced. CDM PoA DD version 11 and 12 has hence required that the liquid fuel must be denatured. It has been clarified that the chemical composition of the ethanol will not change in other ways than what is caused by adding a bittering agent at the rate of 1 to 100 000. Correct to clarify the geographical limitation of each CPA within the CDM PoA DD

- Correction of spellings including change from Kw to kW as a number of spelling mistakes have been found in CDM PoA DD version 10.
- Correction to clarify the required purified water standards. In the CDM PoA DD version 10 it was simply stating that the water shall meet WHO standards. A correction has been made to provide a specific WHO standard for drinking water and specified that national standards shall be used when available in accordance with the methodology.
- Correction with regards to end user agreements. In CDM PoA DD version 10 it was no specification with regards to the format of the end user agreement. The CDM PoA DD version 11 and 12 has clarified that the end user agreements could be a contract signed by each individual end user, it could be a contract generated by a smart phone application.
- Correction to the data management. In CDM PoA DD version 10 it was stated that the data should be stored. In CDM PoA DD version 11 and 12 it has been specified that the data might be stored electronically and that end user contracts might be submitted to the Project Participant through any means that technology will allow for that provide a safe and verifiable registration of end user households included in the program.
- Correction related to reference to Program Management Manual. In CDM PoA DD version 10 it was on several occasions referred to the Program Management Manual, but the issues which was previously referred to in this manual has been included in CDM PoA DD version 11 and 12 and the reference to the Program Management Manual has hence been removed.
- Correction related to the stakeholder consultation. In CDM PoA DD version 10 it was referred to Word Bank or other 3rd party to assist with the stakeholder consultation. This has been removed in CDM PoA DD version 11 and 12 as it is accepted that the Project Participant might conduct the stakeholder consultation on their own without the assistance from 3rd parties.
- Corrections to the baseline scenario. In CDM PoA DD version 10 it was simply assumed that all household boiled their water in the baseline scenario if that was the predominant solutions in the project area. A correction has been made in CDM PoA DD version 11 and 12 so that emission reductions will only be claimed for getting purified water, where it can be confirmed from the end user contracts that the household did boil their water in the baseline scenario
- Corrections have been made to Appendix 1 in the CDM PoA DD. Version 11 and 12 has been corrected to give the updated email address of contact person.
- Corrections have been made to annex 4 in the CDM PoA DD. Part of the annex has been removed as it is not correctly representing all CPAs in the CDM PoA.

B: Versions of the monitoring plan

- Changes of sampling process of the monitoring process. CDM PoA DD version 10 simply referred to a process in the Program Management Manual, that was an appendix to CDM PoA DD. The sampling process has now been included in the CDM PoA DD version 11 and 12. Furthermore corrections to the sampling process have been made based on new standards and guidelines from the Executive Board.
- Change of the confidence level of the sample size. In CDM PoA DD version 10 a confidence level of 90/10 was given. In CDM PoA DD version 11 and 12 it has been specified that a higher level of confidence level, namely 95/10 should be used when a group of several CPAs are included in the same monitoring process in accordance with new guidelines from the Executive board.
- Change have been made in the definition of ET_{usage,y}. In CDM PoA DD version 10 it was defined as consumption multiplied with the purify of the fuel. In CDM PoA DD version 11 and 12 it has been corrected to be defined as consumption of fuel multiplied with the purify of the fuel determined by the energy content of the fuel
- Change related to sample size. In the CDM PoA DD version 10 it was referred to a required sample size of 68. In CDM PoA DD version 11 and 12 it has been corrected to specify that the sample size of 68 only rely to the required sample size for the baseline study and not for the sample size for the monitoring survey.

- Change to the monitoring process. In CDM PoA DD version 10 the monitoring process was described in detail in the Program Management Manual. In CDM PoA DD version 11 and 12 the monitoring process has been included into the CDM PoA DD. The monitoring process have not been changed by including the description of the process to the CDM PoA DD.
- Change to the monitoring form. In CDM PoA DD version 10 the monitoring form was given in the Program Management Manual. In CDM PoA DD version 11 the monitoring form was included in the CDM PoA DD. In CDM PoA DD version 12 the monitoring form was updated to include a confirmation that the households that get purified water as part of the program, no longer boil their water. This correction was done to avoid claiming emission reductions from households that continue to boil their water after receiving purified water by solutions provided by the program.
- Change has been made with regards to the representative sampling. In CDM PoA DD version 11 and 12 it has been updated to reflect new standards and guidelines by the executive board.

C: Changes:

Two changes to the project design have been made to the CDM PoA DD. These two changes are:

A: Changes to Eligibility Criteria 17

This change is in accordance with paragraph 133 of projects cycle procedures.

B: Changes to Geographical boundary of the program.

This change is in accordance with paragraph 131 of project cycle procedures.

