




**Validation report form for  
CDM programme of activities  
(Version 03.0)**

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

**BASIC INFORMATION**

<b>Title of the programme of activities (PoA)</b>	IDCOL Improved Cook Stove Program
<b>Version number of the validation report</b>	02
<b>Completion date of the validation report</b>	06/10/2019
<b>Version number of PoA-DD to which this validation report applies</b>	03
<b>Date when PoA-DD was uploaded for global stakeholder consultation</b>	19/07/2019
<b>Coordinating/managing entity (CME)</b>	Infrastructure Development Company Limited
<b>Host Parties</b>	Republic of Bangladesh
<b>Applied methodologies and standardized baselines</b>	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass, Version 10.0
<b>Mandatory sectoral scopes</b>	Sectoral scope: 3 (Energy Demand)
<b>Conditional sectoral scopes, if applicable</b>	NA
<b>Name and UNFCCC reference number of the DOE</b>	LGAI Technological Center, S.A. ( Applus + Certification)- E-0032
<b>Name, position and signature of the approver of the validation report</b>	Mr. Juan Sendín Caballero Applus+ Certification Business Unit Managing Director Signature: 

## SECTION A. Executive summary

LGAI Technological Center, S.A. accredited DOE E-0032 (hereinafter referred to as *Applus+ Certification* or just the *DOE*) has been contracted by PoA's CME to undertake the validation of the proposed CDM programme of activity titled "IDCOL Improved Cook Stove Program". The objectives of this PoA validation is to do an independent and objective review of the PoA design document, the project's baseline study and monitoring plan and other relevant documents and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.

The objective of this proposed PoA is to distribute energy efficient Improved Cooking Stove (ICS) in Bangladesh, where the improved cook stove distributed, will consume less fuel, produce less smoke and replaces the traditional biomass fired stoves in the households. In this proposed PoA, three types of ICS Tier 2, Tier 3 and Tier 4 with thermal efficiency of 25%, 35% and 45% respectively are proposed and these stated efficiencies are the lower limit as confirmed with undertaking provided by BUET/23/. The PoA will reduce a significant amount of emissions that would have been generated in the baseline scenario prior to the PoA implementation, where the traditional cookstoves would have been used. The PoA will reduce the GHG emission occurring from the combustion of non-renewable biomass, i.e., fuel wood, thereby also contributing to sustainable development. ICSs that will be disseminated under this PoA are more efficient in transferring heat from the fuel to the pot than the traditional stoves.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria for CDM requirements as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to the Kyoto Protocol, the CDM rules and modalities as agreed in the Bonn Agreement, the Marrakech Accords and the CDM Executive Board's decisions.

The review of the PoA design documentation and the subsequent follow-up interviews have provided Applus with sufficient evidence to determine the project's fulfillment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CDM.

The validation team has, based on the recommendations in the Validation and Verification Standard version 2.0/5/ and employed a risk based approach in the verification, focusing on the identification of significant risks and reliability of project, monitoring plan and generations of CERs. The validation is not meant to provide any consulting towards the client. However, stated request for clarifications and/or corrective actions may provide input for improvement of the project design.

## SECTION B. Validation team, technical reviewer and approver

### B.1. Validation team members

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interview(s)	Validation findings
1.	Lead Auditor/ Technical Expert	OR	Kumar	Pankaj	True Quality Certifications Private Limited- Outsourced entity	YES	YES	YES	YES

**B.2. Technical reviewer and approver of the validation report**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical Reviewer	EI	Diaz	Miguel A. Cortes	Applus+ Certification
2.	Approver	IR	Sendín Caballero	Juan	Applus+ Certification

**SECTION C. Means of validation****C.1. Desk/document review**

As a first step, the validation team reviewed the initial PoA-DD and additional background documents submitted by PP. As a result of these findings, PP has submitted the final PoA-DD/1/ (hereinafter referred to as initial PoA-DD) addressing the issues.

On-site inspection

**C.2. On-site inspection**

Duration of on-site inspection: 26/08/2019 to 27/08/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	<ul style="list-style-type: none"> <li>➤ General information about the project.</li> <li>➤ Serious consideration of CDM.</li> <li>➤ Chronology of Events/ Implementation cycle of the project activity.</li> <li>➤ Barriers faced/overcome in the processes (additionality)</li> <li>➤ Local Stakeholder consultation processes</li> <li>➤ Legal/ Statutory Clearances and Agreements Signed</li> <li>➤ Baseline determination</li> <li>➤ Application of appropriate Methodology</li> <li>➤ Operation and maintenance Procedures</li> <li>➤ Technical details of project</li> <li>➤ Data monitoring and storage practices</li> <li>➤ Calibration and maintenance requirement of the equipment</li> <li>➤ Monitoring Methodology</li> <li>➤ Review of the implementation status of the project activity.</li> <li>➤ Review of applicability conditions of the applied CDM baseline and monitoring methodology and</li> </ul>	IDCOL Office, Dhaka	26/08/2019	Pankaj Kumar

	<p>applicable methodological tools.</p> <ul style="list-style-type: none"> <li>➤ Check on applicable National policies and regulations and their eventual impacts in terms of changing of the baseline scenario ad baseline emissions.</li> <li>➤ Validation of the values of ex-ante determined parameters.</li> <li>➤ Review of the Monitoring plan.</li> <li>➤ Validation of Stakeholder Consultation by interviewing the stakeholders.</li> </ul>			
2.	Product operation, installation dates, baseline stove. Socio economic benefits	Kaliakoir, Ghajipur, Bangladesh	27/08/2019	Pankaj Kumar

## C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Shahed	Mr. A F M	AVP & Unit Head, ICS Programme, IDCOL	26/08/2019	On the Project Implementation, Monitoring team, QA/QC procedure, etc.,	Mr. Pankaj Kumar
2.	Tazdik	Mr. Junaed	Manager (RE), IDCOL			
3.	Baki	Mr. Abdullah	Manager (ICS), IDCOL			
4.	Haque	Ms. Sajidaa	Asst. Manager (ICS), IDCOL			
5.	<b>PO Office in Ghazipur district:</b>  Mr. Yakub Hossain, Ex. Director, VERC  Md. Masud Hassan, Director, VERC  Mr. Mainul Islam, Director, VERC  Ms. LailalshratJahanRuen, Assi. Director, VERC			27/08/2019	On the Project Implementation, LSC and their feedback on the project	
6.	Community office of Village Education Resource Center (VERC)in Kaliakoir, Ghazipur district			27/08/2019		
7.	--	Ms. Deepa	ICS User	27/08/2019	Product operation, Installation date, baseline stove	Mr. Pankaj Kumar
8.	--	Ms. Zainab	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
9.	--	Ms. Akhiya	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
10	Jehan	Ms. Noor	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
11	Saha	Ms. Rani	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
12	--	Ms. China	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
13	--	Ms. Alo	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
14	Saha	Ms. Jyotsna	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar

15	Saha	Ms. Anjali Rani	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
16	--	Ms. Aklima	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
17	Begum	Ms. Sufia	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
18	--	Ms. Nargis	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
19	--	Ms. Zahoor	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
20	Begum	Ms. Milli	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
21	--	Ms. Rozina	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar
22	--	Ms. Mehbooba	ICS User	27/08/2019	Product operation	Mr. Pankaj Kumar

#### C.4. Sampling approach

##### CME's sampling approach:

According to AMS-II.G, "it is assumed that in the absence of the project activity, the baseline scenario would be the projected use of fossil fuels to meet similar thermal energy needs as those provided by the project devices." As per PoA description in section A.1 of the PoA-DD, the project devices are ICS using non-renewable biomass (wood fuel) for all CPAs.

The sampling method is provided by the CME for the CPA implementer is to be applied before the CPA implementation. The sampling of each parameter is to determine via survey a statistically significant value for the emission reduction calculations. The sampling details are transparently provided in the PoA-DD.

The sampling approach undertaken by CME is duly explained under section I.7.2 of PoA-DD /1/, which has been assessed by the validation team and in line with the "Standard for sampling and surveys for CDM project activities and programme of activities" version 7.0/9/. The CME will conduct cross sampling with a confidence precision of 95/10 which is in accordance with the requirements set out as per methodology and sampling standard

##### DOE's sampling approach:

As para 26, Standard: Sampling and surveys for CDM project activities and programme of activities, version 7.0 /9/, when the project participants or the CME have not applied a sampling approach, the DOE may apply sampling approach, choosing a different confidence/ precision than the ones indicated, provided that samples are randomly selected and are representative of the population. Since the PoA is located in a least developed country<sup>1</sup>, applying paragraph 33 (c) of the Standard for "Sampling and surveys for CDM project activities and programmes of activities" version 07.0/9/, a sample size of 15 households was chosen (with no discrepant records). A sample size of 14 was required, based on an AQL of 1 % and UQL of 20 %, producer risk 5 % and consumer risk 20 %. Acceptance number (c) thus determined for the sample is 1. DOE visited 15 samples. CME's set of

<sup>1</sup>Bangladesh is considered as a Least Developed Country, and the same has been checked by the DOE in this [LINK](#).

records has been accepted in line with the Standard for “Sampling and surveys for CDM project activities and programmes of activities” version 07.0/9/, Paragraph 33.

The DOE has applied 90/30 confidence/ precision and randomly selected 15 samples from database to check and study the design of the PoA. One extra sample was covered to address the non-availability/ non-response of the household owner. Therefore, total 16 households were visited by the team leader/ technical expert. Random sampling of households by DoE during site visit establishes the fact that cooking by rural households is predominantly done in traditional stoves using fuel wood. Sampling survey suggests that still penetration of ICS is around 3-5 % only in the households of Bangladesh.

The entire household visited were found to be having an inefficient stove as baseline stove which were broken, abandoned and replaced by new stove. The ICS disseminated had, unique serial no. nameplate, clearly visible, pasted on the stove and the end users confirmed that they have stopped using the old stove. Therefore, no inconsistencies were observed.

