



**Programme of activities design document form  
(Version 10.0)**

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

**BASIC INFORMATION**

<b>Title of the PoA</b>	Promotion of the Improved Cooking Stove (ICS) – Nepal
<b>Version number of the PoA-DD</b>	13
<b>Completion date of the PoA-DD</b>	20/04/2022
<b>Coordinating/managing entity</b>	Alternative Energy Promotion Centre (AEPC)
<b>Host Parties</b>	Nepal
<b>Applied methodologies and standardized baselines</b>	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 12.
<b>Sectoral scopes</b>	Sectoral Scope 3: Energy Demand

## **PART I. Programme of activities (PoA)**

### **SECTION A. Description of PoA**

#### **A.1. Purpose and general description of PoA**

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The Promotion of the Improved Cooking Stove (ICS) – Nepal, a CDM Program of Activities (PoA) is an initiative to be implemented by Alternative Energy Promotion Center (AEPC)<sup>1</sup> which is a nodal agency for promoting Renewable Energy Technologies (RETs) in Federal Democratic Republic of Nepal (Federal Democratic Republic of Nepal is hereby referred to as Nepal later in the document). The use of fuel efficient improve cooking stoves would lead to less consumption of fuel-wood which would thus reduce the emission from the stove. The programme will also contribute towards reducing deforestation and also improvement in the quality of life of the targeted group through reduction of drudgery, time and money spent on fuel wood collection and throughout improvement of the indoor environment. The CPAs under the programme will be implemented and maintained by AEPC.

#### **Policy/measure or stated goal of the PoA**

The ICS program is aligned with the Government strategy as the main objective of the ICS program is the dissemination of the appropriate improved cooking stove to the rural household of Nepal resulting in the reduction of firewood consumption leading to climate mitigation in a sustainable manner.

The Rural Energy Policy (2006) of Government of Nepal has set framework and policy for the renewable energy promotion. This policy emphasises to promote clean, reliable and appropriate energy sources as a means to reduce rural poverty and protect the environment. The policy highlights the following strategies related to the biomass energy:

- Raise awareness on ICS as well as other biomass energy technologies to reduce indoor air pollution and fuel wood consumption
- Promote research, development and dissemination of ICS and other biomass energy technologies that are appropriate for different geographical and cultural settings.
- Technology transfer of ICS in rural areas
- Encourage establishment of information centres and exhibitions
- Discourage direct burning of cow dung.

The aim of the PoA is to promote dissemination of Improved Cooking Stove (ICS) with replacement of existing Traditional Cooking Stoves (TCS) to the existing users in Nepal. The programme will contribute towards improving livelihoods of the rural households through improved access to energy services from the improved cooking stoves. The carbon revenues will be utilised to recover the portion of the costs of the program<sup>2</sup>. The contribution of the PoA to sustainable development of

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<sup>1</sup> <http://www.aepc.gov.np/>

<sup>2</sup> NRREP started in July 16, 2012 is presently funded by Danida, Norway, DFID, KfW and GoN. GoN is committed to contribute 35% of the total indicated budget i.e. 184 million USD for the five years span of NRREP as per Annex: Changes in NRREP, Programme Document in 1.2, page 46). The GoN commitment includes its regular financial support in renewable energy sector as well as carbon revenue from this PoA and other registered CDM projects implemented by AEPC. The remaining 65% is expected to be funded by external donors. As of now, the Norwegian and Danish Governments confirmed their commitments of Norwegian Kroner 172 million (about 17% of the total cost) and Danish Kroner 205 million (about 20% of the total cost) respectively (see agreements between GoN and Norwegian Embassy, and between GON and Danish Embassy). Other donors, so far, have not yet confirmed their contribution. Since the carbon revenue from this PoA is expected to be part of the GoN commitment (35%) to NRREP to achieve among others the promotion of 475,000 ICS (majority belonging to proposed PoA) under BES/NRREP it is not possible to achieve this target in the absence of this PoA. Besides, the funding commitment is for 5 years span of

the country is significant in terms of environmental, technological, economic and social well-being. The sustainable development benefits of the programme have been discussed below.

### **PoA Management Framework**

AEPC was established in 1996 as a semi-autonomous body formed under the Alternative Energy Promotion Board for developing and promoting RETs in Nepal. The overall objective of AEPC is to popularise and promote the use of renewable energy technologies to raise living standards of rural people to protect the environment and to develop commercially viable alternative energy industries in the country. The Alternative Energy Promotion Board is a separate board which consists of 9 members from various sectors – Government, Private Sector and Financial Institutions. The board of AEPC has overall authority to make decision on AEPC's activities. Human resources of AEPC are hired by the Board and totally separated from Civil Servant and cannot be transferred to government ministry and departments. AEPC supports government to formulate RETs related policy, plan and coordinate national level stakeholders to implement the policy and plan. Presently, AEPC is in the process of transforming into a full autonomous organization.

Under its umbrella AEPC is implementing various programs and projects. One of them, Energy Sector Assistance Programme (ESAP) Phase I, was introduced in 1999 with an expected implementation period of 15-20 years and completed in 2007. The ESAP Phase II started in March 15, 2007 and ended in July 16, 2012. One of the major components of ESAP was Biomass Energy Component<sup>3</sup> (BEC) which was established to support AEPC in promoting biomass based energy technologies. The aim of BEC was to improve the kitchen environment for rural population and introduce new biomass energy technologies through commercialisation. BEC developed application of other biomass energy technologies such as metallic stoves, briquetting, biomass gasifiers, cogeneration and biofuels. The overall strategy of BEC was to promote biomass energy through Non Governmental Organisations (NGOs), forest user groups and other relevant organisations based on best practices guidelines and support mechanisms. As a result of ESAP Phase I and II activities more than 615, 000 Mud ICSs, 7,000 Metallic ICS and around 1,600 Institutional Mud ICSs were installed throughout the country.

With the end of ESAP Phase II on 15 July 2012, the Government of Nepal and Development Partners (DPs) agreed to start a new programme called National Rural and Renewable Energy Program Accordingly, NRREP has started from 16 July 2012<sup>4</sup> for a period of five years and is presently funded by Danida, Norway, DFID, KfW. The development objective of the NRREP is to improve the living standard of rural women and men, increase employment of women and men as well as productivity, reduce dependency on traditional energy and attain sustainable development through integrating the alternative energy with the socioeconomic activities of women and men in rural communities. NRREP has three main components i.e. Central Renewable Energy Fund, Technical Supports, and Business Development for Renewable Energy & Productive Energy Use. In line with the NRREP objectives and continuation of successful efforts by ESAP Phase I and II in promoting ICS, the Technical Supports component has a dedicated Biomass Energy Subcomponent (BES) with objective to further scale-up implementation network for ICS with defined quality criteria. The proposed CPAs under PoA are part of BES activities.

Besides, the Climate and Carbon Subcomponent (CCS) under Technical Supports subcomponent was also created with the main objective that CDM and other carbon market instruments are functional and generate revenue.

### **General operating and implementing framework of PoA**

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NRREP and the CPAs developed after this period will experience a funding gap and the revenue from CDM will be required to cover the cost of programme after the NRREP is over.

<sup>3</sup> In ESAP Phase I the component has title "Biomass Energy Support Programme" (BESP), however in ESAP Phase II the component title was changed to " Biomass Energy Component" (BEC)

<sup>4</sup> National Rural and Renewable Energy Programme (NRREP), Programme Document, May 2012

The proposed implementation plan for the PoA contributes to the five years' target of the National Rural and Renewable Energy Program (NRREP) executed by AEPC for the period from 2012 to 2017. As per the program document of the NRREP, the target for ICS implementation is 475,000 for the program period i.e. 2012 to 2017 which corresponds to 95,000 units per year. However, since the NRREP envisages the implementation of ICS throughout Nepal and under the PoA only the ICS implemented in Terai and High Hill ecological zones of Nepal are eligible, the target of the PoA is less than the actual overall target of the NRREP. The implementation plan until now is formulated for the period until 2017 only; hence the post 2017 scenario will be guided by the progress of NRREP and another program that might evolve after 2017.

AEPC shall serve as a PoA managing entity and sole legal representative of the program. Therefore, AEPC shall be the coordinating entity which communicates with the CDM Executive Board, including on matters relating to the distribution of CERs. AEPC will ensure that all CPAs under this PoA are neither registered as an individual CDM project activity nor included in any other registered PoA and that the CPA is subscribed only to this PoA. AEPC will manage a central database for all CPAs.

AEPC would coordinate with the users of ICS to ensure that all requirements with respect to a CDM PoA such as assisting with validation and registration, record keeping, monitoring and survey of households at a regular interval are met. In addition to implementing the activities as per design and complying with the requirements of the CDM-PoA, the programme management would also be responsible for the environmental integrity of the programme.

BES and CCS under AEPC/NRREP will provide technical support to local level institutions like Regional Service Centres (RSCs) and District Renewable Energy Service Centers (DRESC)/Local Partner Organizations (LPOs)<sup>5</sup> to implement the program. These organizations are the service providers who provide support to implement the program at local level in coordination with District Energy and Environment Units/Sections (DEEU/S) established at each District Development Committee (DDC) in 75 districts of Nepal.

LPOs will be selected on the basis of criteria like past experience in renewable energy project implementation, availability of competent human resource, outreach of services, etc. LPOs will be responsible for social mobilization, communication and education for raising awareness, capacity building activities at local level, supporting the stove technicians, monitoring the programme activities and coordinating the activities with local stakeholders.

With social mobilization support from LPOs communities will select potential stove masters (Promoters) for training. Priority will be given to women and people belonging to poorer sections. They will be trained in construction of built-on-site model stove and its repair and maintenance. The trained Promoters/stove masters would then install the stoves in individual households in the programme area based on demand from the users. The trained stove masters will also provide after sales services- repair and maintenance of the stoves.

In case of metallic ICS, pre-qualified manufacturers (workshop) are trained to fabricate the stove as per the drawing and specification. These workshops will sell the stoves to the users. The stove manufacturers provide after sales service to the users. The manufacturers also orient the users on use and operation of the metallic ICS at the household level.

A record keeping system and a unique identification (ID) card with a unique serial number (CDM Code), user's name, and address, date stove installed/sold including the name of the stove installer or person/institution selling the stove and the amount of direct subsidy for every Metallic ICS disseminated will ensure that each ICS can be traced to one specific CPA to avoid double counting.

The user manual will have four copies of ID card which will include all information- unique number (including CPA number) user's name, address, date of stove installed/sold, name of stove

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<sup>5</sup> District Renewable Energy Service Centers are also called Local Partner Organizations (LPOs). Both entities are delegated with same responsibilities; however, the district based organization providing renewable energy services in Terai are called DRESCs while those operating in hills are called LPOs.

installer/selling institution and the amount of direct subsidy for every Metallic ICS. One copy of the ID card will be in the user manual, second copy will be kept separately with the user along with citizenship card, third copy will be kept at RSC and the fourth copy will be kept at AEPC. The user will keep one copy of ID card along with the citizenship card and the other copy will be in the user manual in order to make sure that the ID card will be stored safely and is easily made available during verification.

Sample of unique number (CDM code) in the ID card.

<b>PP</b>	<b>PoA</b>	<b>CPA number</b>	<b>Stove number</b>
AEPC	ICS	XXX	XXXXX

When the operating life of a mud ICS is over, it will be replaced by a new stove. The average operating life of mud ICS is three years<sup>6</sup> and during the replacement process, the identification number of the ICS will be same as the total number of stove per CPA will have to be same. In case the user is not willing to replace the ICS, a new user will be provided with the ICS with the same number thereby keeping the total number of stove in a CPA same. In case of mud ICS, the ICS will be replaced after every three years. For Metallic ICS, since the operating life is 25,995 operational hours which is equivalent to 11.86 years (using the operational life in hours for 6 hours of daily usage as stated in the report<sup>7</sup>). Since, the life of MICS is greater than the crediting period of the CPA (i.e. 7 years), MICS need not be replaced till the end of the crediting period of CPA. In case, the crediting period is renewed for CPAs, MICS will be replaced after 11 years of its operation (starting from the date of installation). During the replacement process, the identification number of the MICS will be same as the replaced MICS. In case the user is not willing to replace the ICS, a new user will be provided with the MICS with the same number thereby keeping the total number of stove in a CPA same.

Each CPA can include maximum of 21,540 ICS (see Table 6) stove per CPA. A total of 21,540 ICS will form a CPA under the PoA. For the allocation of CDM code to ICS under each CPAs of the PoA, CDM code for 21,540 ICS for first CPA will be provided starting from AEPC-ICS-001-00001 to AEPC-ICS-001-21,540. Similarly, for CPA 2, CDM code from AEPC-ICS-002-00001 to AEPC-ICS-002-21,540 will be provided and so on.

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

The proposed PoA is a voluntary action by AEPC since:

- The installation of the ICS is a voluntary action by the households.
- The targets formulated by the Nepal Government for the dissemination of ICS are not mandatory.
- The approach of the program is demand driven. Every household makes a substantial part of the investment itself.

**Sustainable development benefits**

The following sustainable development benefits are envisaged from the programme.

**a) Environment well being**

- ✓ The programme will lead to the reduction in the wood consumption so that the natural recovery of forests and/or reforestation could take place,

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<sup>6</sup> Celebrating 500000+ ICS, Biomass Energy Support Programme, AEPC/ESAP, 2012, pp 81 (the referred page is in Nepali language)

<sup>7</sup> Report on Determining life of metallic improved cooking stoves disseminated by AEPC/ESAP, March 11, 2012

- ✓ The programme will lead to reduction in Indoor Air Pollution from wood smoke and avoid smoke related health disorders
- ✓ The reduction in biomass consumption for cooking through efficient use leads to improved ecological balance.
- ✓ The protection of standing forests will ensure the maintenance of watersheds that regulate water table levels and prevent flash flooding
- ✓ The programme will lead to prevention of fire hazards in the household kitchen and the improved cooking stove technology is environmentally safe

**b) Social well being**

- ✓ The programme will contribute to the preservation of wood resources so as to avoid inter-communal and/or inter-religious conflict over resources.
- ✓ There will be reduction of the workload as a result of reduced in time for collecting the firewood which can be used more productively in other income generating activities.
- ✓ The programme will effectively address gender and poverty reduction issues through increased economic activities and employment opportunities bringing about better living conditions.

**c) Economic well being**

- ✓ The fabrication, operation and repair and maintenance of ICS's are expected to provide employment to the local people.
- ✓ The costs incurred in the purchase of firewood will be reduced through increased efficiency of the ICS thus leading to lesser firewood consumption.

**d) Technological well being**

The introduction of locally manufactured technology with improved energy efficiency helps in technological self-reliance in the area.

**A.2. Physical/geographical boundary of PoA**

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The geographical boundary of the PoA will be Nepal. The PoA can include ICS in all 75 districts of Nepal.

**A.3. Technologies/measures**

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The existing traditional stoves used in Nepal are simple structures made from clay or having stone or metal tripods. These stoves are very inefficient because they have poor air flow and insulation. The proposed PoA will introduce activities that improve efficiency over the existing traditional cook stoves which will save non-renewable biomass in the baseline scenario.

The mud ICS have been developed from continuous modification and improvement over the traditional stoves used in Nepal. These stoves are made of clay, rice husk, dung and a few metal rods. The household mud ICS will have varying number of potholes (one or two or three) with chimney. A baffle is used to direct the flame and hot air to the second pot hole in case of the two pot hole stove and to second and third pot holes in case of three pot hole stove. The mud ICS is one of the most simple, inexpensive and widely used technologies designed to improve combustion efficiency of biomass and reduce exposure to indoor air pollution. In case of Rocket Stove<sup>8</sup>, there is no chimney in the stove. The operation life time the mud improved cooking stove is three years.

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<sup>8</sup> Rocket stove is also a type of mud ICS but is categorized as a different type of stove due to difference in the basic principle, outlook and performance. It is named a Rocket Stove in order to differentiate it from regular mud stoves disseminated in the program.

The improved cooking stove (metallic stove) for the high hill region was designed and developed by Kathmandu University with support from AEPC and then further improvement was done by AEPC.

No technology transfer from abroad is involved in development of mud ICS

The metallic ICS model is similar to mud improved cooking stoves but made from metal to allow space heating as well. Adjustable air vent in the main door allows regulation of air flow and damper in flue pipe allows transfer of heat efficiently towards cooking pots. The stove with secondary air hole and ash tray is also available in two models which help in combustion efficiency of stove and easy removal of ash from the stove. No technology transfer from abroad is involved in development of metallic ICS. The operational life of MICS is 25,995<sup>9</sup> hours.