PRC to Version 13.0

Corrections includes:

1. Minor spelling and removing of space between words and paragraphs.
2. Change of fonts used in the document where different fonts were initially used.
3. Using the latest format of the CDM POA DD (Version 8.1 which is used for this document)
4. Correction to the document version number and the date of the completion of the PoA DD.
5. Moved the summary of the PRC that was done in version 13 of this document from the main text, to this appendix.
6. Included information in sections of the PoA DD form version 8.1, which was not part of the PoA DD form for used for version 13 of the PoA DD.
7. Clarified that denatured alcohol might also be sources from sugar factories and other entities, that make ethanol as a by-product from their main business, in addition to purchase from micro distilleries (does not change the requirement to document that the fuel is renewable).
8. Eligibility criteria 3 has been corrected with "The water purification system is using non-renewable energy source" to "The water purification system is using renewable energy sources. The corrections to the EC do not have any impact on additionality or any other requirements for eligibility criteria's and does not impact ER calculations.
9. Updated the contact information.
10. Clarified the conditions for the credit facility that CME seek to provide to expand the program.
11. Included explanation that income from CER sales to pay for aftersales support to ensure that the system remain operational
12. Addition of text in footnote under section A.3 to state, "the most cost-efficient solutions most suitable for the local conditions might be used as long as they still remain within the framework described in this document and comply with the methodology. These shall include the use of membrane-based systems for household water purification systems, Community based water purification systems using filtering technology".
13. Republic of Korea has been included as an Annex 1 party to the PoA in section A.5.

14. The statement “Due to the almost limitless potential supply of denatured alcohol, the ethanol stoves are expected to provide most of the emission reduction from the SSC-PoA”, has been removed.
15. The technology deployed, based on local conditions, shall be identified and described at the time of CPA implementation and inclusion and shall also be described as part of the monitoring process, for each household selected for monitoring.
16. A table has been included in appendix 5, to provide guideline on how to determine if ethanol is considered renewable energy and to calculate potential leakage in accordance with General guidance on leakage in biomass project.
17. Section I.7.1 and section I.7.3 has been updated with regards to how to determine if ethanol is considered renewable energy and to calculate potential leakage in accordance with General guidance on leakage in biomass project.

Permanent changes to the registered monitoring plan

1. Revision in monitoring frequency of the ex-post parameters from Annual to at least biennial. (except for $ET_{\text{stove, Capacity, y}}$ and $BG_{\text{stove, Capacity, y}}$, which will be monitored annually).
2. Addition of text to indicate scanned (soft) copies of baseline survey forms might be provided to CME rather than sending the original survey forms by regular post.
3. Addition of provision to account for failure to reach required confidence/precision level at the time of verification in accordance with latest version of CDM rules and regulations available at the time of verification.
4. Addition of text to indicate that random selection of households to be monitored, could be done with the use of random selection in excel, from all project participating households in the CPA or batch of CPA included in the program at the time of selection of household to be monitored.
5. Addition of text to clarify that water test to confirm that drinking water supplied by the program meet the required WHO's interim performance targets on household's water treatment, can additionally be done by a certified laboratory on-site during the monitoring process.
6. Deletion of text with reference to number (20) and volume (10 litre) of empty water containers for monitoring purpose to households that use purified water.
7. Change in personnel responsible for calculation of emission reductions for the CPA from Recording and Data Manager to CME.
8. Addition of a row to provide for the name of a person from the household that has been monitored in the Monitoring Form.
9. Change in measurement methods and procedures for parameter $QDW_{p, y}$ to indicate that monitoring of random sample of project participating household will be done according to the monitoring process as described in the Monitoring Plan in place of Program management manual.
10. Inclusion of text to indicate that 95/5 confidence level shall be applied in case of biennial monitoring. Furthermore, sample size shall be sufficient to obtain 95/5 confidence level in case annual or biennial sampling is performed for group of CPAs under the PoA.

The PRC does not change the calculation of the ER or the application of the additionality or eligibility of the program to the compliance with the deployed methodology or compliance with any CDM rules and regulations.

PRC to Version 22.0

Correction include change of NCV_{Biogas} in section I.6.2 from 0.000215 TJ/m³ to 0.0000215 TJ/m³. This correction is done because the CDM EB changed the reference value.

The PRC to the PoA DD apply to all the CPA DDs registered prior to the PRC for the PoA DD.

Changes relative to version 23

1. Changes to monitoring and calculation of ER for households provided with drinking water. This in accordance with AMS III.AV version 08.
2. Changes due to latest version of CDM rules and regulations.
3. Grammar and spelling corrections and removal of sections that is not perceived as relevant and adding sections for further clarification when perceived as relevant.

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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).
05.0	9 March 2015	Revision to: <ul style="list-style-type: none"> • Include provisions related to choose 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.

<i>Version</i>	<i>Date</i>	<i>Description</i>
04.0	25 June 2014	<p>Revision to:</p> <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	<p>EB 70</p> <p>Revision to reflect changes to the <i>Guideline: Completing the programme design document form for CDM programmes of activities</i> (EB 70, Annex 6).</p>
02.0	13 March 2012	<p>EB 66</p> <p>Revision required to ensure consistency with the "Guidelines for completing the programme design document form for CDM programmes of activities" (EB 66, annex 12).</p>
01.0	27 July 2007	<p>EB 33, Annex 41</p> <p>Initial publication.</p>
<p>Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: programme of activities, project design document</p>		