The sampling as discussed in PoA-DD were checked against the requirements of applied methodology and Standard for “Sampling and surveys for CDM Project activities and Programme of Activities, version 7.0/09/. The assessment team has also reviewed the ICS test report which is tested at the testing lab recognized by Host country. The sampling approach including sampling design, sampling size calculation is found correct and in line with the requirement of the methodology.

#### **C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised**

<b>Areas of validation of compliance</b>	<b>No. of CL</b>	<b>No. of CAR</b>	<b>No. of FAR</b>
<b>Programme of activities</b>			
Identification of programme type			
Description of PoA	CL 02		
Management system			
Demonstration of additionality of PoA			
Start date and duration of PoA			
Environmental impacts	CL 4		
Socio-economic impacts	CL 4		
Local stakeholder consultation		CAR 8	
Sustainable development co-benefits		CAR 1	
Approval		CAR 2	
Authorization		CAR 2	
Modalities of communication		CAR 2	
Global stakeholder consultation			
<b>Generic component project activities</b>			
General description of generic CPA	CL 5	CAR 4	
Selection of methodologies and standardized baselines			
<ul style="list-style-type: none"> <li>Deviation from methodologies and/or methodological tools</li> </ul>		CAR 06	
<ul style="list-style-type: none"> <li>Clarification on applicability of methodology, tool and/or standardized baseline</li> </ul>	CL 01 & CL 03		

Application of methodologies and standardized baselines			
• General			
• Project boundary, sources and GHGs			
• Baseline scenario		CAR 03	
• Estimation of emission reductions or net anthropogenic removals		CAR 07	
• Monitoring plan		CAR 5	
Crediting period type and duration			
Eligibility criteria for inclusion of CPAs			
Others (please specify)			
<b>Total</b>	5	8	

## SECTION D. Validation findings

### D.1. Programme of activities

#### D.1.1. Identification of programme type

<b>Means of validation</b>	<p>This PoA is the replacement of traditional cook stoves by Improved Cook Stoves (ICS) in Bangladesh, which in turn will reduce deforestation for wood and high expenditure in fuel for cooking.</p> <p>The PoA is a type Type-II small scale project activity. The PoA will be implemented using the approved methodology AMS-II.G, Version 10.0/2/ - Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass. This category comprises appliances involving the efficiency improvements in the thermal applications of non-renewable biomass. Examples of these technologies and measures include the introduction and distribution of the improved cooking stoves by Infrastructure Development Company Limited (IDCOL).</p>
<b>Findings</b>	No findings
<b>Conclusion</b>	The validation team confirms that the PoA has correctly identified the type and category of the project activity. The PoA-DD is correctly applying the template and following the guidelines as set in CDM-PoA-DD-FORM, version 09 /8/ and in line with VVS for PoA, version 2.0 para 37.

#### D.1.2. Description of PoA

<b>Means of validation</b>	<p>The PoA titled "IDCOL Improved Cook Stove Program" in Bangladesh supported by World Bank as the Trustee of the CF-assist which aims to disseminate improved cookstove that will replace the traditional stove and lead to reduction in GHG emissions. The CME of the PoA is Infrastructure Development Company Limited (IDCOL), a development financial institution established by Bangladesh Government in 1997. The title of the PoA and the name of the CME were checked and found to be exactly same as stated in the letter of Approval obtained from the Host country /45/. The CME has also submitted filled MoC /46/ form to inform who will be the local focal point of CME to communicate with the UNFCCC regarding the project.</p> <p>The purpose of this PoA is the dissemination of improved cooking stoves (ICS) in all the districts of Bangladesh. The Project Activity will replace conventional stoves using fuel</p>
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wood with improved cook stoves. These ICS are more efficient in transferring heat from the fuel to the pot, thus saving fuel compared to the stoves currently used in Bangladesh

CME has proposed to include following types of stoves in proposed PoA but they also clarified that these model type of stoves will not be limited to the existing models, further ICS models could be included in the programme.

Tiers	Tier 2	Tier 3	Tier 4
Thermal Efficiency (%)	≥ 25%	≥ 35%	≥ 45%
ICS Model Type <sup>2</sup>	1. 10" Single mouth concrete 2. 9-8" Double mouth concrete	1. 8" Concrete portable 2. 10-9" Double mouth concrete	1. 6-9" Metal portable 2. 6-4" Metal portable

The improved cook stove has higher thermal efficiency. The households from database visited during the site visit, technical drawings of the stoves and thermal efficiency certificates /22/23/ of the stoves were all checked and found to meet the methodology requirements. The geographical boundaries will cover entire Bangladesh. The replacement of traditional stoves by ICS reduces the amount of GHG emitted into the atmosphere.

The individual users using ICS will sign an agreement with the CME acknowledging the inclusion of their stove into CPAs under this PoA. The PoA is undertaken voluntarily by the CME in Bangladesh

The physical and geographical boundary of PoA is entire host country i.e., districts of Bangladesh as validated during site visit by interviewing the top management of CME. Validation team checked the declaration from CME/20/ dated 19/09/2019 that no funds for ODA (Official Development Assistance) will be used for program implementation which is one of the eligibility criteria also and before inclusion of any CPA will have to provide such declaration.

The start date of the PoA is 16/09/2018, which is the date of notification to DNA and the UNFCCC secretariat of prior consideration to implement this PoA/06/, thus meets the requirement of para 41 of PoA version 2.0 /05/.

The DoE confirms that:

- The proposed PoA is a voluntary action by the CME
- A generic CPA part of a PoA-DD /01/ (hereinafter referred to as generic CPA-DD) has been prepare for the only technology (ICS dissemination), with methodology AMS-II.G, version 10.0/02/ and thereof, the technology stated in one generic CPA-DD /01/ in accordance with the relevant requirements in the "CDM project standard for programme of activities"/04/.
- The purpose of the Programme is to reduce the greenhouse gas emission

<sup>2</sup>The model type is not limited to the existing models, further ICS models could be included in the programme.

	<p>through the replacement of traditional cook stoves by improved cook stoves. Implementation of the proposed CDM activity will reduce the usage of non-renewable biomass i.e., fuel wood for users for cooking purposes. Thus, the PoA will reduce the GHG emission occurring from the combustion of non-renewable biomass, i.e., fuel wood, thereby also contributing to sustainable development. ICSs that will be disseminated under this PoA are more efficient in transferring heat from the fuel to the pot than the traditional stoves in Bangladesh. The household owners and the local manufacturers interviewed during the site visited confirmed the same.</p> <p>The description in the PoA-DD /01/ includes all information required by the PS for PoA, version /04/ and the template guidelines /08/. All the information was confirmed through various means and stated above as well through on site observations. Thus, it can be concluded that the description of the PoA in Po-DD /01/ is accurate and complete.</p>
<b>Findings</b>	CL01, CL02 and CAR 01 were raised in this section
<b>Conclusion</b>	<p>The validation team confirms that the PoA will reduce the greenhouse gas emission through the replacement of traditional cook stoves by ICS in Bangladesh. The information presented in the PoA-DD regarding the framework are reviewed and based on onsite interviews/ inspection of the PoA is confirmed.</p> <p>Policy/measure and stated goals are clearly defined and will be supported by the proposed PoA. This will in turn reduce deforestation, health risk; improve life quality and sustainability in Bangladesh through participation of the people in adopting fuel efficient stoves. The project will contribute by reducing emission of GHG into the atmosphere.</p> <p>Based on the site visit and document review, the validation team confirms that the PoA-DD contains a clear description of the project that provides a clear understanding of the precise nature of the PoA. This description is also found to be accurate and complete. PoA is a voluntary action, CME and PP are unambiguously identified, project boundary is clearly defined, technology and measures are clearly described and declaration from CME/20/ dated 19/09/2019 that no funds for ODA ( Official Development Assistance) will be used for program implementation</p>

### D.1.3. Management system

<b>Means of validation</b>	<p>The CME of the PoA is IDCOL (Infrastructure Development Company Limited). CME has dedicated Project Management Unit (PMU), whereas IDCOL Board is responsible for oversight, policy guidance and monitoring of the PMUs. IDCOL will implement the PoA with the help of Partner Organizations (PO) who are mostly NGOs or Private entity.</p> <p>Contractual agreement signed between the CME and POs /18/ was checked to confirm that the CME is the sole beneficiary of carbon credits generated from each CPA under this PoA.</p> <p>Roles and responsibilities as checked from the contractual agreement /18/ include following:</p> <p>As CME, IDCOL will be responsible for:</p> <ul style="list-style-type: none"> <li>• General management and financing of the PoA;</li> <li>• Communications with the CDM EB, including on matters related to PoA/CPA inclusion, validation, verifications and emission reductions</li> <li>• Identification of CPA implementers and selection and preparation of CPAs for their inclusion in the PoA, ensuring that any CPAs under the PoA are</li> </ul>
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neither registered as an individual CDM project activity nor included in another registered PoA

- To ensure that the same approved baseline and monitoring methodology is applied to all the CPAs;
- To establish CER ownership agreements with the CPA implementer;
- To ensure that the CPA implementer have CER transfer agreements with each local partner
- To establish and manage the data base (document control for each CPA) for calculating ERs based on data received from the CPA implementer; and
- To facilitate validation and verification of the program by a Designated Operational Entity.
- Training and capacity development of POs and maintaining training records.
- Improvement in Management system as and when required.

The role of CPA Implementer is detailed below:

- To identify local partners, who'll manufacture ICS as per specifications and materials as communicate by CME
- To execute agreement with the local partners, for transfer of emission reductions in favour of CME.
- To execute agreement with the ICS beneficiary, for transfer of emission reductions in favour of CME.
- Disbursement of incentives/subsidies to the local partner (according to their role and as per CME instructions, if any).
- Inspection of installed ICS, Collection of ICS data from the field and recording / archiving of collected data.
- Ex-post Monitoring of ICS installed for performance, usage as per monitoring requirements set out in the registered monitoring plan.
- Training of local partners on production, installation, maintenance and after-sales services of ICS and maintaining records.