Figure 1: Three Pot Hole Metallic ICS with water tank



Figure 2: Three pot hole Metallic ICS with tray



Figure 3: Two pot hole Metallic ICS with tray

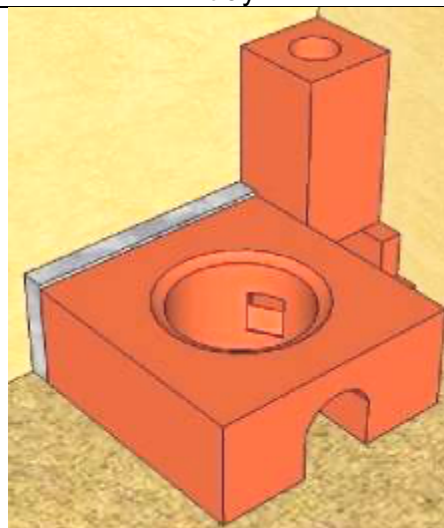


Figure 4: One Pot Hole Mud ICS

<sup>9</sup> Report on Determining life of metallic improved cooking stoves disseminated by AEPC/ESAP, March 11, 2012

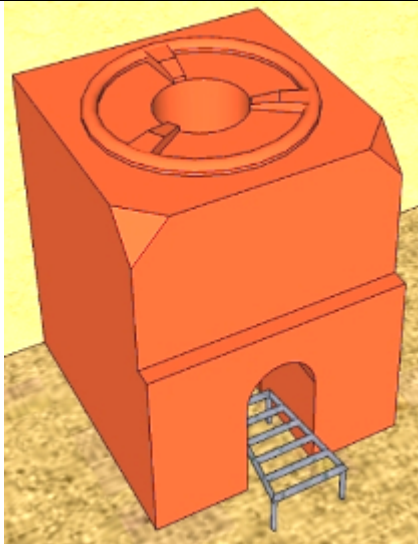


Figure 5: Fixed type Single Pot hole Rocket Stove (rectangular or cylindrical shape)

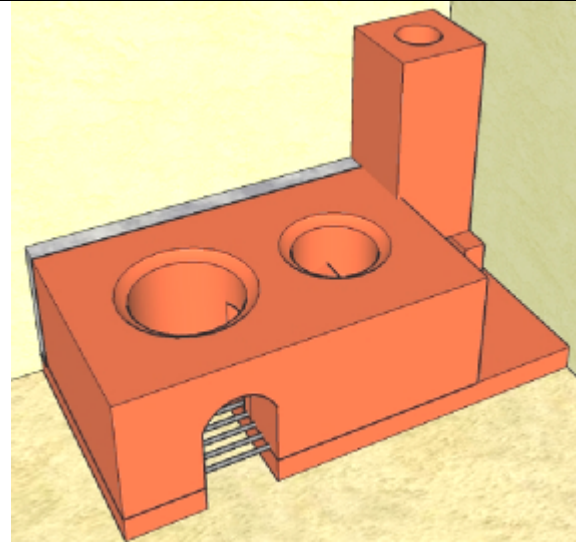


Figure 6: Two Pot hole Plain Type Mud ICS

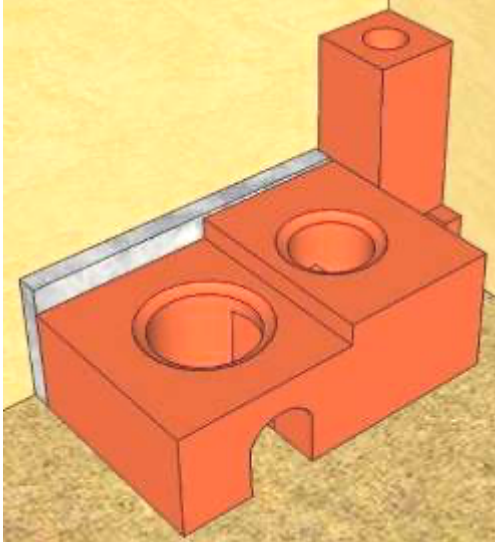


Figure 7: Two Pot hole Raised Type Mud ICS

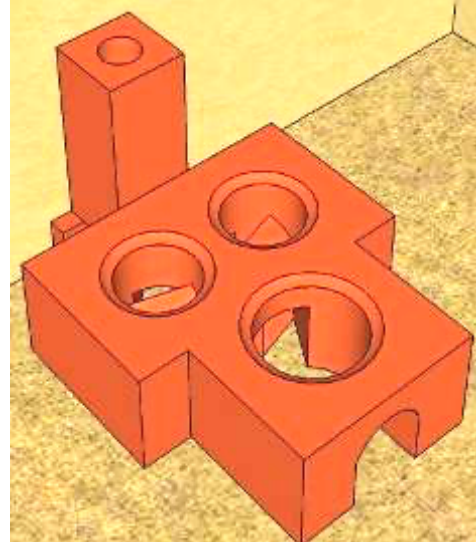


Figure 8: Three Pot hole Plain Type Mud ICS

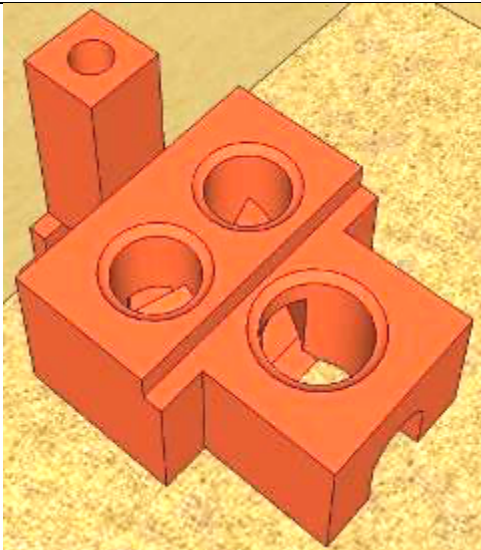


Figure 9: Three Pot hole Raised Type Mud ICS

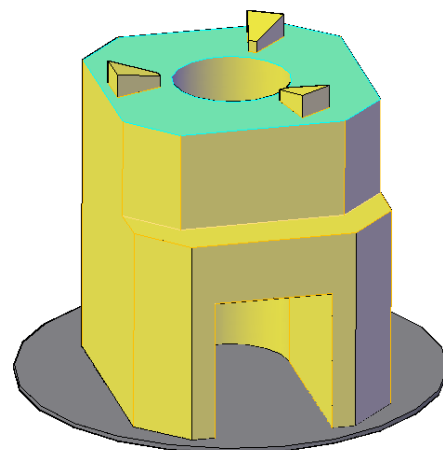


Figure 10: Portable rocket stove (Octagonal shaped body, Rectangular shaped body, Cylindrical shaped body)





Figure 11: Portable rocket stove (Conical shape)

### Technical Description for the Mud Improved Cooking Stoves:

According to the improved stoves construction and, repair and maintenance handbook<sup>10</sup> published by biomass energy sub-component, the size of brick prepared for construction of mud ICS is of 8-inch length, 4 inch width and 2 inch height. The following table provides the technical description for the various types of the mud improved cooking stoves promoted by BES/NRREP.

Table 1: Technical Description for the Mud Improved Cooking Stoves:

S. N.	Stove Type	Efficiency (%)	Length (inches)	Breadth (inches)	Height (inches)	Chimney height (inches)	Fire gate* (inches)
1	Single Pot hole Mud ICS	22.17	8" + X	8" + X	9"-18"	24" to 60"	6" x 7"
2	Two Pot hole plain type Mud ICS	23.55	12" + X + Y	8" + X	10"	48" to 60"	6" x 7"
3	Two Pot hole raised type Mud ICS	21.65	12" + X + Y	8" + X	10" / 12"	48" to 60"	6" x 7"
4	Three Pot hole plain type Mud ICS	20.63	12" + X + Y	8" + X / 12" + 2Y	10"	48" to 60"	6" x 7"
5	Three Pot hole raised type Mud ICS	20.63	12" + X + Y	8" + X / 12" + 2Y	10" / 12"	48" to 60"	6" x 7"
6	Fixed type Single Pot hole Rocket Stove (Rectangular or *Cylindrical shape)	22.10	14" to 16" (length for rectangular body and external diameter for cylindrical body)	16" (breadth for rectangular body and external diameter for cylindrical body)	15" - 16"		6" x 6"
7	Portable rocket	24.81	10"-12"	Combustion	Comb		

<sup>10</sup> The handbook is in Nepali language.

S. N.	Stove Type	Efficiency (%)	Length (inches)	Breadth (inches)	Height (inches)	Chimney height (inches)	Fire gate* (inches)
	stove Octagonal shaped body Rectangular shaped body Cylindrical shaped body		10"-12" $\phi$ 10"-12"	chamber $\phi$ 4"-5" $\phi$ 4"-5" $\phi$ 4"-5"	ustion chamber 10"-13" 10"-13" 10"-13"		5"x6" 5"x6" 5"x6"
8	Portable rocket stove (Conical shape)	26.89	Top external diameter = 8"- 9"	Bottom external diameter = 10"- 11"	10" - 12"		5"x6"

\* For large sized pot (> 12" dia.), the width of fire gate should be 1/2 x pot diameter and 7" height  
 $\phi$  = diameter

Diameter of first pot	X inches
Diameter of second pot	Y inches
Diameter of third pot for multi-pot Mud ICS	Z inches
Size of mud brick	8" x 4" x 2" inches
Chimney brick	8" x 8" inches
Chimney hole diameter	4" inches

### **Technical Description for the Metallic Improved Cooking Stoves<sup>11</sup>:**

A typical Metallic Improved Cooking Stove with three pot holes and water tank has the following technical description

- Weight of Stove : ~ 40 Kg per set (with chimney)
- Length of Stove : 675 mm
- Breadth of Stove : 430 mm
- Height of Stove : 260 mm
- No of Pothole : 3
- Water Tank : 360x150x220 mm
- Material : Mild Steel (MS) 4mm top Plate, 1.6 mm body, Stainless Steel (SS) water tank
- Life : 25,995 operation hours
- Efficiency (%) : 22.84 %

Two pot hole metallic cooking stove with tray

- Weight of Stove : ~ 30 Kg per set (with chimney)
- Length of Stove : 600 mm
- Breadth of Stove : 300 mm
- Height of Stove : 220 mm

<sup>11</sup> Technical specification sheet adopted by AEPC as AEPC/ESAP identified/promoted MICS model 1, AEPC/ESAP identified/promoted MICS model 2 and AEPC/ESAP identified/promoted MICS model 3.

- No of Pothole : 2
- Material : MS 4mm top Plate, 2 mm body and ash tray
- Life : 25,995 operation hours
- Efficiency (%) : 21.02 %

Three pot hole metallic cooking stove with tray

- Weight of Stove : ~ 40 Kg per set (with chimney)
- Length of Stove : 610 mm
- Breadth of Stove : 430 mm
- Height of Stove : 220 mm
- No of Pothole : 3
- Material : MS 4mm top Plate, 2 mm body and ash tray
- Life : 25,995 operation hours
- Efficiency (%) : 21.42 %

#### A.4. Coordinating/managing entity

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AEPC is the managing/coordinating entity of the PoA and would communicate with the Board. The contact details of AEPC are provided in the Appendix 1 of this PoA DD. AEPC will implement, monitor, maintain the database, support private sector, quality control, fund administration and awareness creation including management of the ICS programme.

#### A.5. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Federal Democratic Republic of Nepal (Host)	Alternative Energy Promotion Center (AEPC)	No

#### A.6. Public funding of PoA

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The ICS included in this PoA receive subsidies and technical support under the BES of NRREP. The programme presently receives funding from the following sources:

- Government of Nepal
- Government of Norway
- Government of Denmark

Referring to OECD guidance on use of ODA funding for CDM projects the issue of diversion of ODA has been addressed for all donors involved in the BES under NRREP<sup>12</sup>. The ODA non-diversion letters are presented in Appendix 2 of this document.

The funding from the sources is deposited to the basket fund of NRREP and this fund shall be utilized for implementation of, including others, all CPAs for ICS PoA developed during the five year span of NRREP. Hence all the CPAs that will be implemented under this PoA within the five year span of NRREP will receive public funding from the same sources, therefore letter for ODA non-diversion is issued at PoA level.

<sup>12</sup> OECD, 2004. DAC/CHAIR(2004)4/FINAL: ODA eligibility issues for expenditures under the clean development mechanism (CDM), available at: <http://www.oecd.org/dataoecd/12/47/33657913.pdf>

**SECTION B. Management system**

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The PoA management system as per para 19 of Standard: Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programmes of activities (version 03) EB 74 Annex 5 is presented in the table below. The table outlines the abstract of CME manual which details out each requirement and the CME manual will be made available to DOE during verification.

**Table 2: Details of PoA Management System**

	<b>Requirement</b>	<b>Justification</b>
a)	Responsibilities in AEPC	<p>AEPC is responsible for</p> <ul style="list-style-type: none"> <li>▪ Implementation of the PoA .</li> <li>▪ Support GoN in formulation of policies, plans for promotion of Renewable Energy Technologies in Nepal.</li> <li>▪ Coordination with stakeholders.</li> <li>▪ Administration of subsidy for MICS.</li> <li>▪ Assure the competence of staffs involved in executing the PoA and review and assess the performance of staffs involved in executing the PoA using the competency matrix.<sup>13</sup></li> </ul> <p>The specific roles and responsibilities of components under AEPC for the implementation of this PoA are as follows:</p> <p>Climate and Carbon Subcomponent (CCS) is responsible for:</p> <ul style="list-style-type: none"> <li>▪ Ensuring full compliance with CDM processes related to documentation, validation, monitoring and verification of ICS PoA.</li> <li>▪ Establishing communication with the UNFCCC and DOE on the matters related to CDM PoA.</li> <li>▪ Conducting Annual ICS Users' Survey for Emission Reduction monitoring.</li> </ul> <p>Biomass Energy Subcomponent (BES) is responsible for:</p> <ul style="list-style-type: none"> <li>▪ Manage to ensure the proper implementation of ICS PoA.</li> <li>▪ Research and development activities including design of efficient mud and metallic ICS models and recommend AEPC for the inclusion of new model in the PoA.</li> <li>▪ Facilitates AEPC in administration of subsidy for metallic ICS.</li> <li>▪ Quality control, component internal monitoring of ICS through RSCs, stove master/promoters.</li> <li>▪ Qualification of metallic ICS manufacturing companies, their Performance evaluation.</li> <li>▪ Ensure the provision of after sales services and warrantee by the concerned companies to users.</li> </ul> <p>Regional Service Centers (RSCs) are local NGOs or</p>

<sup>13</sup> Details of competence checking and performance appraisal has been discussed on the CME manual, please refer CME manual for details..