The role of local partner is detailed below:

- Manufacture / install ICSs at beneficiary households.
- To execute agreement with the ICS beneficiary, for transfer of emission reductions in favour of themselves / CME.
- Collect and record the end user information, including but not limited to, date of ICS installation, its location and baseline information.
- To provide after sales maintenance services to ICS beneficiaries as per the terms and conditions agreed with CME / CPA implementer.

ICS database /26/ was reviewed to check that information such as listed below will be noted for each end user:

- Name
- Address
- Unique ID (To avoid double counting)
- Type and material of ICS
- Baseline stoves
- Baseline fuel
- If any other ICS is present in the house

IDCOL would use web-based software to keep track of each installed stove having unique serial number. POs use the software to record installation while IDCOL

	<p>monitoring team enters the inspection finding. CME provided demonstration of web based database to DOE during site visit which is very robust. Organogram of CME /24/ has been provided to clear the designation of different personnel involved in the activity</p> <p>Photographs of training/27/ to local partners involved in manufacturing of ICS and staff involved in inspection and awareness about the ICS and recording, training attendance sheet /28/ have been checked to confirm the execution of management plan that has started already. the data</p> <p>The monitoring plan describes the Organization chart, Monitoring plan objective and Organization, Monitoring and archiving data, QA and QC procedures, data storage etc. All the monitoring data is stored / will be recorded and kept for a period of crediting period + 2 years or the last issuance of CERs + 2 years whichever occurs later by CME</p>
<b>Findings</b>	No finding was raised in this section
<b>Conclusion</b>	The DoE confirms that the management system described in the PoA DD /01/ is in accordance with the CDM PS for PoA version, 2.0/04/

#### D.1.4. Demonstration of additionality of PoA

<b>Means of validation</b>	<p>The additionality of the PoA has been demonstrated using Option 1 (Positive list), as per the methodology AMS-II.G, Version 10.</p> <p>As per Bangladesh Government's Country Action Plan for Clean Cookstoves /40/, current market penetration represents just 3% of the target population. At present, about 1 million stoves are thought to be in use, amongst over 30 million households in Bangladesh. DoE also checked the Baseline survey on estimating socio economic benefits of Renewable Energy Technology (RET) systems in Bangladesh, 2017/19/ which confirms that 99% of the households have traditional mud stoves in sampled area. Based on these facts DoE conclude that penetration of ICS technology in Bangladesh is below 5%. In addition to this, CME correctly applied "TOOL19: Demonstration of additionality of microscale project activities", para 12 which suggests that if PoA is in an LDC and proposed technology relates to energy efficiency where end users are households or communities. DoE checked from UNFCCC web link<sup>3</sup> and confirmed that Bangladesh is in LDC country and proposed technology is also in line with tool as confirmed with PoA-DD/01/. Hence PoA is auto additional in line with option 3 of applied methodology ( Para 12 of Tool 19)</p> <p>Each CPA to be included in PoA will consists of "micro scale CDM units" and each of the independent sub systems/ measures included in the CPA of this PoA is no longer than 1% ( which corresponds to energy saving of 1.8 GWh thermal/ annum ) of the small scale threshold defined by the applied methodology. Calculation cross checked with spread sheet and PoA-DD/01/ and found that its in compliance with small scale threshold limit , hence exempted from debundling check ( EB 83, Annex. 13)</p> <p>Thus, given that the PoA is located in Bangladesh, an LDC<sup>4</sup>and also the penetration of proposed technology is less than 5%, thus the PoA is additional</p>
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<sup>3</sup><https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>

<sup>4</sup><https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>

<b>Findings</b>	No findings
<b>Conclusion</b>	The DOE is of opinion that CPAs under the POA demonstrating that the energy saving at a scale of no more than 20 gigawatt hours per year are additional if geographical location of the project activity is in an LDCs I compliance with para 12 of applied tool 19 : Demonstration of additionality of microscale project activities/51/.

#### D.1.5 Start date and duration of PoA

<b>Means of validation</b>	The start date of the PoA is 16/09/2018, the date on which the Prior Consideration for the PoA was submitted to the United Nations Framework Convention to Climate Change (UNFCCC) and DNA (i.e., Bangladesh). DoE checked the UNFCCC web link <sup>5</sup> and confirmed that notification to EB is real and verifiable. The duration of the proposed project is 28 years 00 months.
<b>Findings</b>	No findings
<b>Conclusion</b>	The validation team checked the Prior Consideration on UNFCCC and concludes that the start date of the proposed project is 16/09/2018 and duration of PoA is 28 years 00 months.

#### D.1.6 Environmental impacts

<b>Means of validation</b>	The Environment Conservation Rules, 1997 /37/ prescribes Environmental Clearance Certificate necessary for any project to be implemented in Bangladesh. However, dissemination of ICSs is not listed in any category (Green, Orange and Red) of project that requires EIA, CME has demonstrated at PoA level that the EIA is not needed for this PoA.
<b>Findings</b>	CL 04 raised in this section
<b>Conclusion</b>	The PoA does not fall under the purview of EIA and does not involve any activity that impacts the environment adversely.

#### D.1.7 Socio-economic impacts

<b>Means of validation</b>	<p>The socio-economic condition will be fulfilled by allowing more people to access clean energy, reduce the expenditure in fuel, reduce indoor pollution and associated respiratory diseases. The environmental benefits will be the reduction of emission of greenhouse gases and reduction of deforestation and forest degradation.</p> <p>The socioeconomic conditions of the inhabitants of Bangladesh represent a significant challenge to undertake the project's activities due to the difficulty to buy ICS, and thus, their further dissemination and acceptance. Without the subsidized ICS acquisition, the sustainable transition towards more efficient cooking practices will be impaired; hence the on-going pressure on the native forests will significantly jeopardize the ecosystem integrity, besides the community's well-being in terms of respiratory afflictions.</p>
<b>Findings</b>	No findings
<b>Conclusion</b>	The validation team based on the document review and discussion with CME/stakeholders during the site visit concludes that the CME/PP will make sure that the socio-economic condition will be fulfilled by allowing more people to access clean energy, reduce the expenditure in fuel, reduce indoor pollution and associated respiratory diseases. The environmental benefits will be the reduction of

<sup>5</sup><https://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html>

	emission of greenhouse gases and reduction of deforestation and forest degradation.
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**D.1.8 Local stakeholder consultation**

<b>Means of validation</b>	<p>The CME has conducted the LSC on 19<sup>th</sup> September, 2018 as checked from LSC report /29/. The LSC has been conducted at PoA level, which is clearly specified under section F.1 of the PoA-DD/01/. The relevant stakeholders were invited through notice published in local newspaper/34/, public notice, phone calls, letters and emails/31/.</p> <p>List of invitees/30/ and attendance list /32/ were checked to ascertain that relevant stakeholders were part of the LSC. Photographs /33/ of the physical meeting has also been used as an evidence of information given in the LSC report.</p> <p>No change has occurred to the PoA and no complaints have been received from any local stakeholder after the LSC. LSC report/29/, interviews with local stakeholders were used as the means to confirm that the LSC has been conducted properly.</p>
<b>Findings</b>	CL 04 was raised in this section
<b>Conclusion</b>	The DOE confirms that the LSC was conducted in accordance with section 7.8 of PS for PoA version 2.0/04/

**D.1.9 Sustainable development co-benefits**

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**D.1.10 Approval**

<b>Means of validation</b>	<p>Bangladesh has been indicated as the party involved in the PoA DD/01/. The CME has submitted the LoA /45/ received from the DNA of Bangladesh (Department of Environment, Ministry of Environment &amp; Forests. The LoA /45/ confirms that:</p> <ul style="list-style-type: none"> <li>(a) The Party is a party to the Kyoto Protocol</li> <li>(b) The participation in the PoA is voluntary</li> <li>(c) The PoA contributes to achieving the sustainable development of the country;</li> <li>(d) It refers to the precise title of the PoA in the PoA-DD being submitted for registration</li> </ul> <p>The LoA /45/ received is unconditional with respect to para 69a-d of PS for PoA, version 2.0/04/ and is valid for the proposed CDM PoA under validation.</p>
<b>Findings</b>	CAR 02 was raised in this section
<b>Conclusion</b>	The CME has received LoA /45/ from the DNA of the Host country of the PoA. The LoA /45/ meets the requirements of section 7.11.1 of VVS for PoA /05/.

**D.1.11 Authorization**

<b>Means of validation</b>	<p>The CME (IDCOL) of the proposed PoA has been authorized by the party Republic of Bangladesh involved in the LoA/45/.</p> <p>DOE confirms that:</p>
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	<p>The CME and project participant of the proposed PoA are listed in the PoA-DD/01/ and authorized by the DNA to implement the PoA. The information is consistent with the information provided in the Appendix 1 of the PoA-DD/01/, that contains the contact information of the CME.</p> <p>No entities other than those authorized as the CME are the project participants of the proposed PoA are included in the above referred section of the PoA-DD/01/</p> <p>The participation of CME and PP has been authorized by a party to the Kyoto Protocol and the authorization has been issued from the relevant DNA/45/.</p>
<b>Findings</b>	CAR 02 was raised in this section
<b>Conclusion</b>	The CME and the PP have received LoA/45/ from the DNA of the host country of the PoA. The LoA/45/ meets the requirements of section 7.11.2 of VVS for PoA/05/.

#### D.1.12 Modalities of communication

<b>Means of validation</b>	Validation team has performed due diligence on the Modalities of Communications (MoC) statement submitted by the PP/46/ in accordance with applicable requirements in the VVS.
<b>Findings</b>	No CLs or CARs raised in this section
<b>Conclusion</b>	The validation team was able to confirm the information contained in the MoC and that the MoC complies with all relevant forms and requirements. The CME/PP details contained in Appendix A of PoA-DD is consistent with filled in MoC form

#### D.1.13 Global stakeholder consultation

<b>Means of validation</b>	The project PoA-DD was webhosted on UNFCCC website
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	The project PoA-DD was webhosted on UNFCCC website. The comment period was from 20/07/2019– 18/08/2019 and no comments were received during this time.

### D.2 Generic component project activities

#### D.2.1 General description of generic CPA

<b>Means of validation</b>	<p>The CPAs included in this PoA are small scale energy efficient ICS which will be distributed to households/communities/SMEs. All CPAs included in this PoA will be implemented in the territorial boundary of host country i.e., Bangladesh and the physical location of the stoves distributed in that CPA will define the actual CPA boundary.</p> <p>The CME/PP will distribute Clean Cookstove models and inclusion of such stoves would be subject to the completion of appropriate tests to prove that stove efficiencies meet the requirements of the methodology and the eligibility criteria of the PoA as specified.</p> <p>The CPAs under this PoA will be implemented using the approved methodology AMS-II.G, Version 10.0 – “Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass”. This category comprises appliances involving the efficiency improvements in the thermal applications of non-renewable biomass falling under type Type-II small scale project activity.</p>
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	CME has proposed to include following types of stoves in proposed PoA but they also clarified that these model type of stoves will not be limited to the existing models, further ICS models could be included in the programme.			
	<b>Tiers</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Tier 4</b>
	Thermal Efficiency (%)	≥ 25%	≥ 35%	≥ 45%
	ICS Model Type <sup>6</sup>	3. 10" Single mouth concrete 4. 9-8" Double mouth concrete	3. 8" Concrete portable 4. 10-9" Double mouth concrete	3. 6-9" Metal portable 4. 6-4" Metal portable
	The improved cook stove has higher thermal efficiency. The households from database visited during the site visit, technical drawings of the stoves and thermal efficiency certificates /22/23/ of the stoves were all checked and found to meet the methodology requirements.			
	Validation team conducted interviews and desk reviews and checked Declaration /25/ from Bangladesh University of Engineering & Technology for thermal efficiency and design specification of Tier 2, Tier 3 and Tier 4 stoves respectively			
<b>Findings</b>	No CLs or CARs raised in this section			
<b>Conclusion</b>	The validation team confirms that the description of the generic CPAs in PoA-DD is accurate, complete and provides an understanding of generic CPAs and is found to be in line with the para 90-91 of CDM VVS of PoA, version 02			

## D.2.2 Selection of methodologies and standardized baselines

### D.2.2.1 Deviation from methodologies and/or methodological tools

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

### D.2.2.2 Clarification on applicability of methodology, tool and/or standardized baseline

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

## D.2.3 Application of methodologies and standardized baselines

### D.2.3 .1 General

<b>Means of validation</b>	The PoA applies AMS II,G version 10 - "Energy efficiency measures in thermal applications of non-renewable biomass", where project is involved in installation of
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<sup>6</sup>The model type is not limited to the existing models, further ICS models could be included in the programme.



biomass based ICS to eliminate the use of traditional method of cooking and claim emission reduction by improved energy efficiency over non-renewable biomass. The applicability of the methodology AMS II.G Version 10 has been assessed as described below:

S.N.	Applicability Conditions of AMS-II.G	Applicability of PoA
1.	This methodology comprises efficiency improvements in thermal applications of non-renewable biomass. Examples of applicable technologies and measures include the introduction of high efficiency biomass fired project devices (cookstoves or ovens or dryers) to replace the existing devices and/or energy efficiency improvements in existing biomass fired cookstoves or ovens or dryers.	The CPA in this PoA will involve distribution of highly efficient stoves which reduce the fuel usage ensuring appropriate heat transfer to the cooking medium. It was checked through visual observation of installed stoves in sampled households, during the site visit. This will be checked at CPA level as it has also been added as an eligibility criterion under section K of generic CPA-DD/01/
2.	In the case of cookstoves, the methodology is applicable to the introduction of single pot or multi pot portable or in-situ cookstoves with rated efficiency of at least 20 per cent.	The CPAs to be included under this PoA will disseminate only ICSs with thermal efficiency higher than 20%. This will be checked at CPA level as it has also been added as an eligibility criterion under section K of generic CPA-DD/01/Validation team conducted interviews and desk reviews and checked Declaration /25/ from Bangladesh University of Engineering & Technology for thermal efficiency and design specification of Tier 2, Tier 3 and Tier 4 stoves respectively and conclude that all CPAs to be included under this PoA will have single pot as well as double pot ICS with thermal efficiency greater than 20%
3.	The aggregate energy savings of a single project activity shall not exceed the equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input.	The maximum no. of ICS will be defined for each CPA according to the specific ICS models distributed, and corresponding stove performance, to ensure a maximum energy saving of 180 GWth/year/ CPA.  This PoA falls into a small scale project and does not exceed the maximum thresholds.
4.	Non-renewable biomass has been	Proof that non-renewable

	used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	<p>source of energy has been continuously used in host country of Bangladesh since 31<sup>st</sup> Dec. 1989.</p> <p>An assessment of forest area at 1990 and 2010 levels indicate s depletion of forest carbon stock by 3.5% <sup>7</sup> and total removals around 27 million m<sup>3</sup> by 2010, which clearly shows that the fuel wood has been used in Bangladesh since 31<sup>st</sup> Dec. 1989.</p>
5.	For cases where the biomass is sourced from renewable sources, the project participants should use a corresponding Type I methodology.	Not Applicable. The project use of biomass is sourced from the renewable sources.
6.	If the project device requires a specific fuel for this device (e.g. briquettes, pellets, woodchips), the consumption of the fuel should be monitored during the crediting period.	In case of deployment of higher efficiency stoves (for e.g., Tier 4 ICS) if they require a specific fuel for this device (e.g. briquettes, pellets, woodchips), the consumption of the fuel would be monitored during the crediting period and PPs shall explain clearly fuel type use and monitoring mechanism..
7.	<p>The use of this methodology in a project activity under a programme of activities is legitimate if the following leakages are estimated and accounted for, as required on a sample basis using a 90/30 precision for the selection of samples.</p> <p>(a) Use of non-renewable woody biomass saved under the project activity to justify the baseline of other CDM project activities can also be a potential source of leakage. If this leakage assessment quantifies a portion of non renewable woody biomass saved under the project activity that is then used as the baseline of other CDM project activities then <math>B_{old,l,j}</math> is adjusted to account for the quantified leakage:</p>	<p>The CME chooses to account for all leakage in the project activity by applying the adjustment factor of 0.95 to the <math>B_{old,l,j}</math></p>

<sup>7</sup>Global FRA 2015, Country Report, Bangladesh which mentions the removal data only till 2011.

	<p>(b) Increase in the use of non renewable woody biomass outside the project boundary to create non-renewable woody biomass baselines can also be a potential source of leakage. If this leakage assessment quantifies an increase in the use of non-renewable woody biomass outside the project boundary then <math>B_{old,l,j}</math> is adjusted to account for the quantified leakage</p> <p>(c) As an alternative to sub paragraphs (a) and (b) <math>B_{old,l,j}</math> can be multiplied by a net to gross adjustment factor of 0.95 to account for both the leakages, in which case surveys are not required.</p>	
<b>Findings</b>	CAR 06 was raised in this section	
<b>Conclusion</b>	<p>The PoA has applied the latest applicable version of the methodology and in-line with the methodology requirement for its project activity. The selected methodology is applicable to the PoA and selected version of the methodology is valid at the time of submission for registration. For each of the applicability condition listed in the methodology AMS-II.G. Version 10, the steps taken to assess the relevant information contained in the PoA-DD has been clearly described.</p> <p>The validation team checked the technical specification of Clean Cookstoves and by discussion with the CME/PP during site visit confirms that the proposed CDM PoA will only involve distribution of highly efficient designed cook stoves in Bangladesh. And the proposed CDM PoA falls under the small scale projects category and the PoA-DD and project description justifies the applicability criteria of the applied methodology AMS-IIG version 10 satisfactorily and in line with para 97 - 104 of CDM VVS of PoA, version 02.</p>	

### D.2.3.2 Project boundary, sources and GHGs

<b>Means of validation</b>	The validation team was able to confirm that the project boundary corresponds to the National boundaries of Bangladesh and that all the identified emission sources which are impacted by the proposed project activity are addressed by the approved methodology and can be seen in the table below.											
	Source	GHG	Included?	Justification/Explanation								
	<table border="1"> <tr> <td rowspan="2">Baseline</td><td>Combustion of non-renewable biomass for cooking in baseline devices</td><td>CO<sub>2</sub></td><td>Yes</td><td>Major emission source</td></tr> <tr> <td></td><td>CH<sub>4</sub></td><td>No</td><td>Not considered as per the methodology. Exclusion is conservative assumption</td></tr> </table>	Baseline	Combustion of non-renewable biomass for cooking in baseline devices	CO <sub>2</sub>	Yes	Major emission source		CH <sub>4</sub>	No	Not considered as per the methodology. Exclusion is conservative assumption		
Baseline	Combustion of non-renewable biomass for cooking in baseline devices		CO <sub>2</sub>	Yes	Major emission source							
		CH <sub>4</sub>	No	Not considered as per the methodology. Exclusion is conservative assumption								

			N <sub>2</sub> O	No	Not considered as per the methodology. Exclusion is conservative assumption
	Project activity	Combustion of non-renewable biomass for cooking in project devices	CO <sub>2</sub>	Yes	Major emission source
			CH <sub>4</sub>	No	Not considered as per the methodology. Exclusion is conservative assumption
			N <sub>2</sub> O	No	Not considered as per the methodology. Exclusion is conservative assumption
Findings	No CLs or CARs raised in this section				
Conclusion	The validation team confirms that the identified GHG emission source occurring within the project boundary is CO2 and no other gases are involved during the project activity. The same has been verified during the course of validation, which in line with the applied methodology and para 105 - 110 of CDM VVS of PoA, version 02/05/				