		<p>companies working for AEPC for the implementation of renewable energy programmes. For this PoA RSCs are responsible for:</p> <ul style="list-style-type: none"> <li>▪ Facilitating the implementation of ICS PoA at regional and district levels.</li> <li>▪ Capacity building of promoters/stove masters in coordination with or through LPOs with regards to stove installation, monitoring, repair and maintenance, and after sales services.</li> <li>▪ Monitoring the status of stoves installed by promoters/stove masters under the PoA.</li> <li>▪ Maintaining the database of ICS installed under the PoA and report monthly to AEPC.</li> <li>▪ Maintain documentation of ICS installation report and ER transfer slip in hard copies.</li> </ul> <p>Local Partner Organizations (LPO) are local (VDCs, ward) organizations working for RSCs for the implementation of ICS at specific local levels. For this PoA RSCs are responsible for:</p> <ul style="list-style-type: none"> <li>▪ Demand creation of ICS at local level.</li> <li>▪ On demand preparation of mud ICS at user households and fill up the ICS installation form through stove masters/promoters.</li> <li>▪ Orient the ICS users on the wise use and maintenance of ICS.</li> <li>▪ Facilitate the monitoring of CPAs in their service coverage area during annual ICS users' survey conducted by an independent third party.</li> <li>▪ Keeping and updating data on ICS installed under the POA in respective district.</li> <li>▪ Selection of Stove Masters/Builders.</li> <li>▪ Training to Stove Masters/Builders.</li> <li>▪ Reporting to RSCs on progress</li> </ul> <p>Stove Masters/Builders are individuals who work at households levels, and for this PoA are responsible for:</p> <ul style="list-style-type: none"> <li>▪ Installation of ISC.</li> <li>▪ Filling the details of the users after stove installation.</li> <li>▪ Providing two times after sales services to the beneficiary household.</li> </ul> <p>District Energy and Environment Unit/Sections (DDEU/S) are the local representative of AEPC at District Development Committee (DDC) who support for the promotion of renewable energy at district level. DEEU/S are responsible for:</p> <ul style="list-style-type: none"> <li>▪ Coordination and information sharing at district level regarding the implementation of PoA.</li> <li>▪ Facilitate the promotion of mud and metallic ICS by awareness raising by the officers positioned at DEEU/S.</li> <li>▪ Demand creation of ICS at local level.</li> <li>▪ On demand preparation of mud ICS at user households and fill up the ICS installation form through stove masters/promoters.</li> <li>▪ Orient the ICS users on the wise use and maintenance of ICS.</li> </ul>
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		<ul style="list-style-type: none"> <li>▪ Facilitate the monitoring of CPAs in their service coverage area during annual ICS users' survey conducted by an independent third party.</li> <li>▪ Keeping and updating data on ICS installed under the POA in respective district</li> </ul>
<p>b)</p>	<p>Training and capacity development</p>	<ul style="list-style-type: none"> <li>▪ AEPC ensures quality control and quality assurance by providing the following capacity building activities to different stakeholders:</li> <li>▪ MICS Manufacturers/ companies:             <ul style="list-style-type: none"> <li>○ MICS design and manufacturing</li> <li>○ MICS Installation</li> <li>○ Subsidy form processing</li> </ul> </li> <li>▪ RSC staff (Biomass Energy Engineers, Field Facilitators and District Coordinators):             <ul style="list-style-type: none"> <li>○ Stove design and testing,</li> <li>○ Technical and general monitoring training</li> <li>○ ICS database management training (Management Information System Training MIS)</li> <li>○ Orientation on requirements (database management, monitoring, eligible stove models, coding of ICS) for implementation of ICS PoA.</li> </ul> </li> <li>▪ Stove masters/promoters             <ul style="list-style-type: none"> <li>○ Stove installation,</li> <li>○ Repair and Maintenance Training</li> </ul> </li> <li>▪ Technical and Internal Monitoring of ICS</li> <li>▪ Training records will be maintained</li> </ul>
<p>c)</p>	<p>Procedures for technical review of inclusion of CPAs</p>	<ul style="list-style-type: none"> <li>▪ All required data (user's name, address, stove installation date/or sold date, the name of the stove installer, unique code number etc) of all ICS that are disseminated/installed will be recorded in the central database at AEPC.</li> <li>▪ Data of particular ICS will be stored CPA wise in the AEPC's database system. This will help to differentiate the stoves according to respective CPA.</li> <li>▪ Once the installation number of ICS/MICS reaches 21,540 (maximum), Carbon Financing Officer at Climate and Carbon Subcomponent with the concerned Program Officer of Biomass Energy Subcomponent will review the database and check all the information required for inclusion of the ICS in a CPA. Maximum 21,540 ICS will then be bundled as a single CPA.</li> <li>▪ The Program Officers at Climate and Carbon Subcomponent and Biomass Energy Subcomponent will verify the information in the ER transfer slip with the information at central database system.</li> <li>▪ During CPA inclusion, the program officer will check the eligibility criteria as mentioned in the PoA-DD.</li> <li>▪ National Advisor of Climate and Carbon Subcomponent will review the CPA inclusion procedure in line to the requirement of the PoA-DD.</li> <li>▪ Manager of Climate and Carbon Subcomponent will perform the quality check and recommend for</li> </ul>

		<p>inclusion of the specific CPA in the PoA.</p> <ul style="list-style-type: none"> <li>▪ Finally AEPC will submit all necessary documents to DOE for the inclusion of CPA in the PoA</li> </ul>
<p>d)</p>	<p>A procedure to avoid double counting</p>	<ul style="list-style-type: none"> <li>▪ All ICS disseminated under the PoA will be provided with unique identification number (CDM Code) which will ensure the avoidance of double counting.</li> <li>▪ The CDM code will be provided to the Biomass Energy Engineers of RSCs through AEPC's web-portal. The web-portal prevents the CDM code double counting i.e. a single code cannot be allocated to more than one stove.</li> <li>▪ The unique codes then will be provided by Biomass Energy Engineers of RSCs to LPO staff, who will then provide the number to stove master/promoters. During Mud ICS installation the stove master/promoter will have a stove manual where after installation he/she will insert ICS code number in four similar ID cards. One ID card will be given to the user, one will remain in a manual, and other two will be kept by RSCs and AEPC. In case of MICS, the unique codes are tagged in the MICS body at the time of manufacturing.</li> <li>▪ ICS CDM codes will be also cross-checked and verified internal monitoring of ICS by RSC and LPO staffs.</li> <li>▪ All ICS implemented under the PoA will be listed in the database. The database system will be designed with the principle of not accepting the same unique number twice.</li> <li>▪ In case of Metallic ICS, the unique number will be verified before the disbursement of subsidy which will also prevent double subsidy to the same household.</li> <li>▪ Double counting check will also be done during the annual ICS users' survey conducted by an independent third party.</li> <li>▪ A double counting check will be conducted by checking the UNFCCC database, to compare this PoA with the CPAs of other PoAs or other registered CDM project. Similarly, the database of other carbon schemes like Gold standard and VCS will also be checked to confirm that the CPA of the proposed PoA is not a part of CPAs of other PoAs or other registered CDM projects.</li> </ul>
<p>e)</p>	<p>Records and documentation control process for each CPA under the PoA</p>	<ul style="list-style-type: none"> <li>▪ The numbers of mud ICS disseminated will be reported by promoters/stove masters to RSCs. The RSCs will enter the data in its database and will send monthly ICS installation report to AEPC. The quarterly and semi annual progress reports of RSCs on Biomass activities in hard copy will also be submitted to AEPC. AEPC will manage the overall database of the program.</li> <li>▪ AEPC will maintain the central database in electronic format as well as hard copy. The database will include all the information regarding the ICS users-unique number (including CPA number), user's name, address, date of stove</li> </ul>

		<p>installed/sold, name of installer or person/institution selling the stove and the amount of direct subsidy given for every MICS disseminated.</p> <ul style="list-style-type: none"> <li>▪ The hard copies of the database, ER transfer slips and unique ID (CDM code) will be filed and kept (recorded) at AEPC and RSCs</li> <li>▪ The record of installation report, progress report, ER transfer slip will be also monitored during the annual ICS users' survey conducted by an independent third party.</li> </ul>
f)	Measures for continuous improvements of the PoA management system	<ul style="list-style-type: none"> <li>▪ AEPC will implement continuous monitoring and improvement processes in order to ensure proper implementation of the PoA complying with the CDM processes.</li> <li>▪ Continuous improvement will be done by AEPC through processes such as internal monitoring, update on training manuals, designs of mud and metallic ICS, trainings and capacity building of program staffs and continuous monitoring on recommended changes or updates by UNFCCC of related PoA procedures.</li> <li>▪ AEPC will also improve and upgrade the data management system and procedures for quality assurance. These systems and procedures will be reviewed on a continuous basis to ensure that no double counting of emission reductions occurs within and across CPAs</li> <li>▪ In order to ensure that the CME manual embraces all recent developments, it is subject to review in every 2 years.</li> </ul>

**SECTION C. Demonstration of additionality of PoA**

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NRREP started in July 16, 2012 is presently funded by Danida, Norway, DFID, KfW, and GoN. GoN is committed to contribute 35% of the total indicated budget<sup>14</sup>. The GoN commitment includes its regular financial support in renewable energy sector as well as carbon revenue from this PoA and other registered CDM projects implemented by AEPC. The remaining 65% is expected to be funded by external donors. As of now, the Norwegian and Danish Governments confirmed their commitments of Norwegian Kroner 172 million (about 17% of the total cost) and Danish Kroner 205 million (about 20% of the total cost) respectively<sup>15</sup>. Other donors, so far, have not yet confirmed their contribution. Since the carbon revenue from this PoA is expected to be part of the GoN commitment (35%) to NRREP to achieve among others the promotion of 475,000 ICS (majority belonging to proposed PoA) under BES/NRREP, it is not possible to achieve this target in the absence of this PoA. Besides, the funding commitment from donors is for 5 years span of NRREP and the CPAs developed after this period will experience a funding gap and the revenue from CDM will also be required to cover the cost of programme after the NRREP is over.

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<sup>14</sup> NRREP, Programme Document, Annex: Changes in 1.2, page 46.

<sup>15</sup> Agreements between GoN and Norwegian Embassy, and between GON and Danish Embassy.



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

&gt;&gt;

05/10/2011 (date of uploading of GSP)

**D.2. Duration of PoA**

&gt;&gt;

The length of the PoA is 28 years.

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

&gt;&gt;

1. Environmental Analysis is done at PoA level
2. Environmental Analysis is done at CPA level

Environmental analysis as per requirements of the CDM modalities and procedures is undertaken at PoA level.

As there will be no variation in the stove technology at CPA level and no negative impacts are expected from the implementation of the ICS project, Environmental Analysis will not be required at CPA level.

**E.2. Analysis of environmental impacts**

&gt;&gt;

There are no major impacts on the environment due to the installation of the ICS. The local ecology is not likely to get impacted by this type of programme activity. The programme activity included under this PoA helps in reducing the consumption of the firewood thus reducing the pressure on forest, reduces indoor air pollution and benefits with the use of dung cakes as fuel farmyard manure thus having positive environmental impacts.

**E.3. Environmental impact assessment**

&gt;&gt;

As per the Environment Protection Act dated 30 January 1997 and Environment Protection Rules dated 26 June 1997, 12 sectors are required to undertake environmental impact assessment studies. It should be noted here that Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) are not regulatory requirement in Nepal for installation of the ICS at the individual household level.

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

&gt;&gt;

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

**F.2. Modalities for local stakeholder consultation**

&gt;&gt;

A local stakeholder meeting was conducted at Bhairahawa for ICS POA CDM Project Activity as per the requirement for CDM project. The local stakeholder consultation meeting was conducted on 20 April 2011, Wednesday on Nathamal Giniya Devi Trust Meeting Hall, Bhairahawa, Rupandehi. The local stakeholder's from the nearby district, Improved Cooking Stove users,

Traditional Cooking Stove user, district officials, media persons and civil society, were invited for the local stakeholders meetings through the individual letters distributed by door to door canvassing and through an advertisement in the local news paper, which can be acquired by the interested public. The meeting was attended by Improved Cooking Stove users, Traditional Cooking Stove user, Local Development Officer, DNA representative, regional renewable energy service centers, civil society and media persons. The list of participants who attended the meeting can be found in the minutes of meeting.

Second round of stakeholder meeting was conducted on Sunday, 29 January 2012, at T.U. Field Training Centre, Chautara, Sindhupalchowk. The stakeholders were invited by providing the invitation letter at their doors and publishing the advertisement in the local newspaper and the stakeholder included the representatives of local government body, NGOs. Since the first meeting focused the stakeholders of Terai areas, the second round meeting was conducted so as to incorporate necessary suggestion, feedback and comments from the stakeholders from high hill region. The participants during the meeting were MICS users, traditional stove users, government organization representatives, local NGO representatives, MICS manufacturers, Rural Renewable Energy Service Centre (RRESC) under ESAP, media persons and political parties. The list of participants who attended the meeting can be found in the minutes of meeting.

The comments have been filed and taken into account in the design of the BES. Since the BES has been successfully operated for many years, there were little comments on the technical aspects or negative side-effects of the program.

**F.3. Summary of comments received**

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The following table provides the details of the comments received during the local stakeholder consultation meeting:

**Table 3: Question raised by the stakeholders and answered by PP**

S.N.	Question	Answer
1.	How many renewable energy CDM projects have been registered in Nepal? Are there any other new CDM projects being developed in Nepal?	There are altogether three registered CDM projects in Nepal. The two projects are related to the Biogas one project is related to the Micro hydro power. AEPC is currently in the process of developing two biogas CDM project activity, one biogas PoA, IWM PoA CDM project activity and ICS PoA CDM project activity.
2.	What are the various types of stoves available in the country?	Several types of ICS are now available in Nepal. Among these the most common are the mud ICS which are simple, of low cost and can be built by using locally available materials. Various models of mud ICS have been developed and promoted in the mid-hills of Nepal. Among these, the two pot hole stove is the most popular. Other varieties have one and three pot holes. Besides the popular mud ICS, several other types of improved stoves such as metallic stoves, air induced stoves, bee-hive briquettes stoves and rocket stoves have also been introduced and are getting popularity.
3.	Is there any subsidy for installing the Improved Cooking Stoves in Terai region?	The amount of subsidy for installing the ICS can be found in the Rural Energy Subsidy Policy 2009. The subsidy amounts on Biomass Energy Technologies are – GoN is promoting mud ICS in the mid-hills and Terai areas without direct subsidies. However, in high hills (mountain) district NPR 4000 is being provided

S.N.	Question	Answer
		<p>on 3-pot hole metallic ICS and NPR 2700 on 2-pot hole metallic ICS.</p> <p>The amount of subsidy is subject to change with the revision in the subsidy policy.</p>
4.	What are the benefits from installing the Improved Cooking Stoves?	<p>The following are few expected benefits from the Improved Cooking Stoves:</p> <ul style="list-style-type: none"> <li>• Fuel wood consumption will be reduced by about half</li> <li>• Reduction of fire hazards in kitchen</li> <li>• Reduced drudgery of women as they spend less time collecting fuel wood, cooking and washing dishes</li> <li>• Improved health of women due to reduced exposure to smoke</li> <li>• Increased participation by men in kitchen work because of clean environment</li> <li>• Reduction in the rate of deforestation of the nearby forests</li> </ul>
5.	How are the improved cooking stoves being disseminated in the new regions?	<p>The ICS is being implemented through a decentralized approach by establishing local support structures and integrating planning activities with local governments. Field implementation is managed by Regional Service Centers (RSCs), who is coordinating with local bodies and identify, train and support Local Partner Organizations (LPOs). The LPOs implement the ICS at field level and are responsible for achieving their targets and reporting back to RSCs. LPOs also select, train, supervise and support promoters/stove masters. Private sector and national/regional NGOs function as Service Providers to provide technical support at field level.</p>
6.	Will this Improved Cooking Stove program provide any employment opportunity?	<p>The fabrication, operation and repair and maintenance of ICS's are expected to provide employment to the local people.</p>
7.	How does the ICS project activity reduce the greenhouse gases?	<p>The traditional cooking stove consumes more firewood as compared to the improved cooking stove. The programme will lead to reduce GHG emissions, mainly by reducing the consumption of the firewood used for cooking.</p>
8.	What are the additional benefits to owners and other stakeholders after registering the ICS program as CDM?	<p>AEPC is currently preparing the Carbon Revenue Utilization Guideline which discusses about the utilization of carbon revenue earned by different renewable technologies. In this guideline, ICS has been identified as one of the technology that is eligible for earning carbon revenue. It is proposed that part of the revenue received from ICS CDM POA will be utilized for providing subsidy to ICS users willing to replace their traditional stoves, part of the revenue will be utilized for the user benefit plan, preparation of the CDM related documents, validation, verification etc. The 2% of the revenue received will also go to the</p>

S.N.	Question	Answer
		DNA. The exact proportion of the benefits will be finalized and made available after the approval of Carbon Revenue Utilization Guideline from cabinet.
9.	What would be the additional role and responsibilities of owners and other stakeholders after registering the ICS program as CDM?	The continuous operation of the ICS is a must for receiving the carbon revenue from the ICS CDM project. The user would thus be required to operate the ICS on a continuous basis. In addition to this, the ICS owner has to provide the emission reduction right transfer to AEPC for enabling AEPC to prepare CDM related documents such as the programme design document, emission reduction calculation, monitoring reports etc.
10.	What are the roles and responsibilities of MICS users and other stakeholders in the CDM Project?	In order to receive carbon revenue, traditional stove should be displaced by the improved stoves which should be in continuous operation. The users also need to maintain the ICS's good condition so as to maintain the efficiency of the stove in order to achieve expected emission reduction. In addition, local stakeholders should also facilitate in dissemination of ICS and support during monitoring.
11.	How many types of Metallic ICS are eligible under the ICS PoA CDM project?	For the ICS CDM PoA, three types of MICS are eligible. Beside these three models, there are also other models of MICS approved by AEPC/NRREP/BES which are eligible for subsidy but not for ICS PoA CDM.
12.	What amount of subsidy is provided to the users of MICS?	In high hills (mountain) districts NPR 4000 is being provided on 3-pot hole metallic ICS and NPR 2700 on 2-pot hole metallic ICS.
13.	What is Emission Reduction Right Transfer, why is it important?	Emission Reduction Right Transfer is an agreement between ICS user and AEPC where the users agree to transfer the emission reduction from the installation and operation of ICS to AEPC. AEPC thus markets the emission reductions from all the ICS users to generate revenue for implementation of the PoA.