### D.2.3.3 Baseline scenario

<b>Means of validation</b>	<p>As per Paragraph 21 of the applied methodology AMS IIG Version 10, "It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs."</p> <p>The validation team during site visit confirmed from the households/CME that in the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.</p> <p>Country Action Plan for Clean Cookstoves, Nov. 2013, Power Division, Ministry of Power, Govt. of the People's Republic of Bangladesh, page 39 /40/ was reviewed. The document revealed that the more than 90% households still use traditional stoves for cooking. Another paper published in PNAS, July 3, 2012, vol 109, no. 27, 10815-10820, " Low demand for non-traditional cookstoves technologies" by Mobarak et al /41/ was referred to confirm that 98-99% of Bangladesh rural population burns biomass fuels by using traditional cook stoves for cooking and heating. The impact of cooking in traditional stoves has also been reported in Special report on restoring balance: Bangladesh's Rural Energy Realities, Ex. Summary /42/.</p> <p>Several policies/10-16/ relevant to the proposed PoA were reviewed such as:</p> <ul style="list-style-type: none"> <li>• Renewable Energy Policy, 2008</li> <li>• Bangladesh Climate Change Strategy and action plan 2009</li> <li>• National Energy Policy 2004</li> <li>• Energy Efficiency Action Plan 2012</li> <li>• Sustainable renewable energy development authority (SREDA) Act, 2012</li> <li>• Energy Efficiency and conservation master plan up to 2030</li> </ul>
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	<ul style="list-style-type: none"> <li>Bangladesh National Women Policy, 2011</li> </ul> <p>Thus, it can be concluded that the baseline scenario defined in the generic CPA DD/01/ in line with applied methodology/02/</p>
<b>Findings</b>	CAR 03 was raised in this section
<b>Conclusion</b>	The validation team confirms that the baseline is defined based on the most recent data available in conformance with the methodology. All assumptions and data used by PP are listed in PoA-DD and/or its annexures with references and sources. Relevant National/Sectoral policies and circumstances are considered and listed in the PoA-DD.

#### D.2.3.4 Estimation of emission reductions or net anthropogenic removals

<b>Means of validation</b>	In the proposed project, for ex-ante calculations/48/ of CPA emission reductions, the WBT (option 3) option provided in the methodology AMS-II.G version 10.0 is applied. The following table Data and parameters fixed ex-ante:	
	<b>Parameters</b>	<b>Source/ Reference</b>
	Annual quantity of woody biomass that would have been used in the households in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices.  <b><i>B<sub>old,HH</sub></i></b> (tonnes/household/year)	Historical data or survey of local usage will be conducted for each target consumer group included in a given CPA.  The value is fixed ax-ante Assessments, information and results established in initial CPAs may be used in subsequent CPAs of conducting fresh assessment at each CPA level in absence of new data
	Annual quantity of woody biomass that would have been used per person in the households in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices.  <b><i>B<sub>old,p</sub></i></b> (tonnes/person/year)	0.50  Default value as per the applied methodology AMS.II.G, version 10.0
	Average no. of persons served per household prior to project implementation  <b><i>N<sub>p,HH</sub></i></b> ( Number)	Ex ante baseline survey records of household or published information/ literature defining the average household size in the project boundary
	Fraction of woody biomass saved by the project activity in year, y that can be established as non-	Calculated  The value calculated as per Tool 30 : Calculation of the fraction of non renewable biomass, EB 97,

renewable biomass $f_{NRB,y} (%)$	Annex. 9. This value will be fixed ex ante. The fraction of non-renewable biomass (fNRB) is thus conservatively fixed ex-ante as 84.3% for Bangladesh.
Emission factor for the substitution of non renewable woody biomass by similar consumers. $EF_{projected\_fossilfuel} (tCO_2e/TJ)$	Default value of 63.7 tCO <sub>2</sub> e/TJ considered from methodology
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 wt. of the wood that is air dried) $NCV_{biomass} (TJ/tonne)$	Default value of 0.0156 TJ/tonne taken from IPCC Guidelines
Efficiency of the old stoves being replaced by project devices of type I and batch,j $\eta_{old,i,j} (Fraction)$	0.11 As per the Bangladesh Country Action Plan for Clean Cookstoves, more than 90% households use Three Stone Fire Stove / conventional stoves in Bangladesh. Therefore, following the approved CDM methodology AMS II.G/v10, conservatively a default value of 10% has been used for the 90% conventional stoves and for other types of baseline stoves a default value of 20% has been used. Thus, a weighted average efficiency of 11% with a 90:10 mix has been considered
NTG (Fraction )	Default value of 0.95 considered as per para 43 of the applied methodology AMS-II.G, version 10.0
<b>Data and parameters fixed ex ante and to be monitored</b>	
Number $N_{y,i,j}$	Number of project devices of type I and batch j operating during year y.  Sales database and monitoring survey at least once every two years
Fraction $\mu_y$	Adjustment to account for any continued use of pre project devices during the year y.  Monitoring survey at least once every two years
Fraction $\eta_{new,i,j}$	Efficiency of the device of each type i and batch j implemented as part of the project activity.  The efficiency of the project devices shall be based on certification by a national standards body or an appropriate certifying agent recognized by that body.

	<ul style="list-style-type: none"> <li>➤ Recorded at the time of commissioning/distribution of project devices and it can be cross checked with ICS user details</li> <li>➤ Adjusted for the loss of efficiency as paragraph 32 a of the applied methodology</li> </ul>
Date of commissioning of project device i	<p>Actual date of commissioning of the project device for each batch the date of distribution of first ICS will be recorded and used as date of commissioning for that batch.</p> <p>Fixed and recorded at the time of commissioning/distribution</p>
<p>According to paragraph 22 of methodology AMS-II.G, Version 10.0, emission reduction shall be calculated as :</p> $ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y$ <p>Where,</p> <p><i>i</i> = Indices for the situation where more than one type of project device is introduced to replace the pre-project devices</p> <p><i>j</i> = Indices for the situation where there is more than one batch of project device</p> <p><i>ER<sub>y</sub></i> = Emission reductions during year <i>y</i> in t CO<sub>2</sub>e</p> <p><i>ER<sub>y,i,j</sub></i> = Emission reductions by project device of type <i>i</i> and batch <i>j</i> during year <i>y</i> in t CO<sub>2</sub>e</p> <p><i>LE<sub>y</sub></i> = Leakage emissions in the year <i>y</i></p> <p>Since the CPA-XXX involves the deployment of improved cookstoves, the following equation is applicable as per AMS-II.G, Version 10.0</p> $ER_{y,i,j} = B_{y,savings,i,j} \times N_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected\_fossil\ fuel}$ <p><i>B<sub>y,savings,i,j</sub></i> = Quantity of woody biomass that is saved in tonnes per cookstove device of type <i>i</i> and batch <i>j</i> during year <i>y</i></p> <p><i>f<sub>NRB,y</sub></i> = Fraction of woody biomass that can be established as non-renewable biomass (fNRB)</p> <p><i>NCV<sub>biomass</sub></i> = 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')</p>	

	<p><math>EF_{projected\_fossilfuel}</math> = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers. Use a value of 63.7 t CO<sub>2</sub>/TJ</p> <p><math>N_{y,i,j}</math> = Number of project devices of type <math>i</math> and batch <math>j</math> operating during year <math>y</math></p> <p><math>\mu_y</math> = Adjustment to account for any continued use of pre-project devices during the year <math>y</math> (fraction). Use 1.0 in other cases</p> <p><math>B_{y,savings,i,j}</math> is calculated using the following formula in accordance with equation 6 of the approved methodology AMS-II.G, Version 10.0</p> <p>Option 3: Water boiling test :</p> $B_{y,savings,i,j} = B_{old,i,j} \times \left(1 - \frac{\eta_{old,i,j}}{\eta_{new,i,j}}\right)$ <p>Where,</p> <p><math>B_{old,i,j}</math> = Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type <math>i</math> and batch <math>j</math></p> <p><math>\eta_{old,i,j}</math> = Efficiency of the old devices being replaced by project devices of type <math>i</math> and batch <math>j</math></p> <p><math>\eta_{new,i,j}</math> = Efficiency of the project device <math>i</math> and batch <math>j</math></p> <p>,</p> <p>As <math>B_{old,i,j}</math> is multiplied by a net to gross adjustment factor of 0.95 to account for leakage, surveys are not required.</p> <p>Annual emission reductions are estimated to be (emission reduction) xxx tCO<sub>2</sub>e/annum</p>
<b>Findings</b>	CAR 07 was raised in this section
<b>Conclusion</b>	The validation team based on document review confirms that the for ex-ante calculations of CPA emission reductions, the WBT (option 3) option provided in the methodology AMS-II.G version 10.0 is applied. The methodology as well as the above referenced sources is correctly applied.

### D.2.3.5 Monitoring plan

<b>Means of validation</b>	<p>The monitoring plan has been documented as per the methodology AMS-II.G, in a complete and transparent manner. The CPA-DD contains all the monitoring parameters and they are clearly described.</p> <p>The operational and management structure of the CME in context of the PoA has</p>
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	<p>been clearly described in the PoA-DD and confirmed through the interview with CME/PP. The responsibilities and institutional arrangements for data collection and archiving have been clearly provided in the PoA-DD. Furthermore, for this PoA, CME has included monitoring plan and review of the same reveals the fact that the information provided in the PoA-DD can provide sufficient information to the CPA implementers of the PoA for following the monitoring requirements of the PoA in order to ensure correct monitoring procedure. The PP will conduct number of capacity building programme to ensure that households/communities/SMEs will be educated on the benefits and functional aspects of ICS. The CPA implementer will appoint the local coordinator who will be the contact person for locality.</p> <p>Validation team based on the review of PoA-DD confirms that clear and transparent description of the operational and management arrangement has been established by the CME for the PoA. The same has also been confirmed during the site visit interview. All the details of individual CPAs including the documents shall be controlled by CPA implementer. Furthermore, the records of individual CPAs shall also be maintained by the CME. Individual CPA implementer shall sign an agreement with the CME and agrees to comply with all terms and conditions of the PoA including those related to the monitoring and data control. Hence any CPA which would be included in the PoA shall follow the operation and management plan of the PoA as stated in the PoA DD. The CME has a well-defined project management structure for monitoring of the CPA which can be verified from the PoA-DD. The monitoring plan describes the Organization chart, Monitoring plan objective and Organization, Monitoring and archiving data, QA and QC procedures, data storage etc. All the monitoring data is stored / will be recorded and kept under safe custody of the CME for a period of crediting period + 2 years or the last issuance of CERs + 2 years whichever occurs later.</p>
<b>Findings</b>	No CARs and CLs were raised in this section
<b>Conclusion</b>	<p>The monitoring plan has been documented as per the methodology AMS-II.G, in a complete and transparent manner. The monitoring plan for the CPA is as described in Section I.7.1 of PoA DD.</p> <p>The validation team based on document review and interviews with the relevant personnel confirm that the proposed monitoring plan is feasible within the project design. Further, the monitoring methodology, data management, and quality assurance and quality control procedures to be implemented in the context of the project will be implanted by PoA managing entity and the CPA implementers. Therefore, the PoA managing entity and/or CPA implementer(s) will be able to implement the monitoring plan and the achieved emission reductions can be reported and verified.</p>