Table 4: Question raised by the PP and answered by stakeholders

S.N.	Question	Answer
1.	What are the benefits that you have observed after using the Improved Cooking Stove?	After installing the improved cooking stove last year, there is a reduction in the firewood consumption, there is less smoke in the kitchen and the children can study near the kitchen because of less smoke. The health hazard related to indoor air pollution has been reduced. There is also the reduction in the time spent for collecting and gathering the firewood
2.	Should such kind of project activities be promoted in the other regions of the country?	The technology should also be disseminated in other places because this will have benefits particularly for the women as the improved cooking stove reduce the drudgery of women and also the cooking time.
3.	Has the Improved Cooking Stove program generated any employment opportunity in your region?	The improved cooking stove has provided the training to the local people who can now go to the household level and explain them the benefits of the ICS and help them in constructing the improved cooking stove

S.N.	Question	Answer
		at their household.
4.	How have you heard about the Improved Cooking Stove	I have heard about the ICS through radio and through the service providers. There should be more advertisement, orientation, awareness about the technology and program activities at field level. Local languages should be used during publicity campaign.

#### **F.4. Consideration of comments received**

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No negative comments received for the programme activity. Overall there was unanimous agreement that the proposed programme was a beneficial from sustainability view point to the rural households of Nepal.

### **SECTION G. Approval and authorization**

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The host country DNA (Ministry of Environment, Science and Technology) on Jan 09, 2013 has approved the Promotion of Improved Cooking Stove (ICS) as CDM Programme of Activities (PoA) confirming Nepal's voluntary participation in the project and confirming that the project would contribute to sustainable development in Nepal. Further, the DNA has authorized the participation of AEPC as project/programme participant. The letter of approval from the host country is presented separately (attachment 1).

## **PART II. Generic component project activity (CPA)**

### **SECTION H. Description of generic CPA**

#### **H.1. Title of generic CPA**

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Promotion of the Improved Cooking Stove (ICS) – Nepal – CPA X

#### **H.2. Reference number of generic CPA**

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01

#### **H.3. Purpose and general description of generic CPA**

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The main objective/goal of the CPAs is to promote dissemination of Improved Cooking Stove (ICS) with replacement of existing Traditional Cooking Stoves (TCS) to the existing TCS users in Nepal. The project activity will contribute towards improving livelihoods of the rural households through improved access to energy services from the improved cooking stoves. The use of fuel efficient improve cooking stoves would lead to less consumption of fuel-wood which would thus reduce the emission from the stove. The project will also contribute towards decreasing deforestation and also improvement in the quality of life of the targeted group through reduction of drudgery, time and money spent on fuel wood collection and throughout improvement of the indoor environment. This CPA will be implemented and maintained by AEPC.

#### **H.4. Technologies/measures**

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Please refer to section A.3

## SECTION I. Application of methodologies and standardized baselines

### I.1. References to methodologies and standardized baselines

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Type: Type II – Energy Efficiency Improved Projects

Methodology: AMS II.G - Energy efficiency measures in thermal applications of non-renewable biomass

Version: Version 12

Reference: <https://cdm.unfccc.int/methodologies/DB/10PELMPDW951SVSW1B2NRCQEBAX96C>

### I.2. Applicability of methodologies and standardized baselines

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The Promotion of the Improved Cooking Stove (ICS) – Nepal meets the applicability criteria of AMS II.G/ v12 as follows:

**Table 5: Justification for the choice of the methodology**

SN	Criteria (AMS II.G/v.6)	Explanation	Means of verification
1	This methodology comprises the efficiency improvements in thermal applications of non-renewable biomass. Examples of applicable technologies and measures include the introduction of high efficiency <sup>16</sup> biomass fired project devices (cooking stoves or oven or dryers) existing biomass fired cook stoves or ovens or dryers. (AMS II G v12, para 2),	This CPA includes the dissemination of the high efficiency biomass fired cook stoves having the efficiency improved by 10-20% compared to traditional stoves. This CPA will save non-renewable biomass which otherwise would have been consumed by less efficient cooking appliances.  The single pot or multi-pot portable or in situ improved cooking stoves will have a specified efficiency of at least 20% as tested and certified by Kathmandu University <sup>19</sup> .	This will be verified using the eligibility criteria of section B of CPA inclusion and criteria (3) of section K.
2	In the case of cook stoves, the methodology is applicable to the introduction of single pot or multi pot portable or in-situ cook stoves with	The single pot or multi-pot portable improved cooking stoves will have a specified	Test Certificates/Confirmation from manufacturer will

<sup>16</sup> The efficiency of the project systems as certified by a national standard body or an appropriate certifying agent recognized by that body. Alternatively, manufacturers' specifications may be used.

<sup>19</sup> Nepal Bureau of Standards and Metrology (NBSM) is the national standard body for Nepal. However, NBSM doesn't have facilities for testing and certifying ICS and it also has not accredited any other entity to test and certify ICS (refer to supporting document 137 "Declaration by NBSM"). Hence, Kathmandu University having vast experience in testing and certifying ICS was chosen for the test and certification of ICS.

SN	Criteria (AMS II.G/v.6)	Explanation	Means of verification
	rated efficiency of at least 20 per cent. Refer to the requirements indicated in "Data / Parameter table 14" which details the options for testing and certification as well as supporting documentation (e.g. certificate issued by third party or test results) that needs to be presented to the validating DOE. (AMS-II.G v12, para 3),	efficiency of at least 20% as tested and certified by Kathmandu University and/or certified by manufacturer or tested by Renewable Energy Test Station (RETS).	be verified.
3	The aggregate energy saving of a single project activity shall not exceed the equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input. (AMS II G v12, para 4)	The energy saving per unit appliance (ICS) is 8.03 MWh thermal so the total energy saving of a CPA having maximum 21,540 unit ICS will be 179.583 GWh thermal each year.	This will be verified using the eligibility criteria "of section B (c) of CPA inclusion and Section K. (7 and 12)
4	Non-Renewable Biomass has been used in the project region since 31 December 1989 using survey methods or referring to published literature, official reports or statistics (AMS II G v12, para 5)	<ul style="list-style-type: none"> <li>▪ The non-renewable biomass has been used in the country since 1989. The Baseline Study <sup>20</sup> conducted in 2010/11 demonstrated that the time needed to gather firewood, the price of firewood and the distance travelled to gather firewood is increasing at least since 1989 (please refer to section B.4 for details). In that survey the respondents were asked to provide averages for the time needed to gather firewood, the distance travelled and the price. The average of the estimates from all respondents, showed a clear increase on all</li> </ul>	<ul style="list-style-type: none"> <li>▪ This will be verified using the eligibility criteria of section B of CPA inclusion and criteria (3 and 14) of section K of CPA inclusion</li> </ul>

<sup>20</sup> The baseline study was conducted by the independent third party (Nepal Environmental and Scientific Services [NESS] Private Limited, Kathmandu, Nepal)

SN	Criteria (AMS II.G/v.6)	Explanation	Means of verification
		<p>three indicators.</p> <ul style="list-style-type: none"> <li>▪ EB 67 annex 22 has affirmed that the fraction of non-renewable biomass for Nepal is 86%.</li> <li>▪ Ministry of Forests and Environment, Nepal acting as DNA to UNFCCC has reassessed the value following the “Tool 30: Calculation of the fraction of non-renewable biomass version 03” and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories for “Above-ground biomass growth rates for different ecological zones” The calculated value is 91.44%</li> </ul>	
5	For cases where the biomass is sourced from renewable sources, the project participants should use a corresponding Type I methodology	<ul style="list-style-type: none"> <li>▪ Total biomass used are the mixture of renewable and non renewable biomass. For the calculation of Emission reduction, fNRB is calculated using Tool 30: Calculation of the fraction of non-renewable biomass version 03 by DNA (Ministry of Forest and Environment)</li> </ul>	<ul style="list-style-type: none"> <li>▪ This will be verified using the eligibility criteria of section B of CPA inclusion and criteria (14) of section K</li> </ul>
6	The CDM-PDD or CDM-PoA-DD/CPA-DD shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end-user locations (e.g. programme logo).	<ul style="list-style-type: none"> <li>▪ The chances of double counting of emission reduction is avoided as each distributed project technologies will have unique identification number (CDM</li> </ul>	<ul style="list-style-type: none"> <li>▪ This will be verified using the eligibility criteria of section B of CPA inclusion and criteria (2) of section K</li> </ul>



SN	Criteria (AMS II.G/v.6)	Explanation	Means of verification
		code)including Name, address and contact details	
7	The CDM-PDD or CDM-PoA-DD/CPA-DD shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices.	<ul style="list-style-type: none"> <li>CME will have a completed database of the project technology which includes types of technology, date of commissioned, technology owner, project ward and unique identification number (CDM code). This will prevent from the double counting of emission reduction and avoid the double claim for Emission reduction</li> </ul>	<ul style="list-style-type: none"> <li>This will be verified using the eligibility criteria of section B of CPA inclusion and criteria (2 and 5) of section K</li> </ul>

**Limit of the SSC-CPAs included under this PoA**

The annual energy savings resulting from efficiency improvements will not exceed 180GWh thermal in any year for the crediting period.

The maximum number of ICS eligible to be disseminated in each CPA under this PoA will be limited which will result in an annual energy savings below 180GWh thermal as shown below:

**Table 6: Maximum Number of ICS under CPA Calculation**

S. N.	Parameter	Data ID	Value	Units	Reference
1	Quantity of woody biomass used per ICS in the absence of the project activity	$B_{old}$	3.07	Tonnes	Baseline Survey Report
2	Efficiency of the system being replaced	$\eta_{old}$	10.00%	%	A default value of 0.10 is considered as specified in the approved methodology AMS II.G/v12 para 44 (Data / Parameter table 9) pp 08.
3	Efficiency of the system being deployed as part of the project activity (fraction) – ICS	$\eta_{new}$	27.00%	%	ICS efficiency test certificate by KU. The value taken is rounded up value for the highest efficiency i.e. 26.89% for conical rocket stove revealed by the test.
4	Net calorific value of the non-renewable woody biomass that is substituted	$NCV_{biomas}$	0.0156	TJ/tonne	As specified in the approved methodology AMS II.G/v012 para 24, IPCC default for wood fuel is 0.015 TJ/tonne (wet basis).
5	Annual Energy Savings per system (ICS)	$E_{y,ICS}$	0.008353	GWh <sub>th</sub>	Calculated using parameter 1,2,3 and 4
6	Limit of Annual Energy Saving for small-scale	-	(60) 180	(GWh) GWh <sub>th</sub>	Para 4 of AMS II G v012 specifies that the aggregated energy

S. N.	Parameter	Data ID	Value	Units	Reference
	project activities				savings of a single project activity shall not exceed 60 GWh per year or 180 GWh thermal per year in fuel input.
7	Maximum Number of ICS to be included in a CPA	$N_{max}$	21549.87		Calculated [(7) = (6) / (5)]
8	Maximum Number of ICS to be included in a CPA	$N_{max}$	21540		Rounded down value

### I.3. Application of multiple methodologies

>>

Not applicable

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

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The project boundary of the SSC-CPA follows the definition in AMS II.G/v012. The project boundary is the physical, geographical area of the use of biomass or the renewable energy. The emissions sources to be included in, or excluded from, each SSC-CPA boundary in the CPAs are presented in the table below:

**Table 7: Sources and gases included in the SSC-CPA boundary**

	Source	GHG	Included?	Justification/Explanation
Baseline	Combustion of non-renewable biomass for cooking.	CO <sub>2</sub>	Yes	Major source of emissions
		CH <sub>4</sub>	No	Not required by methodology, only CO <sub>2</sub> emission factor for fossil fuels is considered. Conservative assumption.
		N <sub>2</sub> O	No	Not required by methodology, only CO <sub>2</sub> emission factor for fossil fuels is considered. Conservative assumption.
Project activity	Combustion of non-renewable biomass for cooking.	CO <sub>2</sub>	Yes	Major source of emissions
		CH <sub>4</sub>	No	Not required by methodology, only CO <sub>2</sub> emission factor for fossil fuels is considered.
		N <sub>2</sub> O	No	Not required by methodology, only CO <sub>2</sub> emission factor for fossil fuels is considered.

The geographical boundaries of the CPA are the same as the geographical boundaries of the PoA.

### I.5. Establishment and description of baseline scenario

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The baseline scenario is continued use of non-renewable biomass for cooking. The rural households in Nepal use non-renewable firewood and negligible amount of cow dung and agricultural waste for cooking. The use of other fossil fuels like kerosene and LPG is insignificant. Research indicates that use of firewood has a low sensitivity to economic determinants<sup>21</sup>.

AMS II.G requires use of the emission factor of fossil fuel to calculate the baseline emissions. The actual baseline is the use of non-renewable biomass.

<sup>21</sup>The Environmental Impact of Poverty: The Evidence of Firewood collection in Rural Nepal, 30 June 2007, Page 8. [http://amid.cepr.org/files/working\\_papers/baland1.pdf](http://amid.cepr.org/files/working_papers/baland1.pdf)

Methodology AMS II.G version 12 states that *“in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs”*. This is a conservative approach to determine the baseline emissions. In absence of the project activities, the intended beneficiaries of the programme would continue using the traditional inefficient cooking stoves, consuming high quantity of non-renewable biomass.

For the second crediting period, the methodological tool “Assessment of validity of the original/current baseline and update of the baseline at the renewal of a crediting period” Version 03.0.1 (EB 66, Annex 47) is used to assess the continued validity of the original baseline. This tool provides a stepwise procedures to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period.

Step 1: Assess the validity of the current baseline for the next crediting period

The “Procedures for the renewal of the crediting period of a registered CDM project activity” requires assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline.

***Step 1: Assess the validity of the current baseline for the next crediting period***

***Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies***

There are no mandatory national and/or sectoral policies that affect the baseline scenario during the renewal of the crediting period. The relevant national and sectoral policies for the promotion of the Improved Cooking Stove (ICS) in the Nepal are the Rural Energy Policy, the Renewable (Rural) Energy Subsidy Policy and the Renewable (Rural) Energy Subsidy Delivery Mechanism. The Rural Energy Policy was published in the year 2006. The Renewable (Rural) Energy Subsidy Policy was initially published in 2000 (prior to PoA start date) and latest revision has happened in 2016. Similarly, the Renewable (Rural) Energy Subsidy Delivery Mechanism was initially published in 2000 (prior to PoA start date) and latest revised in 2017. The Renewable (Rural) Energy Subsidy Policy has made provisions of financial subsidy support for the installation of the household Improved Cooking Stoves.

The Renewable (Rural) Energy Subsidy Policy 2016 has made provisions of financial subsidy support for the installation of the metallic improved cooking stove of one or two pot hole and three pot hole types. The subsidy support in ICS based on the categorization of region in the policy. The subsidy support provided would cover a maximum of around 50% cost of installation of the ICS. The Renewable (Rural) Energy Subsidy Delivery Mechanism, prepared based on the Subsidy Policy, has made arrangements to channel the subsidy to the ICS users through the pre-qualified biogas companies, which provide installation and after sales services related to ICS as per the standard and guidelines approved by the AEPC.

The above policies only provide the incentives for promotion of ICS and do not provide any obligations or enforced targets, nor do they ban the use of fuel wood for cooking. The baseline scenario established for the PoA is therefore still valid.

***Step 1.2: Assess the impact of circumstances***

There is no impact of circumstances existing at the time of requesting renewal of the crediting period on the current baseline emissions.

As demonstrated in Step 1.1, the promotion of households ICS through national policies set up is on voluntary basis. The Renewable (Rural) Energy Subsidy Delivery Mechanism is part of the package design to enhance the ICS technology promotion programs. No other market transformation activities or circumstances outside the implementation of the promotion of ICS technology have influenced households shift from non-renewable biomass for cooking in rural areas or the shift to rural household’s using renewable biomass. As described in Step 1.3, despite the policies, NRB continue to be the main energy source for cooking in rural areas. The conditions used to determine the baseline emission in the previous crediting period are still valid to this ICS PoA.

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

This sub-step is applicable to the PoA since the baseline is the continuation of the existing practice, i.e. the households will rely on traditional cook stoves using non-renewable biomass in the absence of the project activity. The traditional stoves made from local materials are expected to continue in the absence of the project. Therefore, the continued use of baseline materials is possible.

If the operational lifetime of the ICS is completed within this crediting period, that particular ICS will not be considered for the emission reduction calculation from the next consecutive monitoring period. It can be confirmed that, the continuation of use of current baseline equipment, (non-renewable biomass based traditional cook stove) is the most likely scenario for the crediting period for which renewal is being requested.

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

There are some parameters such as emission factors per fuel source (IPCC default values), emission reduction factor of the biogas units, which were determined at the start of the first crediting period and not monitored during the first crediting period, are not valid anymore. AMS-II. G, Version 12 provides new guidance on key parameters, different default values and emission reductions calculation formula. So the current baseline is updated for the 2<sup>nd</sup> crediting period according to the AMS-II. G, Version 12. Application of Steps 1.1, 1.2, 1.3 and 1.4 confirmed that the current baseline is valid for the second crediting period, but data and parameters needs to be updated. Therefore, step 2 is used.

**Step 2: Update the current baseline and the data and parameters**

**Step 2.1: Update the current baseline**

As per the outcome of step 1, this step is not applicable as the current baseline is still valid.

**Step 2.2: Update the data and parameters**

As mentioned in step 1.4 above, many default parameters have been updated and new parameters have been used (as per AMS-II.G Version 12) for this crediting period. The baseline consumption of HHs fuel wood is about 5.04 tonne per year in similar context for the Nepal Biogas Support Programme-PoA<sup>22</sup>. But, the same value (i.e. 3.07 tons/year/HH) will be retained as conservative value as baseline fuelwood consumption for the ICS PoA for this crediting period as well. Hence, the 3.07 value is retained as a baseline woody biomass consumption per household ( $B_{old,HH}$ ).

**I.6.**

**I.6. Estimation of emission reductions**

**I.6.1. Explanation of methodological choices**

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The key components of AMS II.G are the calculation of the emission reductions, differentiation between non-renewable biomass and demonstrable renewable biomass and the occurrence of leakage.

**Emission reduction calculation**

Paragraph 23 of AMS II.G/v012 requires that the project participants assume that in the absence of the project activity, the baseline scenario would be the projected use of fossil fuels for meeting similar thermal energy needs. The actual baseline scenario is the use of NRB

**Emission reduction calculation**

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<sup>22</sup> [https://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/7BSCYZMH2U05TWWXFKELND18PRQ96O/view](https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/7BSCYZMH2U05TWWXFKELND18PRQ96O/view)

Paragraph 23 of AMS II.G/v12 requires that the project participants assume that in the absence of the project activity, the baseline scenario would be the projected use of fossil fuels for meeting similar thermal energy needs. The actual baseline scenario is the use of NRB.

According to paragraph 24 of methodology AMS II.G/v12, emission reductions would be calculated as:

$$ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y$$

Where:

- i* = Indices for the situation where more than one type of project device is introduced to replace the pre-project devices<sup>33</sup>
- j* = Indices for the situation where there is more than one batch of project device
- ER<sub>y</sub>* = Emission reductions during year *y* (tCO<sub>2</sub>e)
- ER<sub>y,i,j</sub>* = Emission reductions by project device of type *i* and batch *j* during year *y* (tCO<sub>2</sub>e)
- LE<sub>y</sub>* = Leakage emissions in the year *y* (tCO<sub>2</sub>e)

$$ER_{y,i,j} = B_{y,savings,i,j} \times N_{0,i,j} \times n_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected\_fossil\ fuel}$$

Where:

- B<sub>y,savings,i,j</sub>* = Quantity of woody biomass that is saved per cookstove device of type *i* and batch *j* during year *y* (tonnes)
- f<sub>NRB,y</sub>* = Fraction of woody biomass that can be established as non-renewable biomass<sup>34</sup> (fraction or %)
- NCV<sub>biomass</sub>* = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried')
- EF<sub>projected\_fossilfuel</sub>* = Emission factor of fossil fuels projected to be used to substitute non-renewable woody biomass by similar consumers (tCO<sub>2</sub>e/TJ).
- N<sub>0,i,j</sub>* = Number<sup>35</sup> of project devices of type *i* and batch *j* commissioned (number)
- n<sub>y,i,j</sub>* = Proportion of commissioned project devices of type *i* and batch *j* (*N<sub>0,i,j</sub>*) that remain operating in year *y* (fraction)
- μ<sub>y</sub>* = Adjustment to account for any continued use of pre-project devices during the year *y*

<sup>33</sup> For example, in some instances, full replacement of the pre-project device would require the implementation of more than one project device (e.g. one stove suitable for cooking and the other stove suitable for cooking/boiling water).

<sup>34</sup> Default values endorsed by designated national authorities and approved by the Board are available at <[http://cdm.unfccc.int/methodologies/standard\\_base/index.html](http://cdm.unfccc.int/methodologies/standard_base/index.html)>.

<sup>35</sup> Project devices may be commissioned in batches. See paragraph 14 (a) of AMS-II-G version12

For the emission factor of fossil fuels projected to be used to substitute non-renewable woody biomass by similar consumers, either the default regional values in table 7 below

Table 7 Default regional values of the emission factor of fossil fuels projected to be used to substitute non-renewable woody biomass by similar consumers

	Emission factor of fossil fuels projected to be used to substitute non-renewable woody biomass by similar consumers (t CO <sub>2</sub> e/TJ)
Middle East and North Africa	63.9
East Asia and the Pacific	85.7
Europe and Central Asia	57.8
Latin America and the Caribbean	68.6
South Asia	64.4
Sub-Saharan Africa	73.2

As per the Paragraph 32 of AMS II G Ver 12, option 3 water boiling test is used to calculate the quantity of biomass saved from the cooking stoves. The equation used for the biomass savings is shown below:

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

Where:

- $B_{y,savings,i,j}$  = Quantity of woody biomass that is saved per cookstove device of type *i* and batch *j* during year *y* (tonnes)
- $B_{y=1,new,i,j,survey}$  = Quantity of woody biomass used by project devices in tonnes per device of type *i* and batch *j* (tonnes)
- $\eta_{old,i,j}$  = Efficiency of the old devices being replaced by project devices of type *i* and batch *j* (fraction)
- $\eta_{new,i,j}$  = Efficiency of the project device *i* and batch *j* (fraction)

For this crediting period, Water Boiling Test will not be conducted to quantify the saving of woody biomass. Instead of that a default schedule of linear decrease in efficiency up to the terminal efficiency assumed as 20 percent shall be applied through the life span of the project device<sup>36</sup> (Paragraph 37 (a) of AMS II.G/v12)

### Differentiation between NRB and renewable biomass and determining $f_{NRB,y}$

The methodology requires the Project Participants to determine the shares of renewable and non-renewable woody biomass in  $B_{old}$  (the quantity of woody biomass used in the absence of the project activity) to generate thermal energy that is provided by the project device type *i* and batch *j* (tonnes/year) the total biomass consumption using nationally approved methods (e.g. surveys or government data if available) and then determine  $f_{NRB,y}$  as described below. The following principles shall be taken into account:

#### Renewable woody biomass (RB)

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<sup>36</sup> If the efficiency of the project devices falls below 20%, it is no longer eligible to be considered a project device.

1. The woody biomass is originating from land areas that are forests<sup>39</sup> where:
  - (a) The land area remains a forest; and
  - (b) Sustainable management practices are undertaken on these land areas to ensure, in particular, that the level of carbon stocks on these land areas does not systematically decrease over time (carbon stocks may temporarily decrease due to harvesting); and
  - (c) Any national or regional forestry and nature conservation regulations are complied with.
2. The biomass is woody biomass and originates from non-forest areas (e.g., croplands, grasslands) where:
  - (a) The land area remains as non-forest or is reverted to forest; and
  - (b) Sustainable management practices are undertaken on these land areas to ensure in particular that the level of carbon stocks on these land areas does not systematically decrease over time (carbon stocks may temporarily decrease due to harvesting); and
  - (c) Any national or regional forestry, agriculture and nature conservation regulations are complied with.

**Non-renewable biomass:**

Non-renewable woody biomass (*NRB*) is the quantity of woody biomass used in the absence of the project activity ( $B_{old}$ ) minus the *DRB* component, as long as at least two of the following supporting indicators are shown to exist:

- A trend showing an increase in time spent or distance travelled for gathering fuel-wood, by users (or fuel-wood suppliers) or alternatively, a trend showing an increase in the distance the fuel-wood is transported to the project area;
- Survey results, national or local statistics, studies, maps or other sources of information, such as remote-sensing data, that show that carbon stocks are depleting in the project area;
- Increasing trends in fuel wood prices indicating a scarcity of fuel-wood;
- Trends in the types of cooking fuel collected by users that indicate a scarcity of woody biomass.

Thus the fraction of woody biomass saved by the project activity in year *y* that can be established as non-renewable is:

$$f_{NRB,y} = \frac{NRB}{NRB + DRB} \tag{1}$$

Where:

- $f_{NRB}$  = Fraction of non-renewable biomass in the applicable area in the relevant period (fraction or %)
- $NRB$  = Quantity of non-renewable biomass consumed in the applicable area in the relevant period (tonnes)
- $RB$  = Quantity of renewable biomass that is available on a sustainable basis in the applicable area in the relevant period (tonnes)

As per EB 108, Annex 11 "Tool 30 Methodological tool calculation of the fraction of non-renewable biomass version 03.0 is formulated and using the provided Tool 30,  $f_{NRB}$  value is calculated to be 91.44%.

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<sup>39</sup> The forest definitions as established by the country in accordance with the decisions 11/CP.7 and 19/CP.9 should apply.

**Leakage**

As per the paragraph 41 of the methodology AMS II.G/v12

*By,savings,i,j* is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.



## I.6.2. Data and parameters fixed ex ante

(Copy this table for each piece of data and parameter.)

Data/Parameter	$B_{old,i,j}$
Data unit	tonnes/household/year
Description	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate thermal energy equivalent to that provided by the project devices
Source of data	Baseline Survey
Value(s) applied	3.07
Choice of data or Measurement methods and procedures	The firewood consumption for the PoA in first crediting period was based on the baseline survey and was found to be 3.07 tonnes per year. For the similar context, Nepal Biogas Support Programme-PoA <sup>40</sup> promoted by AEPC has identified the baseline firewood consumption for traditional stove users as 5.04 tons/HH/year. So, conservatively, 3.07 tonnes per year is retained for the second period of PoA.
Purpose of data	Calculation of Quantity of woody biomass that is saved in tonnes per device
Additional comment	$B_{old,i,j}$ equals $B_{old,HH}$ Because only one project device per household is distributed.

Data/Parameter	$\eta_{old,i,j}$
Data unit	Percentage
Description	Efficiency of the system being replaced (Traditional Cooking Stoves)
Source of data	Paragraph 44 of AMS II.G/v12
Value(s) applied	10%
Choice of data or Measurement methods and procedures	The default value of 0.10 is used as the replaced system is a three stone fire, or a conventional device with no improved combustion air supply or flue gas ventilation, i.e. without a grate or a chimney.
Purpose of data	Calculation of Quantity of woody biomass that is saved in tonnes per device
Additional comment	This parameter shall remain fixed for the monitoring periods.

Data/Parameter	$f_{NRB,y}$
Data unit	Percentage
Description	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass
Source of data	Calculated using the Tool 30, Methodological Tool Calculation of the fraction of non-renewable biomass, version 03.0"
Value(s) applied	91.44%
Choice of data or Measurement methods and procedures	Ministry of Forests and Environment, Nepal acting as DNA to UNFCCC has reassessed the value following the "Tool 30: Calculation of the fraction of non-renewable biomass version 03" and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories for "Above-ground biomass growth rates for different ecological zones"
Purpose of data	Calculation of share of non-renewable biomass
Additional comment	This parameter shall remain fixed for the monitoring periods.

Data/Parameter	$NCV_{biomass}$
Data unit	TJ/tonne
Description	Net calorific value of the non-renewable woody biomass that is substituted

<sup>40</sup> [https://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/7BSCYZMH2U05TWWXFJKELND18PRQ96O/view](https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/7BSCYZMH2U05TWWXFJKELND18PRQ96O/view)

Source of data	Paragraph 24 of AMS II.G/v12
Value(s) applied	0.0156
Choice of data or Measurement methods and procedures	As per the methodology AMS II.G/v12
Purpose of data	Emission reduction calculation
Additional comment	This parameter shall remain fixed for the monitoring periods.

<b>Data/Parameter</b>	<b><math>EF_{projected\_fossilfuel}</math></b>
Data unit	tCO <sub>2</sub> /TJ
Description	Emission factor for the substitution of non-renewable woody biomass by similar consumers
Source of data	Paragraph 25 of AMS II.G/v12
Value(s) applied	64.4
Choice of data or Measurement methods and procedures	As per the Default regional values of the emission factor of fossil fuels projected to be used to substitute non-renewable woody biomass by similar consumers (Table 2 of Para 25 AMS II.G/v12)
Purpose of data	Emission reduction calculations
Additional comment	This parameter shall remain fixed for the monitoring periods.

<b>Data/Parameter</b>	<b><math>L_y</math></b>
Data unit	Fraction
Description	Leakage adjustment factor
Source of data	Paragraph 41 of AMS II.G/v12
Value(s) applied	0.95
Choice of data or Measurement methods and procedures	As per the methodology AMS II.G/v12, $B_{old\ i,j}$ can be multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.
Purpose of data	Emission reduction calculations
Additional comment	This parameter shall remain fixed for the monitoring periods.

### 1.6.3. Modalities for ex ante calculation of emission reductions

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According to paragraph 13(a) of methodology AMS II.G/v12, emission reductions shall be calculated as:

$$ER_{y,i,j} = B_{y,savings,i,j} \times N_{o,i,j} \times n_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected\_fossil\ fuel}$$

Where:

$B_{y,savings,i,j}$  = Quantity of woody biomass that is saved per cookstove device of type  $i$  and batch  $j$  during year  $y$  (tonnes)

$f_{NRB,y}$  = Fraction of woody biomass that can be established as non-renewable biomass<sup>41</sup> (fraction or %)

<sup>41</sup> Default values endorsed by designated national authorities and approved by the Board are available at <[http://cdm.unfccc.int/methodologies/standard\\_base/index.html](http://cdm.unfccc.int/methodologies/standard_base/index.html)>.

- $NCV_{biomass}$  = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried')
- $EF_{projected\_fossilfuel}$  = Emission factor of fossil fuels projected to be used to substitute non-renewable woody biomass by similar consumers (tCO<sub>2</sub>e/TJ).
- $N_{0,i,j}$  = Number<sup>42</sup> of project devices of type *i* and batch *j* commissioned (number)
- $n_{y,i,j}$  = Proportion of commissioned project devices of type *i* and batch *j* ( $N_{0,i,j}$ ) that remain operating in year *y* (fraction)
- $\mu_y$  = Adjustment to account for any continued use of pre-project devices during the year *y*

For Example

Energy Cap (SSC-CDM Methodology limit)	180.00	GWh <sub>th</sub> per annum
$B_{old,i,j}$	3.07	tonnes/year (per stove)
Baseline technology efficiency ( $\eta_{old}$ )	10%	AMS II G data/parameter table
ICS technology efficiency ( $\eta_{new,i}$ )	27.00%	Measured Value
ICS technology degradation ( $\Delta\eta_{y,i,j}$ )	1	fraction assumed 1 for ex ante purposes only
$f_{NRB,y}$	0.9144	Calculated
$NCV_{biomass}$	0.0156	TJ/tonne
$EF_{projected\ fossil\ fuel}$	64.40	ton CO <sub>2</sub> /TJ
$N_{y,i,j}$	21,540	number
Leakage Adjustment Factor (L)	0.95	Fraction
$\mu_{y,i}$	1	fraction
$B_{y,savings,i,j} = (B_{old,i,j}) * L_y * (1 - \eta_{old,i,j} / (\eta_{new,i,j=1} * \Delta\eta_{y,i,j})) =$	1.8363	tonnes/ year
$BE_y = ER_y = B_{y,savings,i,j} * N_{y,i,j} * \mu_{y,i} * f_{NRB,y} * NCV_{biomass} * EF_{projected\_fossil\ fuel} =$	36,336.00	tCO <sub>2</sub> e
$LE_y$	1,816.800	tCO <sub>2</sub> e
$BE_y = ER_y = B_{y,savings,i,j} * N_{y,i,j} * \mu_{y,i} * f_{NRB,y} * NCV_{biomass} * EF_{projected\_fossil\ fuel} - LE_y =$	34,519.200	tCO <sub>2</sub> e

### 1.7. Monitoring plan

The table below provides the aspects to be monitored according to methodology AMS II.G and its applicability to the ICS SSC-CPA.

Parameters to be monitored according to methodology	Applicability to the Project	Parameter to be Monitored (YES/NO/Not Applicable)
During project activity implementation, the following data shall be recorded:  (a) Number of new devices distributed under the project activity, identified by the type of	The emission reduction is linked with the number of appliances (ICS) operational, so this needs to be monitored.	Yes ( Through data base )

<sup>42</sup> Project devices may be commissioned in batches. See paragraph 14 (a) of AMS-II-G version12.