#### D.2.4 Crediting period type and duration

<b>Means of validation</b>	The start date of the PoA is 16/09/2018, the date when the Prior Consideration for the PoA was submitted to the United Nations Framework Convention to Climate Change (UNFCCC)/06/. The duration of the proposed project is 28 years 00 months. PP has selected the fixed crediting period of 10 years.
<b>Findings</b>	No CLs or CARs raised in this section
<b>Conclusion</b>	The validation team based on the document review concludes that the start date of the proposed project is 16/09/2018 (i.e., the date when the Prior Consideration for

the PoA was submitted to UNFCCC and DNA) and duration of PoA is 28 years 00 months. PP's selection of fixed crediting period of 10 years is acceptable.

### D.2.5 Eligibility criteria for inclusion of CPAs

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
1.	<u>Geographic Boundary</u> The ICS under the CPA must operate within the geographical boundary of the PoA i.e. Republic of Bangladesh	Sales database listing all the installed ICSs will be checked by the validation/verification team to confirm that the ICS are installed in Bangladesh.	No findings	The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(a)/4/.  The criterion is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA
2.	<u>Double Counting</u> Carbon emission reductions claimed by the CPA should be unique and not counted more than once	Each ICS has a unique ID number which avoids double counting of the same ICSs. The unique id shall be checked by the team involved in inclusion of CPA.	No findings	The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(b)/4/. The criterion is verifiable as well as sufficiently objective

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
				and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA

3.	<u>Exclusiveness of CPA</u>  The CPA shall not be previously: registered as a CDM project activity, included as a CPA in any other registered PoA, or deregistered as a CPA of a PoA	CME will check and confirm if the CPA is not a CPA in any other registered PoA or deregistered as a CPA of a PoA or already registered as a CDM project activity.	No findings	The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(c)/4/as well as checking with UNFCCC website
4.	<u>Specifications of Technology/Measure</u>  The program will promote dissemination of wood-fuel ICS in Bangladesh. The stoves shall have a fuel grate and/or a chimney The rated efficiency of technologies included under the program will be at least 20 per cent.	Technical description of the ICS shall be shared with the DoE involved in inclusion to confirm that the stove with grate/chimney and efficiency higher than 20% has been disseminated in Bangladesh.	CL#05 was raised and resolved.	The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para 120(d)/4/.  Validation team conducted interviews and desk reviews and checked Declaration /25/ from Bangladesh University of Engineering & Technology for thermal efficiency and design specification of Tier 2, Tier 3 and Tier 4 stoves respectively and conclude that all CPAs to be included under this PoA will have single pot as well as double pot ICS with thermal efficiency greater than 20%
5.	<u>Start date</u>  Date on which first ICS was installed under the CPA. The start date of any proposed CDM CPA will be on or after the start date of the proposed CDM PoA	End user agreement / voucher / installation report will be checked as an evidence to validate the start date of the first ICS at the time of inclusion of CPA.	No findings	The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(e)/4/.
	<u>Applicability of the methodologies</u>		CAR 06 was raised and resolved	

6.	<p>CPA must follow AMS.II-G ver 10.0.</p> <p>The applicability of methodology at CPA level has already been demonstrated in section I.2 above. Technology related requirements have been specified in criteria #3 above.</p>	<p>The generic CPA meets all the applicability criteria. The detailed assessment of which has been given under section D.2.2.1 of this report. The CPA to be included will also be checked for the same.</p>		<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(f)/4/.</p>
7.	<p><u>Additionality</u></p> <p>ICS shall be installed in entire Bangladesh.</p> <p>The rated annual thermal energy savings of ICS included under the CPAs shall not be more than 1.8GWth</p>	<p>The CPA to be included will demonstrate that the units disseminated have annual thermal energy saving of less than 1.8GWth in order to be auto-additional.</p>	No findings	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para 120(g)/4/.</p>
8.	<p><u>LSC and EIA</u></p> <p>The local stakeholder consultation is conducted at the PoA level (Section F of the PoA-DD).</p> <p>An environmental impact analysis is not required (section E of the PoA-DD)</p>	<p>LSC and EIA have been Conducted at PoA level. Please refer to section D.1.6 and D.1.8 of this report for detailed assessment of LSC and EIA.</p>	CL 04 was raised and resolved	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(i)/4/.</p>
9.	<p><u>Public Funding</u></p> <p>Affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance</p>	<p>CME has provided declaration dated 19/09/2019/20/ that no ODA funding involved in the Programme of Activities.</p>	No findings	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(j)/4/.</p>
10.	<p><u>Target Group and Distribution Mechanism</u></p> <p>Target Group: Households / SMEs Distribution Mechanism: Via Partner Organizations</p>	<p>It was confirmed through interview of the IDCOL/PO representatives and some households that the target group is households and SMEs and distribution is done by Partner Organizations. The same will be followed by each CPA to be included under</p>	No findings	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(k)/4/.</p>

		This PoA.		
11.	<p><u>Sampling</u></p> <p>CPAs under the program will adhere to all requirements as mentioned in Standard: Sampling and surveys for CDM project activities and programme of activities</p>	<p>Sampling will be conducted by following the Standard: Sampling and surveys for CDM project activities and programme of activities/9/. The detailed assessment of sampling plan is given above under section D.2.2.7 of this report.</p>	No findings	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(l)/4/.</p>
12.	<p>SSC Threshold</p> <p>Not applicable</p>	Not applicable	No findings	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para 120(m)/4/ and meets condition.</p>
13.	<p>Debundling Check Not applicable</p>	Not Applicable	No findings	<p>The eligibility criterion for inclusion of corresponding CPAs in the proposed CDM PoA are defined in accordance with the project standard for PoA, para120(n)/4/.</p>

**SECTION E. Internal quality control**

After the completion of assessment by the validation team all the relevant documentation is submitted to a qualified, Independent Technical reviewer as part of Applus+'s internal quality control system. A Technical reviewer team is appointed to review the draft final validation report (Draft FVR). The comments made by the Technical reviewer team are taken into consideration and incorporated in the final FVR. The technical reviewer team assesses whether all the reporting requirements have been fulfilled and whether all the issues raised were closed satisfactorily by the validation team with justification. The technical review process can also raise issues in this regard which is resolved further by the validation team to the satisfaction of the technical reviewer. The technical reviewer team either accepts or rejects the report made by the validation team. The final report (after resolutions of all findings) is then submitted to the Head operations for review and approval.

**SECTION F. Validation opinion**

LGAI Technological Center, S.A. accredited DOE E-0032 (hereinafter referred to as Applus+ Certification or just the DOE) has performed the validation of the CDM-PoA titled "IDCOL Improved Cook Stove Program". The validation was performed in accordance with the Validation and Verification Standard (CDM-VVS-PoA) (version 2.0)/05 and included the assessment of the following issues:

- Evaluation of the impact of new relevant national and / or sectoral policies and circumstances on the previously determined baseline taking into account relevant guidance from the CDM-Executive Board;
- Evaluation of the correctness of the application of the approved methodology for the determination of the baseline, and the estimation of emission reductions for the applicable crediting period of the registered CDM project activity.
- Evaluation of stakeholder Consultation by interviewing the stakeholders.
- Evaluation of Sustainable Development Monitoring Plan and mitigation measures.

The review of the final PoA-DD and the subsequently performed follow-up interviews with representatives of the project participant has provided the validation team with sufficient evidence to determine the validity of the original baseline scenario.

The validation team has concluded that final PoA-DD uses the valid version of the PoA-DD template and all the necessary instructions are followed in preparing the PoA-DD. The project activity conforms to all the applicable conditions of the valid version of the applied methodology. The baseline and monitoring methodology are applied in accordance with the applicable requirements of Project Standard. The baseline, the estimated GHG emission reductions and the monitoring plan in the final PoA-DD comply with the applicable requirements in the Project Standard.

In our opinion, the project activities meet all relevant UNFCCC requirements and hence Applus recommends the registration of the project under CDM.

## Appendix 1. Abbreviations

Abbreviations	Full Texts
IDCOL	Infrastructure Development Company Limited
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating / Managing Entity
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
CPA	Component Project Activity
CPA DD	Component Project Activity Design Document
DNA	Designated National Authority
DO	Distribution Organisation
DOE	Designated Operational Entities
DRB	Demonstrably renewable woody biomass
EB	CDM Executive Board
EIA	Environmental Impact Assessment
PO	Partner Organization
FAO	Food and Agriculture organization
FAR	Forward Action Request
GHG	Greenhouse gas(es)
ICS	Improved Cook Stoves
IPCC	Intergovernmental Panel on Climate Change
LAF	Leakage Adjustment Factor
LSC	Local Stakeholder Consultation
NRB	Non-Renewable Biomass
PA	Project Activity
PoA	Programme of Activities
PoA DD	CDM Programme of Activities Design Document
UID	Unique Identification number



## Appendix 2. Competence of team member and technical reviewers

Mr. Pankaj Kumar **Pankaj Kumar** worked as team leader – Bihar for South Asia Climate Proofing and Growth Development(CPGD) – Climate Change Innovation Programme (CCIP) supported by DFID that seeks to mainstream climate change resilience into planning and budgeting at the national and sub-national level in India,Pakistan, Nepal, and Afghanistan. Pankaj Kumar has worked previously with IL&FS Infrastructure Development Corporation and BUIDCO(Bihar Urban Infrastructure Development Corporation), Govt. of Bihar as Environmental Specialist for WB & ADB funded projects. Prior to this, he worked with Carbon Check (UNFCCC accredited DoE), Johannesburg, RSA as Team Leader for validation, verification of around 100 GHG projects in Asia, Africa, USA, Asia Pacific & Americas. Pankaj is accredited Lead Auditor, Validator, Verifier and Technical Expert for Sectoral Scope/Technical Area – 1.1, 1.2, 3.1 & 13.1 by UNFCCC DoE (Designated Operational Entity), APPLUS, Spain. He is also member of task force on climate change & human health, Health Department, GoB and on roster of UNICEF's WASH experts. He is an experienced, qualified and result oriented Environment Professional having more than 14 yrs. of relevant experience in Climate Change (Mitigation &Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Validation and Verification of GHG project under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He provides technical support for environmental investigative, consultative and remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, GHG accounting (ISO 14064) and Carbon foot printing

Pankaj Kumar is Masters in Environment Management from Forest Research Institute (University), I.C.F.R.E, Dehradun, which is Centre of Excellence in South East Asia for Forestry education & research and PGDEL from National Law School of India University, Bangalore (India).

Mr. Miguel A. Cortes Diaz **Mr. Miguel Cortés** holds a Bachelor's Science Degree on Civil and Environmental Engineering, being specialized on Hydric Resources. He has worked as CDM/VCS/GS and environmental consultant for different industries of multidisciplinary sectors world widely. Mr. Miguel Cortés counts with several years of GHG assessment experience, working and being qualified as Lead Auditor and Technical Reviewer for different DOEs world widely, as well as has been part of Gold Standard expert's committees. Furthermore, he has performed his professional GHG assessment portfolio career worldwide and focusing in Latin America, developing assessments for projects in Argentina, Mexico, Panama, Colombia and Chile, among others.

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	CME	PoA DD Generic CPA DD	Version 3.0 Dated 17/09/2019	CME
2	UNFCCC	Applied methodology: AMS-II.G.	Version 10.0	Other
3	UNFCCC	PCP for PoA	Version 2.0	Other
4	UNFCCC	PS for PoA	Version 2.0	Other
5	UNFCCC	VVS for PoA	Version 2.0	Other
6	UNFCCC	<a href="https://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/51JFNJPE499KX7KYXNMY64OY6U26J4/view.html">https://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/51JFNJPE499KX7KYXNMY64OY6U26J4/view.html</a>	Last accessed on 24/09/2019	Other
7	UNFCCC	CDM Glossary terms	Version 09.1, page 20	Other
8	UNFCCC	CDM-PoA-DD-FORM	Version 9.0	Other
9	UNFCCC	Standard: Sampling and surveys for CDM project activities and programmes of activities	version 7.0	Other
10	Ministry of Power, Energy and Mineral resources, Government of people's republic of Bangladesh	Renewable Energy policy	2008	CME
11	Government of people's republic of Bangladesh	Bangladesh climate change strategy and action plan	2009	CME
12	Ministry of Power, Energy and Mineral resources, Government of people's republic of Bangladesh	National Energy policy	2004	CME
13	Ministry of Power, Energy and Mineral resources, Government of people's republic of Bangladesh	Energy efficiency action plan	2012	CME
14	Government of people's republic of Bangladesh, Ministry of Law, Justice and Parliamentary affairs	Sustainable renewable energy development authority(SREDA) act	2012	CME
15	Ministry of Power, Energy and Mineral resources, Government of people's republic of Bangladesh and Sustainable renewable energy development authority(SREDA)	Energy efficiency and conservation master plan up to 2030	2015	CME

16	Government of people's republic of Bangladesh	Bangladesh National Women policy	2011	CME
17	UNFCCC	The General Guidelines for SSC methodologies	version 22.1 dated 15 April 2016, paragraph 4.17	Other
18	Contract signed between IDCOL & PO	Joint agreement for ICS dissemination & GHG mitigation CDM project in Bangladesh	--	CME
19	IDCOL	Baseline survey on estimating socio economic benefits of Renewable Energy Technology systems in Bangladesh.	March 5, 2017	CME
20	IDCOL	No ODA declaration by IDCOL	-	CME
21	IDCOL	Technical drawings of STOVES	-	CME
22	Stove testing report based on WBT protocol by Institute of Energy, University of Dhaka	Stove testing report		CME
23	BUET test report dated 11/06/2017	Stove testing report	11/06/2017	CME
24	IDCOL	Organogram		CME
25	Declaration from BUET	Operation lifetime of Stoves		CME
26	IDCOL	sales database		CME
27	IDCOL	Photographs of training local partners involved in manufacturing of ICS and staff involved in inspection	-	CME
28	IDCOL	Training attendance		CME
29	CME	LSC report with summary of questions asked		CME
30	CME	LSC invitee list.		CME
31	CME	LSC meeting Invitation mail Reply to feedback		CME
32	CME	LSC meeting attendance list.		CME

33	CME	Photographs of LSC meeting		CME
34	CME	Photograph of public notice for LSC meeting	-	CME
35	UNFCCC	List of DNAs <a href="https://cdm.unfccc.int/DNA/bak/index.html">https://cdm.unfccc.int/DNA/bak/index.html</a>	-	
36	IDCOL	End user agreement for first ICSs		CME
37	Government of the People's Republic of Bangladesh Ministry of Environment and Forest	Environmental Conservation Rules, 1997 <a href="https://www.elaw.org/system/files/Bangladesh---+Environmental+Conservation+Rules,+1997.pdf">https://www.elaw.org/system/files/Bangladesh---+Environmental+Conservation+Rules,+1997.pdf</a>	1997	Other
38	Government of people's republic of Bangladesh	The Statistical Year Book Bangladesh 2015	published in September 2016	Other
39	Hassan et al	Hassan et al. in Springer 'Energy, Sustainability and Society 2013	2013	Other
40	Power Division, Ministry of Power, Government of the People's Republic of Bangladesh	Country Action Plan for Clean Cookstoves,	November 2013, page 39	Other
41	Mobarak et al	"Low demand for non-traditional cookstove technologies"; Paper on "" published in PNAS, vol. 109, no. 27, 10815–10820	03/07/2012	Other
42	Energy Sector Management Assistance program (M.Asaduzzaman, Douglas F. Barnes)	Special Report: Energy and Poverty - Restoring Balance: Bangladesh's Rural Energy Realities, Executive Summary,	03/2009	CME
43	Forest Department, Dhaka, Bangladesh  Ad Development Planning Unit, Banbhaban, Bangladesh	Global Forest Resource Assessment report 2015 Country Report	2014	Other
44	UNFCCC	Guideline: Sampling and Surveys for CDM Project Activities and Programme of Activities	Version 7.0	Other
45	Department of Environment, Ministry of Environment and Forests	Letter of Approval	02/09/2019	CME
46	CME	Filled MOC FORM		CME
47	UNFCCC	Tool: Calculation of the fraction of non-renewable biomass, EB 97,	Version 1.0	Other

		Annex 9		
48	CME	fNRB calculation sheet	-	CME
49	UNFCCC	Default Values of Fraction of Non-Renewable Biomass for Least Developed Countries and Small Island Developing States, Information Note – SSC WG 35 meeting report Annex 20	approved in EB 67, Annex 22	Other
50	UNFCCC	Country specific default values suggested by the CDM EB / DNA	-	Other
51	UNFCCC	Tool-19: Demonstration of additionality of micro scale project activities		UNFCCC

## Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CLs from this validation

CL ID	01	Section no.	C	Date:	02/09/2019
<b>Description of CL</b>					
1. In sec. C, incorrect paragraphs of "Tool-19: Demonstration of additionality of micro scale project activities" are referred.					
<b>CME response</b>					<b>Date:</b> 09/09/2019
<i>The said inconsistency is corrected in PoA V2.</i>					
<b>Documentation provided by CME</b>					
<i>PoA DD V2.</i>					
<b>DOE assessment</b>					<b>Date:</b> 13/09/2019
1. In section C of revised PoA-DD, Ver. 02 dated 09/09/2019, necessary corrections made and now correct paragraphs of Tool-19: Demonstration of additionality of micro scale project activities" are referred. <b>Comment closed</b>					

CL ID	02	Section no.	H.2 & H.4	Date:	02/09/2019
<b>Description of CL</b>					
2. In Sec. H.2, year 2018 mentioned, please clarify					
3. In sec. H.4, update section as per PoA design template, ver. 9.0					
<b>CME response</b>					<b>Date:</b> 09/09/2019
2. <i>The said observation has been changed to standard format.</i>					
3. <i>The section H.4 is updated as per the latest template 9.0</i>					
<b>Documentation provided by CME</b>					
<i>PoA DD V2</i>					
<b>DOE assessment</b>					<b>Date:</b> 13/09/2019
2. In sec. H.2 of revised PoA-DD, Ver. 02, necessary correction made. <b>Comment closed</b>					
3. As per PoA design template, version 09, CME need to provide following details in this section:					
<ul style="list-style-type: none"> <li>➤ A list of the facilities, systems and equipment that will be installed by the corresponding CPAs</li> <li>➤ The range of the age and average lifetime of the equipment</li> </ul>					
CME has provided details of technologies used in this proposed PoA and technical specifications of different tiers of stoves also provided. CME has furnished life time certificates of ICS which was checked and found to be correct. <b>Comment closed</b>					