Parameters to be monitored according to methodology	Applicability to the Project	Parameter to be Monitored (YES/NO/Not Applicable)
<p>devices and the date of commissioning;</p> <p>(b) Data to unambiguously identify the recipient of the new devices distributed under the project activity (e.g. name, address, phone number).</p> <p>(AMS.II.G ver 12/para 45)</p>		
<p>The monitoring shall include data on the amount of woody biomass saved under the project activity that is used by non-project households/users (who previously used renewable energy sources). Other data on non-renewable woody biomass use required for leakage assessment shall also be collected.</p> <p>(AMS.II.G ver 12/para 46)</p>	<p>Amount of wood saved by project is important , so this will be monitored</p> <p>The methodology allows the use of a default factor of 0.95 to account for leakage. So this will not be monitored in the project</p>	<p>Yes (Through Annual Survey)</p> <p>In case of leakage, a default factor of 0.95 shall be used</p>
<p>Monitoring shall ensure that either:</p> <p>a. The replaced low efficiency device are disposed of and not used within the boundary or within the region; or</p> <p>b. If pre-project stoves continue to be used, monitoring shall ensure that the fuel-wood consumption of those stoves is excluded from B<sub>old,i</sub>.</p>	<p>Option (a) is chosen that is, monitoring shall ensure that the replaced pre-project devices appliances are disposed of and not used within the boundary or within the region.</p>	<p>Yes (Through Annual Survey)</p>

### I.7.1. Data and parameters to be monitored

(Copy this table for each piece of data or parameter.)

<b>Data/Parameter</b>	<b><math>N_{0,i,j}</math></b>
Data unit	Number
Description	Number of commissioned project devices of type $i$ and batch $j$
Source of data	Database of Integrated Subsidy Processing Section (ISPU) under AEPC
Value(s) applied	-
Measurement methods and procedures	Number of new devices distributed can be identified by the database of ISPU under AEPC that includes all detail of data including the type of devices and the date of commissioning Database are maintain with the clear identification of the recipient of the new devices (e.g name, address, ward number, technology types,)
Monitoring frequency	Annually
QA/QC procedures	During the annual users' survey, an independent third party will inspect representative sample households to check if the devices are operating or not. Sample for this survey will be drawn as per the "Guidelines for sampling and surveys for CDM project activities and programme of activities, version 3 (EB 75, annex 8)".
Purpose of data	Emission reduction calculation
Additional comment	If households are found continuing the use of traditional stoves, the proportion of usage of traditional stoves in those households shall be documented and the same will be accounted as downtimes of the ICS during calculation of emission reductions Nevertheless, some households may retain their traditional stoves for religious reason where the traditional stoves are not used, the annual ICS users' survey will capture this information and it will be used accordingly while calculating the emission reductions.

<b>Data/Parameter</b>	<b><math>n_{y,i,j}</math></b>
Data unit	Fraction
Description	Proportion of commissioned project devices of type $i$ and batch $j$ ( $N_{0,i,j}$ ) that remain operating in year $y$ (fraction)
Source of data	Database of Integrated Subsidy Processing Section (ISPU) under AEPC
Value(s) applied	-
Measurement methods and procedures	Measured directly or based on a representative sample. Sampling standard shall be used for determining the sample size to achieve 90/10 confidence/precision levels. Separate samples shall be taken for each batch
Monitoring frequency	Annually
QA/QC procedures	As required by AMS II.G Ver 12, for annual surveys, the margin of error 10% and a confidence interval of 90% will be ensured for the monitoring the efficiency of stoves.
Purpose of data	Emission reduction calculation
Additional comment	If any sample stove is found to be operating below the 20% efficiency, the proportionate number of stoves of that type included in the CPA will be considered to be non-operational and not accounted for ER calculation.

<b>Data/Parameter</b>	<b><math>\Delta\eta_{y,i,j}</math></b>
Data unit	Fraction
Description	Factor to consider the efficiency loss of the project device type $i$ due to its aging at the year $y$
Source of data	A default schedule linear decreasing efficiency
Value(s) applied	-

Measurement methods and procedures	As per Para 37 (a) AMS II G Ver 12
Monitoring frequency	Annually
QA/QC procedures	NA
Purpose of data	Emission reduction calculation
Additional comment	NA

<b>Data / Parameter:</b>	$\mu_y$
<b>Data unit</b>	Fraction
<b>Description</b>	Adjustment to account for any continued use of pre-project devices during the year y
<b>Source of data</b>	Data from ICS user survey
<b>Value (s) applied</b>	1
<b>Measurement Method and procedures</b>	This parameter should be monitored using one of the following methods: 1. As, all the pre project devices will be replaced by the project devices, pre project devices are decommissioned and no longer used, hence the value is 1.0
<b>Monitoring frequency</b>	Annually
<b>QA/QC procedures</b>	In the case the desired precision is not met i.e. 90% confidence level and 10% Margin of error, then lower bound values shall be used against repeating the survey to determine the operational fraction of stoves.
<b>Purpose of Data</b>	To check the continuation of pre project activities
<b>Additional Comments</b>	- NA

<b>Data / Parameter</b>	$\eta_{new,i,j}$
<b>Data unit</b>	Fraction
<b>Description</b>	Efficiency of the device of each type i and batch j implemented as part of the project activity
<b>Source of data</b>	-Efficiency Test Certificate and Conformation of age of ICS
<b>Measurement methods and procedures</b>	Efficiency shall be measured/estimated as per the following: (i) A default schedule of linear decrease in efficiency up to terminal efficiency assumed as 20 % will be applied through the life span of the project device ( Ref. Para 37 (a), Box 6 Non-binding best practice example 6 AMS II version 12)
<b>Monitoring frequency:</b>	Annually
<b>QA/QC procedures:</b>	The stove efficiency decreases linearly over time, i.e. at a constant rate which is equal to the difference between the initial and final efficiencies divided by the lifespan of the project device The final value after the end of life span will be 20%
<b>Purpose of data</b>	Emission reduction calculation
<b>Additional Comments</b>	Following provisions in paragraph Paragraph 37 of AMS-II-G version 12 , default schedule of linear decrease in efficiency to account for loss in efficiency of the project devices

<b>Data / Parameter:</b>	<b>Life Span</b>
Data unit:	Number of years
Description:	The operating life time of the project device.

Source of data:	1. Manufacturer specification /certificate OR 2. Test Certificate by a Renewable Energy Test Station
Measurement methods and procedures	Life span of ICS and number of years in operation
Monitoring frequency:	Annually
QA/QC procedures:	Life span mentioned in Manufacturer specification /certificate or test certificate of ICS and its commissioning date recorded in ISPS
Purpose of data	Emission Reduction Calculation
Additional Comments	NA

<b>Data / Parameter:</b>	<b>Date of commissioning of batch <i>j</i></b>
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:	Database maintained in ISPS under AEPC
Measurement methods and procedures	Check the database maintained in ISPS under AEPC
Monitoring frequency:	Fixed and recorded at the time of commissioning/distribution of the last project device in the batch
QA/QC procedures:	Check the database maintained in ISPS under AEPC
Purpose of Data	To estimate the life span of project and calculate its efficiency
Additional Comment	The ICS user survey will not be used identify date of commissioning of batch <i>j</i>

<b>Data / Parameter:</b>	<b>Date of commissioning of project device <i>i</i></b>
Data unit:	Date
Description:	Actual date of commissioning of the project device
Source of data:	Database maintained in ISPS under AEPC
Measurement methods and procedures	- Check the database maintained in ISPS under AEPC
Monitoring frequency:	Fixed and recorded at the time of commissioning/distribution
QA/QC procedures:	- Check the database maintained in ISPS under AEPC
Purpose of Data	To estimate the life span of project and calculate its efficiency
Additional Comment	-The ICS user survey will not be used identify date of commissioning of project device <i>i</i>

<b>Data / Parameter:</b>	<b><math>N_{d,HH}</math></b>
Data unit	Number
Description	Number of project devices distributed per household
Source of data	Database maintained in ISPS under AEPC
Measurement methods and procedures	- Check the database maintained in ISPS under AEPC
Monitoring frequency:	Recorded at the time of commissioning/distribution of project devices

QA/QC procedures:	- Check the database maintained in ISPS under AEPC
Purpose of Data	Emission Reduction Calculation
Additional Comment	The results monitoring survey should not be used to determine the value. The value will be fixed as per the database of ISPS under AEPC

### 1.7.2. Sampling plan

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Please refer Appendix 5.

### 1.7.3. Other elements of monitoring plan

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The monitoring plan applied for the CPAs under this PoA accounts a number of factors that ensures CME have reliable and unbiased estimate of the monitoring parameters.

The approved methodology AMS II.G/v12 requires monitoring of the following parameters:

1. Monitoring shall consist of checking of all devices (ICS in this case) or a representative sample thereof, at least once every two years (biennial) to determine if they are still operating; those devices that have been replaced by an equivalent in-service device can be counted as operating (AMS II G, v/12, para 45).
2. The replaced pre project devices will be disposed of and not used within the boundary;

The numbers of mud ICS disseminated are reported by promoters/ stove masters to Local/District partners. The RSCs will maintain the database and will send to AEPC. AEPC will manage the overall database of the program.

The performance of the ICS (annual check of a representative sample of all devices (ICS) to ensure that they are still operating) and discontinuation of the use of traditional cooking stoves will be based on the Annual User Survey which will be conducted by an independent third party. The efficiency of the ICS will be monitored by an independent third party. These surveys will be conducted following statistically sound sampling procedure following the "Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0 (EB 86, Annex 4)". As part of the survey, statistically valid sample of ICS will be surveyed and in order to achieve 90% 90% confidence interval and a 10% margin of error requirement for the sampled parameters. The sampling method is further explained in Appendix 5.

### Quality Control and Quality Assurance Procedure

*The QA/QC includes the following elements:*

- *Annual User Survey: The Annual User Survey uses a random sample of ICS users to measure a wide-range of health, economic, social and environmental indicators. The information obtained from the user survey is used to enable continuous improvement of the program and the technology applied.*

#### Mud Improved Cooking Stoves:

The number of mud ICS prepared by promoters/ stove masters at household level are reported to AEPC through regional service centers (RSCs). RSCs first of all record the ICS into the database and sent to AEPC every month in the soft copy. The total stove installation report will be submitted in the hard copy in each quarter of the year. The BES team will generate random sample for monitoring using the Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Version 03<sup>44</sup> with margin of error of 10% and confidence interval of 95% will be monitored. Sampled ICS will be monitored annually to determine the efficiency of the ICS

<sup>44</sup> Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 3.0 (EB 75, Annex 8)



installed in each CPA by an independent third party. Similarly, the operation of the ICS and displacement of the traditional stoves are also monitored annually by an independent third party.

*Metallic Improved Cooking Stoves:*

In case of metallic ICS, the quality of the stove is checked at the manufacturing premises in a lot during spot monitoring before delivery of the stoves to the users. The installer fills up subsidy application form during installation of the stove and database is entered at RSC which is then forwarded to AEPC database for further verification and release of subsidy amount. The central office team will generate random sample for monitoring using the Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Version 03<sup>45</sup> with margin of error of 10% and confidence interval of 95%. Sample will be randomly generated from database and monitored annually to determine the efficiency of the metallic ICS installed in each CPA by an independent third party. Similarly, the operation of the ICS and displacement of the traditional stoves are also monitored annually by an independent third party.

Details of monitoring are mentioned in Appendix 5.

***Internal Audit Procedure***

*Mud Improved Cooking Stoves:*

In case of mud ICS the internal auditing is done through RSC and its local partner. The promoter/stove masters submit the data along with the user information sheet that includes user's name, and address, date stove installed/sold including the name of the stove installer or person / institution selling the stove. This user information sheet is submitted to RSC through its local partner. The RSC cross checks the installation details in random basis.

*Metallic Improved Cooking Stoves:*

In case of Metallic ICS the internal auditing is done in AEPC by cross checking copy of subsidy application form submitted by manufacturing cum installing companies and the soft copy details submitted by RSCs to AEPC. The soft copy detail is generated by RSC through a copy of subsidy application form submitted by manufacturing cum installing companies to RSC.

***Data Archiving Procedure***

*The data archiving procedures followed by the BES after the completion of the construction of the ICS is presented below:*

*Mud Improved Cooking Stoves:*

The numbers of mud ICS disseminated are reported by promoters/ stove masters to RSC through its local partner. It is then entered into the database by RSC and sent BES of AEPC/NRREP every month in the soft copy. The total stove installation report will be submitted in the hard copy in each quarter of the year.

*Metallic Improved Cooking Stoves:*

The installer/ manufacturing company representative fills up subsidy application form during installation of the stove and database is entered at RSC which is then forwarded to BES of AEPC/NRREP database for further verification and release of subsidy amount.

**Organization Structure**

The chart below presents the role and responsibilities of various organisations involved in the ICS PoA:

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<sup>45</sup> Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 3.0 (EB 75, Annex 8)

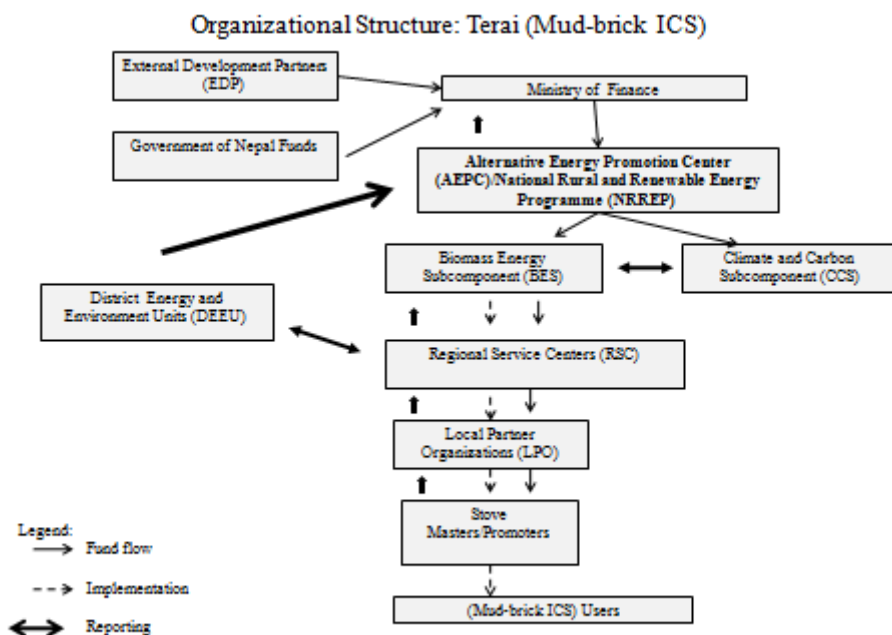


Figure 1: Organisational structure for Mud ICS

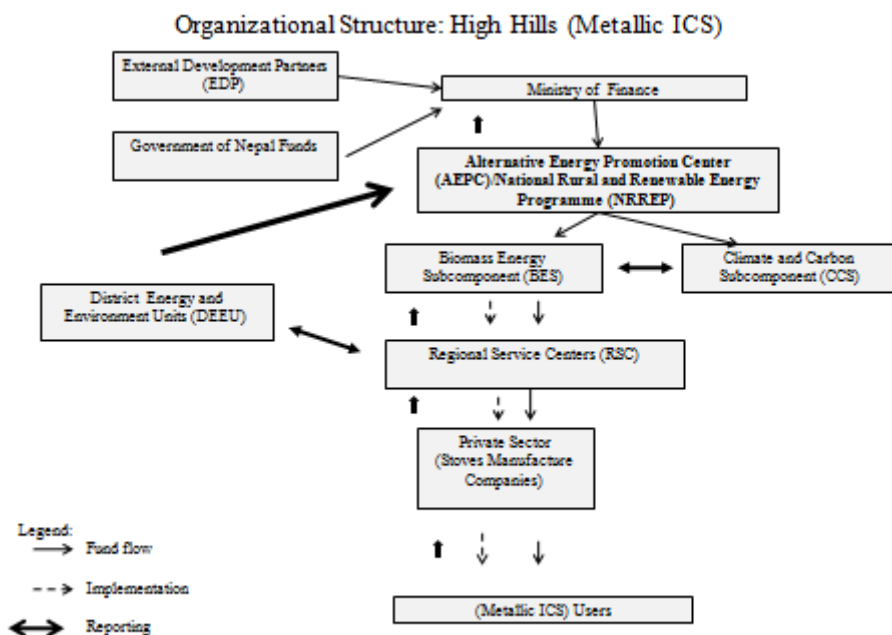


Figure 2: Organisational structure for Metallic ICS

**Alternative Energy Promotion Center (AEPC)**

- AEPC is responsible for overall coordination and the execution of the ICS PoA. The AEPC provides feedbacks to GoN for policy formulation and executes the policies.
- AEPC is responsible for overall monitoring and evaluation together with its development partners. This also includes endorsing new modalities e.g. the modality to be developed to target the poor.
- AEPC is responsible for carrying out Annual ICS Users’ Survey that is also in line with the requirements of the CDM. The survey would report the performance of the stoves as well as perceptions of ICS users.

- AEPC administrates subsidy for metallic ICS as per Nepal Government's Renewable (Rural) Energy Subsidy Policy and its Delivery Mechanism.
- AEPC is responsible for coordination with national level institutions/agencies relevant for promotion of ICS technology.
- AEPC advocates and promotes ICS through BES/NRREP at macro level.

**External Development Partners (EDPs):**

- EDPs support AEPC in dissemination of mud and metallic ICS through BES/NRREP.
- EDPs provide financial support for technical supports to disseminate ICS and for subsidy to households installing metallic ICS under the NRREP
- EDPs are also responsible for overall programme evaluation together with the AEPC and other development partners.

**Biomass Energy Subcomponent (BES)**

- BES provides technical supports through its network of Regional Service Centres (RSC) to organizations of the ICS sector. The technical supports include awareness building, promotion, capacity building, monitoring, advocacy/lobbying, gender and social inclusion, etc.
- Based on approved plans and budgets, BES supports AEPC to administer the fund for technical supports as per developed guidelines and procedures.
- BES develops technical designs of mud and metallic ICS and recommends AEPC to include them in the programme.
- BES supports AEPC in administration of subsidy for metallic ICS as per Nepal Government's Renewable (Rural) Energy Subsidy Policy and its Delivery Mechanism. This includes quality control and regular monitoring of metallic ICS, company qualification, performance evaluation as well as for provision of after-sales services and warrantee.
- BES facilitates, promotes, monitors and backstops the development of ICS sector

**Climate and Carbon Unit (CCU)**

- Ensuring full compliance with CDM processes related to documentation, validation, monitoring and verification of ICS PoA.
- Establishing communication with the UNFCCC and DOE on the matters related to CDM PoA.
- Conducting Annual ICS Users' Survey for Emission Reduction monitoring

**Regional Service Centers (RSC)**

- **RSCs**, by themselves or through Local Partner Organizations (LPO), are responsible for facilitating the implementation of programme.
- **RSCs/LPO** are responsible for imparting technical supports such as awareness building, promotion, capacity building, local level advocacy/lobbying, gender and social inclusion etc of the programme.
- **RSCs/LPO** responsible for skill transfer to BGs/SMs, monitoring/follow up to ensure skill transfer to BGs/SMs, orientation/demonstration, demand creation & massive dissemination of quality ICS.
- **RSCs/LPO** responsible for regular monitoring as well as efficiency testing of ICS for internal quality control.
- **RSCs** responsible for data entry and regular reporting to BES.

**District Development Committees (DDCs)**

- DDCs, through their District Energy and Environment Units/Sections (DEEU/DEES), are responsible for coordination and information sharing on ICS.
- DDCs help in promotion of metallic ICS by awareness raising and contributing a part of fund to be borne by the users (non-local material cost for mud-brick ICS and transportation cost for metallic ICS).
- DDCs, together with the AEPC and other development partners, are also responsible in monitoring of mud-brick and metallic ICS.

**Local Development Partners (District/Local Line Agencies) /Micro Finance Institutions (MFIs)**

- Where applicable, local development partners (District/local line agencies) such as Federation of Community Forest User Groups (FECOFUN), Red Cross etc. and other Community Based Organizations (CBOs) and Non-government Organizations (NGOs) help in promotion of metallic ICS by awareness raising and contributing a part of fund to be borne by the users as transport subsidy.
- When necessary, Micro Finance Institutions (MFIs) lend credit to metallic ICS users.

**Stove Masters (SMs)**

- SMs are the permanent residents of the locality trained by program in mud-brick ICS construction, whereas the BGs are the informal groups of SMs formed to keep themselves active and focused in the ICS business through self-motivation.
- SMs sell their skill by constructing mud-brick ICS as per the need of prospective user household and charge a fee (in cash or kind, akin with wages of skilled work locally). SMs are responsible to train the users on operation, maintenance and repair of ICS.

**Metallic Stove Manufacturers (MSMs)**

- MSMs are responsible for manufacturing, supplying and installing quality metallic ICS to eligible users as per the designs and specifications provided by AEPC.
- MSMs are responsible for training metallic ICS users on proper operation and maintenance of the system.
- MSMs are responsible to handover the Users' Manual and any other information materials provided from BES/NRREP and train the users on operation and maintenance of the plants.
- MSMs are responsible to complete documentation required for processing of subsidy and for release of the after-sales service guarantee money and submit them to AEPC in a timely manner.
- MSMs are responsible to cooperate and accompany AEPC staff, or any other personnel as assigned and communicated by AEPC, in the field for quality control and other verification purposes.
- MSMs are responsible to visit metallic ICS user households and deliver the promised after-sales service and other services fully respecting the promised guarantee.
- MSMs are responsible for promotion, awareness and other activities that help to promote the technology by linking it with other rural development agencies at the local level.
- MSMs coordinate with DDCs/VDCs, CBOs/NGOs and local development partners to mobilize support for transportation of metallic ICS to the user households in the remote areas.
- MSMs coordinate with banks, MFIs and other CBOs/NGOs to ease credit flow to beneficiaries.

**Users**

The users are the ones who actually use the mud improved cooking stove or metallic improved cooking stoves. The users:

- Request for the installation of the ICS as per their need.
- Payment of installation fee to promoter/stove master
- Regular maintenance of the ICS

**SECTION J. Crediting period type and duration**

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Renewable crediting period with Second crediting period of 7 years duration (27/03/2022 to 26/03/2029).

**SECTION K. Eligibility criteria for inclusion of CPAs**

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The criteria for the inclusion of the CPAs under this PoA in accordance with para 16 of Standard: Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programmes of activities (version 03), EB 74 annex 05 are listed below:

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion
1	Geographical boundary	All CPAs included in this PoA will be located in the host country of Nepal.	<ul style="list-style-type: none"> <li>▪ Geographical coordinates of CPA.</li> <li>▪ CPA database</li> </ul>
2	Double counting	All CPAs included in this PoA will be uniquely identified.	<ul style="list-style-type: none"> <li>▪ Each ICS to be included in the CPA have an ID card with unique number (CDM code) as mentioned in section A.2. These ID cards will be used to prevent double counting of ICS in the PoA as well as other ICS projects.</li> <li>▪ A check in CDM website among other CDM projects and PoAs.</li> </ul>
3	Technology	CPA will implement improved mud and metallic cook stoves having minimum efficiency of 20%.	<ul style="list-style-type: none"> <li>▪ CPA database (confirmation that the ICS implemented under each CPA meets the technical specification as outlined in section A.6 of the PoA DD)</li> <li>▪ WBT test reports by Kathmandu University.</li> </ul>
4	Level of Service	The ICS installed under the CPAs will deliver better services in terms of reduction in indoor smoke and reduced firewood consumption through improved efficiency.	<ul style="list-style-type: none"> <li>▪ This criterion will be met by compliance with the eligibility criteria c (1).</li> </ul>
5	Start date	Conditions that the start date of CPA will be after the PoA start date.	<ul style="list-style-type: none"> <li>▪ Confirmation of start date of a CPA by CME.</li> <li>▪ Start date of PoA through PoA DD</li> </ul>
6	Compliance methodology with	Each CPA complies with the applicability and other requirements outlined in AMS II G version 06.	<ul style="list-style-type: none"> <li>▪ Applicability requirements of the methodology are met by complying the eligibility criteria mentioned in serial number c (1), i, k, and m.</li> </ul>
7	Additionality	Energy saving from an individual unit of CPA will not exceed 5% (9 GWh thermal in this case) of small scale CDM threshold per year as per para 2 (c) of EB 68 annex 27.	<ul style="list-style-type: none"> <li>▪ CPA DD (demonstration that each type of ICS implemented under the CPA will have annual energy savings less than 9 GWh thermal).</li> </ul>
8	Local stakeholder consultation/ Environmental impact analysis	PoA specific requirements related to undertake local stakeholder consultation and environmental impact analysis	<ul style="list-style-type: none"> <li>▪ Section E (Environmental impacts and Section F (Local stakeholder comments) of the PoA DD.</li> </ul>
9	ODA non-diversion	Affirmation that public funding from annex 1 parties doesn't result in a diversion of official development assistance.	<ul style="list-style-type: none"> <li>▪ PoA DD (footnote 2 discusses on the total indicative budget for NRREP and Section A.7 of PoA DD discusses on public funding for PoA. As all the CPAs for this PoA implemented within the span of NRREP would receive public funding from same source, ODA non-diversion need not be verified for CPAs implemented within this period, for the period beyond that, ODA non-diversion will be verified through CPA-DD)</li> </ul>

10	Target group	<ul style="list-style-type: none"> <li>▪ Target group for implementation of ICS under the CPAs will be the households using traditional cooking stoves (TCS) in baseline.</li> <li>▪ Target group for implementation of mud ICS under the CPAs will be individual households located in terai<sup>46</sup>.</li> <li>▪ Target group for implementation of metallic ICS under the CPAs will be individual households located in high hills<sup>47</sup> or hills<sup>48</sup>. In case of households representing hills, the Village Development Committees (VDCs) intersected by 2,000 m contour and north facing VDCs intersected by 1,500 m contour are eligible.</li> </ul>	<ul style="list-style-type: none"> <li>▪ ICS installation form filled up by the stove installer</li> <li>▪ CPA database and list of VDCs eligible for metallic ICS<sup>49</sup>.</li> </ul>
11	Sampling	All CPAs will comply with the conditions of sampling requirements in accordance with the approved Standard: Sampling and Surveys for CDM project activities and PoA.	<ul style="list-style-type: none"> <li>▪ This will be confirmed using criterion in Appendix 5 of PoA-DD.</li> </ul>

<sup>46</sup> 20 Terai Districts as specified by GoN in the Subsidy Policy for Renewable (Rural) Energy 2009 (2066 BS), Annex 2 are Banke, Bara, Bardiya, Chitwan, Jhapa, Dang, Dhanusha, Kailali, Kanchanpur, Kapilvastu, Mahottari, Morang, Nawalparai, Parsa, Rauthat, Rupandehi, Saptari, Sarlahi, Siraha and Sunsari.

<sup>47</sup> 15 High Hill districts as specified by GoN in the Subsidy Policy for Renewable (Rural) energy 2009 (2066 BS), Annex 2 are Bhojpur, Darchula, Jajarkot, Khotang, Sankhuwasabha, Bajhang, Bajura, Dolpa, Humla, Jumla, Kalikot, Manang, Mugu, Mustang and Solukhumbu.

<sup>48</sup> 40 accessible districts in Hills (including mid hill and high hill) as specified by GON in the Subsidy Policy for Renewable (Rural) Energy 2009 (2066 BS), Annex 2 are Achham, Dailekh, Myagdi, Okhadhunga, Ramechhap, Rukum, Terhathum, Arghakhanchi, Baglung, Baitadi, Dadeldhura, Bhaktapur, Dhading, Dhankuta, Dolakha, Doti, Gorkha, Gulmi, Ilam, Kaski, Kathmandu, Kavre, Lalitpur, Lamjung, Makwanpur, Nuwakot, Palpa, Panchthar, Parbat, Pyuthan, Rasuwa, Rolpa, Salyan, Sindhuli, Sindhupalchowk, Surkhet, Syangja, Tanahu, Taplejung and Udaypur, In accordance with the subsidy delivery mechanism 2010, only those household living at altitudes of and above 2000 metres level as well as in VDCs intersected by 2000 meter contour line and north facing houses or families residing in the VDCs located at altitudes of 1500 metres and above are eligible.

<sup>49</sup> There are 1557 VDCs in high hills and hills that are eligible for metallic ICS.

12	Threshold check	The aggregate annual energy savings from the ICS installed under a CPA would not exceed the limit of small scale threshold i.e. 180 GWh thermal in fuel input as per AMS II G version 06 para 5.	<ul style="list-style-type: none"> <li>▪ PoA DD</li> <li>▪ Checking the CPA database that the ICS installation in each CPA is limited to 21,540 in accordance with section B.2 of generic part of the PoA DD.</li> </ul>
13	Debundling check	The CPA is not a debundled component of a large project activity.	<ul style="list-style-type: none"> <li>▪ CPA DD</li> </ul>
14	Other requirements (as per methodology)	Demonstration of use of NRB	<ul style="list-style-type: none"> <li>▪ The baseline report for ICS PoA conducted by an independent third party.</li> <li>▪ The use of NRB is verified by fraction of non-renewable biomass approved by the board (EB 67 annex 22)<sup>50</sup>.</li> </ul>
15	Other requirements (as per methodology) <ul style="list-style-type: none"> <li>▪ Choice of values of parameters for fNRB and B<sub>old</sub> and monitoring approach for B<sub>y,savings</sub>,</li> </ul>	The national default values for fraction of non-renewable biomass approved by the board will be used (as per criteria “m” of CPA inclusion) and values of parameters B <sub>old</sub> will be determined at PoA level. Similarly the monitoring approach for B <sub>y,savings</sub> will also be determined at PoA level.	<ul style="list-style-type: none"> <li>▪ CPA DDs and corresponding PoA DD</li> </ul>
16	Others	Signed agreement for ER right transfer	<ul style="list-style-type: none"> <li>▪ ER right transfer form included in the installation report.</li> </ul>

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<sup>50</sup> Information note: Default values of fraction of non renewable biomass for least developed countries and small island developing States (version 01.0)

## Appendix 1. Contact information of coordinating/managing entity and project participants

<b>Coordinating/managing entity and/or project participants</b>	<input checked="" type="checkbox"/> Coordinating/managing entity <input type="checkbox"/> Project participant
<b>Organization name</b>	Alternative Energy Promotion Centre (AEPC)
<b>Country</b>	Nepal
<b>Address</b>	Mid Baneshwor, Kathmandu, P.O. Box – 14237 (Kathmandu)
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## Appendix 2. Affirmation regarding public funding



CLIMATE AND  
POLLUTION  
AGENCY

Alternative Energy Promotion Centre  
G.P.O.Box No 14237 Katmandu  
Khumaltar, Lalitpur  
NEPAL

Climate and Pollution Agency  
P.O.Box 8100 Dep, N-0032 Oslo,  
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Att. Raju Laudari

Date: 19 January 2012

Our ref.: 2009/832

Your ref.:

Contact person: Hans H. Kolshus

### Official Development Assistance Non-Diversion Letter

The Climate and Pollution Agency, being the Norwegian Designated National Authority (DNA) under the Clean Development Mechanism (CDM), hereby confirms that:

- Norway provides Official Development Assistance to the Government of Nepal for the implementation of the national Improved Cooking Stove (ICS) Program. The ICS Program is implemented through the Alternative Energy Promotion Centre (AEPIC).
- Norway does not intend to receive Certified Emission Reductions (CERs) to be generated from this CDM program of activities.
- The public funding from Norway does not result in the diversion of official development assistance.

Signed on behalf of Norway's Designated National Authority for the CDM,

Yours sincerely,

Audun Rosland  
Director of the Climate Department

**EMBASSY OF DENMARK**  
Kathmandu

Alternative Energy Promotion Centre  
G.P.O. Box No. 14237 Kathmandu  
Khumaltar, Lalipur  
Nepal

Att. Raju Laudari

Enclosure

File  
104.Nepal.802-300.KTM.

Department

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12 February 2013

**Official Development Assistance Non-Diversion Letter**

The Embassy of Denmark on behalf of the Danish Ministry of Foreign Affairs hereby confirms that:

- Denmark provides Official Development Assistance to the Government of Nepal for the implementation of national Improved Cooking Stove (ICS) Program under the National Rural and Renewable Energy Programme (NRREP). Alternative Energy Promotion Centre (AEPCC) is an executive Agency of this program.
- Denmark does not intend to receive Certified Emission Reductions (CERs) to be generated from any CDM Program of Activity (CPAs) of this ICS Programme of Activities (PoA) CDM.
- The public funding from Denmark does not result in diversion of official development assistance.

Yours Sincerely

  
Ditte Bjertgaard  
First Secretary

### Appendix 3. Applicability of methodologies and standardized baselines

Refer to section I.2

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

Description	Parameter	Value	Unit	Type
Emission reductions during the year y	$ER_{y,i,j}$	34,519	tCO <sub>2</sub> e	Calculated
Quantity of woody biomass that is saved	$B_{y,savings\ i,j}$	1.8363	tonnes	Calculated
Number of project devices of type i operating in year y,	$N_{o,i,j}$	21,540	NA	Calculated
Number of days of utilization of the project device during the year 'y'	$\mu_y$	1	NA	Calculated
Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass	$f_{NRB,y}$	91.44	%	Fixed ex-ante
Net calorific value of the non-renewable woody biomass that is substituted (0.0156 TJ/tonne)	$NCV_{biomass}$	0.0156	TJ/tonne	Fixed ex-ante
Emission factor for the substitution of non-renewable woody biomass by similar consumers. (64.6 tCO <sub>2</sub> /TJ)	$EF_{projected\_fossilfuel}$	64.40	tCO <sub>2</sub> /TJ	Fixed ex-ante
Leakage attributable to the project devices operating in year y	$LE_y$	0.95	%	Fixed ex-ante

### Appendix 5. Further background information on monitoring plan

As per the "Sampling and surveys for CDM project activities and program of activities" standard, the recommended sampling plan is as following:

#### (a) Sampling Design:

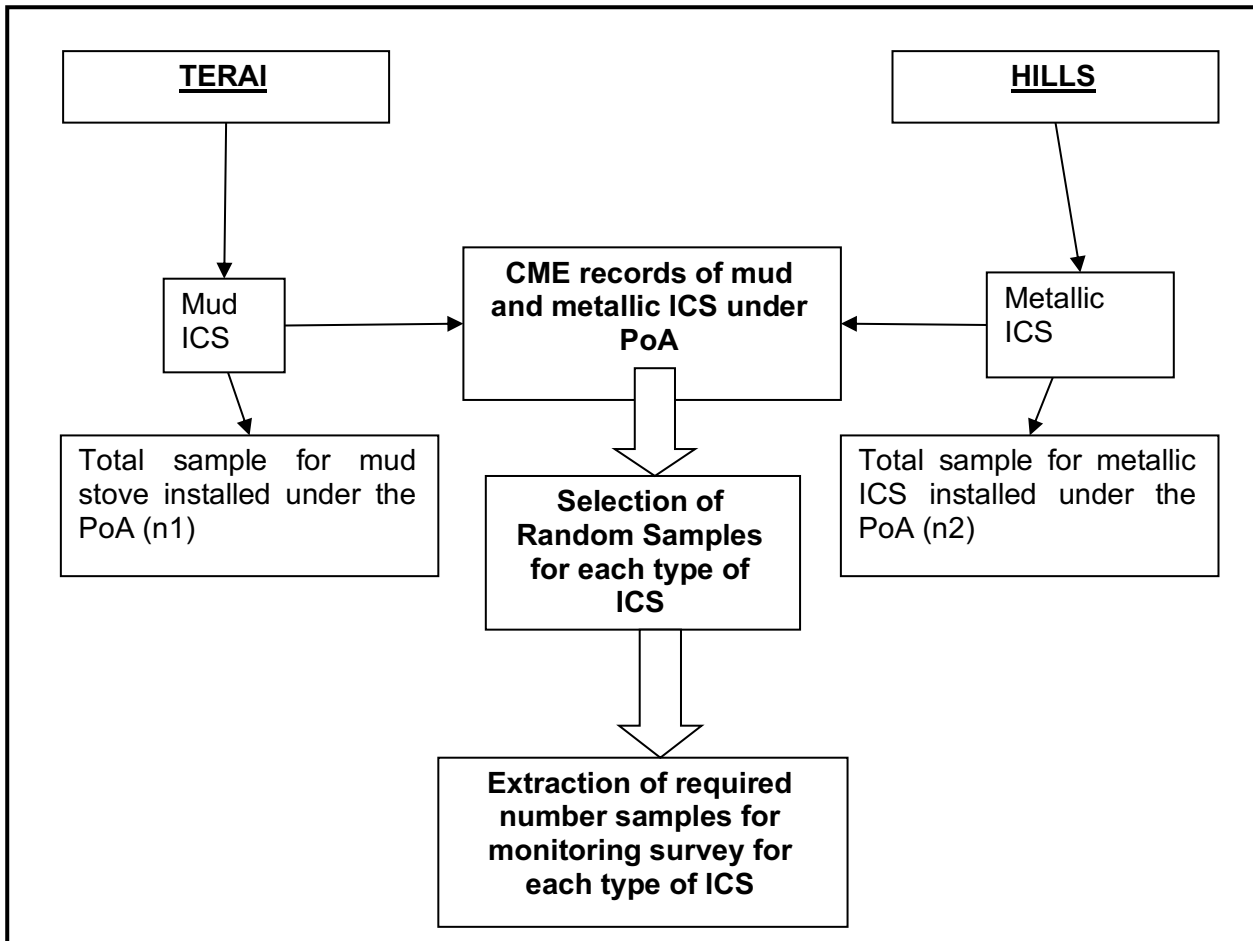
Monitoring of individual ICS units distributed across different CPAs of the PoA would require enormous amount of time and money. Therefore, the CME has opted to conduct monitoring of sampled ICS units falling under each type of ICS at the PoA level.

- i. **Objectives and reliability requirements:** The objective of the sampling plan is to achieve unbiased and reliable estimates of the proportion or the mean value of the key variables over the crediting period. As per the sampling and survey standard in case "where there is no specific guidance in the applicable methodology, project proponents shall use 90/10 confidence/precision as the criteria for reliability of sampling efforts for small-scale project activities and 95/10 for large scale project activities. Where two or more project activities, CPAs or PoAs are grouped for undertaking a common survey it shall be ensured that a

confidence/precision of 95/10 is achieved for each of the project activity, CPA or PoA that is included in the group for the survey.” The methodology applied for the PoA (AMS.II.G version 12/para 48 illustrated that the project proponent achieving biennial inspection requires 95 percent confidence interval and a 10 percent margin of error while for annual inspection 90 per cent confidence interval and a 10 per cent margin of error shall be achieved for the sampled parameters. As the CME has opted for PoA level annual inspection, the survey will be conducted to achieve the confidence/precision of 90/10 and this is in accordance with the requirements set out as per methodology and sampling standard. The table below provides the monitoring parameters that will be monitored annually:

Parameter	Type	Description
$N_{y,i,j}$	Proportional parameter	Number of project devices of type $i$ and batch $j$ operating in year $y$ under this PoA in Nepal

- ii. **Target Population:** The target population for different parameters discussed in the table above are given below:
  - For the proportional parameter; the target population is the ICS users of different ICS types  $i$  (metallic and mud) disseminated under the PoA and listed in CME records.
  - For the mean value parameter; the target population is the total number of operational ICS of types  $i$  (metallic and mud) for which the emission reductions will be accounted for the monitoring period in question. The mean value parameter, unless and otherwise required by the estimated number of samples (if it is greater than the sample estimate for the proportional parameter) will be the subset of the operational ICS as identified during the annual monitoring surveys.
  
- iii. **Sampling frame:** The PoA broadly implements mud ICS prepared by the stove masters and factory built metallic stoves. While variant of mud ICS are implemented in Terai region, the variants of metallic ICS are implemented in hilly regions will implement different type models of ICS in two broad ecological zones of Nepal (Hills and Terai). In order to account these differences, the CME has considered the following to ensure the homogeneity of the ICS population under discussion.
  - There are specific installation requirements for the metallic and mud ICS i.e. metallic ICS will be installed in the high hill region and mud ICS will be installed in the plain land of terai. Hence the homogeneity shall be ensured in terms of geographical location and types of ICS (mud and metallic).
  - For the purpose of sampling, PP has decided to opt the stratified random sampling for type  $i$  of ICS implemented under the PoA i.e. sampling estimate for mud and metallic ICS implemented in the PoA will be done separately, also accounting for the age of the ICS type.
  
- iv. **Sampling Method:** Sampling will be conducted using stratified random sampling techniques, and detailed calculations are provided within the monitoring plan as per CDM guidelines “Sampling and surveys for CDM project activities and programmes of activities” the ICS shall be stratified by region, ICS type and age. This will be achieved from the ICS installation record maintained by CME for the PoA. From the population of ICS, required sample will be extracted separately for the metallic and mud ICS. The scheme of the sampling method is given below:



- v. **Sample Size:** The calculation of the required sample size for each parameter will be calculated at 90/10 confidence/precision as required for the annual monitoring. The sample size is determined using the Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities.

Stratified Random Sampling will be used to select samples from the Project Database for monitored parameters. The sampling approaches will be used in accordance with “Sampling and surveys for CDM project activities and programmes of activities” and Guideline for Sampling and Surveys for CDM Project Activities and Programme of Activities version 4.0,

With the level of precision of 10% and a confidence level of 90% will be assessed for the relevant parameter (% of ICS operational). The minimum sample size is calculated using the procedure outlined in para 24 of Appendix 1 of the guideline. The sample size shall be determined using the following formula

$$n \geq \frac{1.645^2 NV}{(N-1) \times 0.1^2 + 1.645^2 V}$$

Where,  
 n = number of stoves to be sampled  
 N = Total number of ICS in each CPA

Where:  $V = \frac{SD^2}{\bar{p}^2} = \frac{\text{overall variance}}{\bar{p}^2}$  and  $\bar{p}$  is the overall proportion.

Where:

$$SD^2 = \frac{(g_a \times p_a(1 - p_a)) + p_b(g_b \times (1 - p_b)) + (g_c \times p_c(1 - p_c)) + \dots + (g_k \times p_k(1 - p_k))}{N}$$

$$\bar{p} = \frac{(g_a \times p_a) + (g_b \times p_b) + (g_c \times p_c) + \dots + (g_k \times p_k)}{N}$$

Where,

$g_i$  = weight of strata  $i$  in the population

$p_i$  = expected proportion of strata  $i$  in the population

The sample in each strata then will be calculated as below:

$$n_i = \frac{g_i}{N} \times n$$

Sample sizes will be sufficient to ensure that the precision of the sample means/proportions are in accordance to the Sampling Frame established for the CPA within the PoA to estimate emissions reductions. In cases where survey results indicate that desired precision is not achieved, the lower bound of corresponding confidence interval of the parameter value may be used as an alternative to repeating the survey. Alternatively, the survey may be expanded to reach the required confidence/precision.

Substituting the values of “N” in equation above for each type of the ICS model implemented under the CPA, the sample size will be deduced. However, if the resulting sample size based on the above equation is smaller than 30 ICS, then as the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the Student’s t-distribution shall be used.

**(b) Data:**

**(i) Field Measurements:**

1. Checking of a representative sample of each type of ICS installed every year to ensure that they are still operating ( $N_{y,i,a,j}$ ).
2. The replaced pre project devices are disposed of and not used within the boundary
3. Determination of the efficiency of a representative sample of each type of ICS using the default schedule linear decrease in efficiency..

**(ii) Quality Assurance/Quality Control:**

CME will apply measures to ensure the required confidence/precision for each sampled parameter is met, allowing for non-responses and answer bias from the sample, as part of a Quality Control/Quality Assurance system. During survey implementation, responses shall be sought on operating status (yes or no) of ICS units by ICS using households followed by thermal efficiency testing of the ICS units (as derived from section above) that are operational

The survey will be performed by a competent team selected by the CME after evaluating their technical and financial proposals. The team will visit the sampled households for conducting the survey. During the survey, in order to anticipate any low response rate and answers bias, 10% oversampling will be applied.

**(iii) Analysis:**

- (i) Checking of a representative sample of each type of ICS installed every year to ensure that they are still operating ( $N_{y,i,j}$ )
- (ii) Determination of the efficiency of a representative sample of all devices using the default schedule linear decrease in efficiency
- (iii) The replaced pre project devices are disposed of and not used within the boundary;

It will be ensured by the AEPC that the survey includes the parameters (i), (ii) and (iii) to be monitored by the independent third party and this will be clearly mentioned in the Terms of Reference (ToR) prepared by AEPC to hire qualified independent third party. The independent third party consists of a team comprising of a team leader, statistician and field technician. Field technicians will be trained for data collection. The field technicians will fill the questionnaire through face to face interview with the ICS users and inspect sampled ICS user household to ensure that it is operating and the traditional stove has been displaced. The traditional stoves are either tri-pod stoves or three stone stoves or other types of mud stoves which the user need to dismantle or dispose after the installation of new ICS. AEPC will ensure that all the questionnaires required for the monitoring of the parameters are completed. To remedy the incomplete questionnaires and non-responses the sample size will be enlarged at least by 10% for the proportional parameters.

The independent third party will collect, compile and analyze the data to derive the number of stoves disseminated, the percentage of ICS in operation, displacement of traditional cooking stove by ICS users. AEPC will prepare “monitoring report” based on the survey report prepared by the independent third party.

The data collected will be compiled in Excel sheets and/or other software and analyzed to derive the percentage of ICS in operation and the efficiency of the ICS installed by households.

There might be some cases of traditional stoves not dismantled in the user household due to cultural or religious reason. In such cases the traditional stoves are not used for cooking purpose but for worshipping, therefore such cases would not be considered as use of traditional stove beside ICS. The use of traditional stove (if found during monitoring) for cultural or religious reason will be confirmed and documented. Details about the use of traditional stove for cooking purpose or religious/cultural purpose shall be provided by the third party in a separate section in the annual survey report produced by the third party.

Apart from this, during the sampling if it is found out that household continue using traditional stove along ICS which have already been included in the PoA, the equivalent proportion shall be accounted as downtimes for the ICS under consideration and adjusted accordingly during emission reduction calculation.

**(c) Implementation:**

The survey questionnaire will be prepared by independent third party in close coordination with AEPC. The survey team will be trained prior to their dispatch to the field.

Paramet	Objective	Timefram	Method of	Use of Data	Target	Sampling
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er		e/ Frequenc y	Data Collection		Populatio n	Frame
N <sub>y,i,a</sub>	Total number of improved cooking stoves that are operational	Measurement taken every year	Semi Structured questionnaire survey conducted among the user households	Monitoring will ensure that the ICS implemented through the project is operational and has displaced low efficiency appliances from the project boundary.	ICS user households	List of households having ICS installed/purchased.

## Appendix 6. Summary report of comments received from local stakeholders

Please refer section F.3

## Appendix 7. Summary of post-registration changes

Apart from editorial corrections to improve interpretation, the key change made in this version of the document is for the change from CPA level sampling to PoA level sampling.

### Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
10.0	8 October 2021	Revision to: <ul style="list-style-type: none"> <li>Ensure consistency with version 03.0 of the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN).</li> </ul>
09.0	31 May 2019	Revision to: <ul style="list-style-type: none"> <li>Ensure consistency with version 02.0 of the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN);</li> <li>Make editorial improvements.</li> </ul>
08.1	28 June 2017	Revision to: <ul style="list-style-type: none"> <li>Remove a duplicated instruction;</li> <li>Make editorial improvement.</li> </ul>



<i>Version</i>	<i>Date</i>	<i>Description</i>
08.0	7 June 2017	Revision to: <ul style="list-style-type: none"> <li>• Improve consistency with the “CDM project standard for programmes of activities” and with the PDD and CPA-DD forms;</li> <li>• Make editorial improvement.</li> </ul>
07.0	25 May 2017	Revision to: <ul style="list-style-type: none"> <li>• Ensure consistency with the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN) (version 01.0);</li> <li>• Incorporate the “Programme design document form for small-scale CDM programmes of activities” (CDM-SSC-PoA-DD-FORM);</li> <li>• Make editorial improvement.</li> </ul>
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"> <li>• Include provisions related to choice of start date of PoA;</li> <li>• Include provisions related to delayed submission of a monitoring plan;</li> <li>• Provisions related to local stakeholder consultation;</li> <li>• Add exception for generic CPA where technology is under positive lists;</li> <li>• Make editorial improvement.</li> </ul>
04.1	5 August 2014	Editorial revision to correct the document information table.
04.0	25 June 2014	Revision to: <ul style="list-style-type: none"> <li>• 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));</li> <li>• Include provisions related to standardized baselines;</li> <li>• 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;</li> <li>• Add general instructions on post-registration changes in paragraphs 2 and 3 of general instructions and Appendix 6;</li> <li>• Change the reference number from F-CDM-PoA-DD to CDM-PoA-DD-FORM;</li> <li>• Make editorial improvement.</li> </ul>
03.0	3 December 2012	EB 70 Revision to reflect changes to the <i>Guideline: Completing the programme design document form for CDM programmes of activities</i> (EB 70, Annex 6).
02.0	13 March 2012	EB 66 Revision required to ensure consistency with the "Guidelines for completing the programme design document form for CDM programmes of activities" (EB 66, annex 12).

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<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	27 July 2007	EB 33, Annex 41 Initial publication.

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