CL ID	03	Section no.	I.1, I.2	Date:02/09/2019
<b>Description of CL</b>				
<p>4. In Sec. I.1, Tool 19 is missing which has been referred in this PoA.</p> <p>5. In sec. I.2, in justification provided for compliance of methodology requirement, incorrect version of tool 19 referred. Please clarify</p>				
<b>CME response</b>				Date:09/09/2019
<p>4. Tool 19 is now included in PoA DD V2</p> <p>5. The reference to the most recent applicable version of the tool has been done in the revised version of the PoA DD V2.</p>				
<b>Documentation provided by CME</b>				
PoA DD V2				
<b>DOE assessment</b>				Date:13/09/2019
<p>4. In sec. I.1 of revised PoA-DD, Ver. 02, now "Tool 19:Demonstration of additionality of micro scale project activities" included. <b>Comment closed.</b></p> <p>5. In sec. I.2 of revised PoA-DD, Ver. 02, now correct version of "Tool 19: Demonstration of additionality of micro scale project activities" referred for explanation of compliance to methodology requirement. <b>Comment closed</b></p>				

CL ID	04	Section no.	E& F	Date:02/09/2019
<b>Description of CL</b>				
<p>6. CME shall provide rationale for conducting Local stakeholder consultation and Environmental analysis at PoA level.</p>				
<b>CME response</b>				Date:09/09/2019
<p><i>In order to take serious efforts towards ground impact of the programme, inputs &amp; feedback of the associated stakeholders (POs, Customers, NGOs, Universities, Government bodies etc ) was essential during the initial stage of the program. Stakeholder consultation was also conducted with the prospect of CDM PoA registration. The different aspects of registering IDCOL Improved Cook Stove (ICS) Program as a CDM PoA is one of the agenda. The stakeholder consultation document and environmental analysis report are being submitted.</i></p>				
<b>Documentation provided by CME</b>				
Stakeholder consultation documents and Environmental analysis report at PoA level is being provided.				
<b>DOE assessment</b>				Date:13/09/2019
<p>Justification provided by CME for conducting Local stakeholder consultation and Environment analysis at PoA level found to be appropriate and acceptable. <b>Comment closed.</b></p>				
CL ID	05	Section no.		Date:02/09/2019
<b>Description of CL</b>				
<p>During site visit, CME conveyed that 5% total stoves will be imported. Please provide technical and efficiency details of imported stoves</p>				
<b>CME response</b>				Date:09/09/2019

*Some Tier-4 stoves are planned to be imported as not available locally. However, the specifications for the same are not available yet and could get checked at the time of verification instead.*

**Documentation provided by CME**

**DOE assessment**

**Date:**13/09/2019

Justification provided by CME that a portion of Tier 4 stoves planned to be imported as these are not available locally, hence specifications of these stove not available at the moment is found to be appropriate and acceptable. DoE conclude that if these stoves get included on this proposed PoA, specifications, efficiency of imported tier 4 stoves can be checked at the time of verification.

**Comment closed.**

**Table 2. CARs from this validation**

<b>CAR ID</b>	01	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
In sec. A.1, under para "d", contribution to sustainable development should be categorized under Environmental well being, socio & economic benefits and technological benefits.				
<b>CME response</b>				<b>Date:</b> 09/09/2019
<i>The para "d" is revised as per the comment.</i>				
<b>Documentation provided by CME</b>				
PoADDV2				
<b>DOE assessment</b>				<b>Date:</b> 13/09/2019
Necessary amendments made in sec. A.1, para 'd' checked in revised PoA-DD, Ver. 02 and found to be appropriate. <b>CAR closed</b>				

<b>CAR ID</b>	02	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
Letter of Approval from Host country DNA to be provided "No ODA letter" to be provided by CME. During site visit, it was observed that GCF fund is also involved in this project. CME shall clarify or give an undertaking that no ODA funds received for this project  MoC Letter to be provided by CME				
<b>CME response</b>				<b>Date:</b> 09/09/2019
<i>Letter of approval from Host Country has been applied to DNA, same would be provided upon receipt of same. No ODA declaration letter from CME is being provided. Further, the GCF fund is being used for market promotion, awareness building, and supply chain development activities, and not for subsidizing the cost of production of ICS for households.</i>				
<b>Documentation provided by CME</b>				



No ODA Declaration	
LoA	
MoC	
<b>DOE assessment</b>	<b>Date:</b> 13/09/2019
Letter of approval from Host country dated 02/09/2019 provided by CME which is in line with UNFCCC requirements. <b>Comment closed.</b>	
"No ODA letter" and MoC provided by CME checked and found to be appropriate.	

<b>CAR ID</b>	03	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
Write up on establishment and description of baseline scenario. CME shall provide Country Action Plan on cookstoves, and copy of and copy of baseline report				
<b>CME response</b>				<b>Date:</b> 09/09/2019
Writeup on establishment and brief description of baseline scenario is bring explained in section I.5 of PoA DD V2. Also, the Country Action Plan on cookstoves and a baseline survey report is being provided.				
<b>Documentation provided by CME</b>				
PoA DD, Country Action Plan on cookstoves and Baseline survey report.				
<b>DOE assessment</b>				<b>Date:</b> 13/09/2019
Description of baseline scenario provided in section I.5 of revised PoA-DD, Ver.02 is in line with Country Action Plan for Clean Cookstoves, Nov. 2013 by Ministry of Power, Energy & Mineral resources, Govt. of Bangladesh which confirms that 90% of country's population used solid fuel for cooking. Baseline survey on estimating socio economic benefits of Renewable Energy Technology systems in Bangladesh, March 5, 2017 also corroborates the baseline and penetration of ICS in Bangladesh.				

<b>CAR ID</b>	04	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
<ol style="list-style-type: none"> <li>1. Technical specification and life time certificate of ICS to be used in PoA to be provided</li> <li>2. WBT reports and calibration records of equipment used in KPT test</li> <li>3. Stove efficiency reports</li> </ol>				
<b>CME response</b>				<b>Date:</b> 09/09/2019
<ol style="list-style-type: none"> <li>1. Technical specifications and lifetime certificate of ICS is being provided.</li> <li>2. WBT reports is being provided</li> <li>3. Third party efficiency Stove is being provided.</li> </ol>				
<b>Documentation provided by CME</b>				
Technical Specification report, lifetime certificate and stove efficient report.				
<b>DOE assessment</b>				<b>Date:</b> 13/09/2019
<ol style="list-style-type: none"> <li>1. CME has provided technical specification of ICS. <b>Comment closed.</b></li> <li>2. Stove testing report based on WBT protocol by Institute of Energy, University of Dhaka and BUET test report dated 11/06/2017 provided by CME checked by validation team and found to be correct. <b>Comment closed.</b></li> <li>3. Stove efficiency report of all types of stoves provided by CME checked and found to be ok. <b>Comment closed.</b></li> </ol>				

<b>CAR ID</b>	05	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
CME shall provide all relevant training records Simplified Stove sale database to be provided				
<b>CME response</b>				<b>Date:</b> 09/09/2019
<i>Training records for POs is being provided Stove sales database is being provided</i>				
<b>Documentation provided by CME</b>				
<i>Training documents and photographs, Sales database</i>				
<b>DOE assessment</b>				<b>Date:</b> 13/09/2019
Supporting documents for trainings conducted for Pos and Masons provided by CME. Comment closed. Stove selling database provided by CME and validation team also checked web based database during site visit which is very robust, hence <b>comment closed</b> .				

<b>CAR ID</b>	06	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
Evidence to support that project activity is in compliance with threshold of annual thermal energy savings of 1.8 GWth for each unit				
<b>CME response</b>				<b>Date:</b> 09/09/2019
<i>The spreadsheet demonstrating the annual thermal energy savings per stove is being submitted.</i>				
<b>Documentation provided by CME</b>				
<i>ER spreadsheet</i>				
<b>DOE assessment</b>				<b>Date:</b> 13/09/2019
Calculation of annual thermal energy savings for each unit provided in ER sheet, Ver. 01 . Validation team checked ER sheet and concludes that calculations are in line of methodology requirement. <b>Comment closed</b> .				

<b>CAR ID</b>	07	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
In sec. I.6.1, explain methodological steps and meth requirement for calculating baseline emissions, project emissions and leakage by clearly stating equations to be used for calculation of ERs. In sec. I.6.2, table used for ex-ante parameters are not as per latest template. ER spread sheet to be provided				
<b>CME response</b>				<b>Date:</b> 09/09/2019

Emission reduction calculation steps are mentioned in section I.6.3 and the meth requirement are justified in section I.6.1. Table revised as per the as per the latest template ER spreadsheet is being provided	
<b>Documentation provided by CME</b>	
PoA DD V2 and ER spreadsheet	
<b>DOE assessment</b>	<b>Date:</b> 13/09/2019
Sec. I.6.1 amended and methodological requirements for calculating baseline emissions, project emissions and leakage explained in sec. I.6.3 of revised PoA-DD, ver 02, which is acceptable. <b>Comment closed.</b> Ok, <b>comment closed</b> ER spreadsheet, ver. 01 provided by CME. <b>Comment closed.</b>	

<b>CAR ID</b>	08	<b>Section no.</b>		<b>Date:</b> 02/09/2019
<b>Description of CAR</b>				
<ol style="list-style-type: none"> <li>1. Supporting docs (invitation letter, agenda, summary of comments, MoM, attendance sheet) of local stakeholder's consultation to be provided.</li> <li>2. Grievance mechanism if any</li> </ol>				
<b>CME response</b>				<b>Date:</b> 09/09/2019
<ol style="list-style-type: none"> <li>1. Supporting documents related to local stakeholder's consultation is being provided.</li> <li>2. CME having a structured grievance mechanism, ICS PO (Partner organisation) troubleshooting number is mentioned on the guarantee card, Users can direct communicate with PO for troubleshooting. Further, CME has setup a dedicated Call Center for ICS program, Users can reach CME and submit complaints and queries, the call center operator provides necessary information and register the complaints, CMEnotifies relevant POs about the complaints and follow-up with them. Further CME cross checks with users about the level of troubleshooting.</li> </ol>				
<b>Documentation provided by CME</b>				
Invitation letter, attendance sheet, MoM, comments received, and photographs is being provided.				
<b>DOE assessment</b>				<b>Date:</b> 13/09/2019
All details of Stakeholder consultation conducted on 19/09/2018 provided by CME, cross checked and found to be in line. <b>Comment closed</b>				
Explanation provided for existing grievance mechanism is found to be appropriate and in accordance with details provided during site visit. <b>Comment closed</b>				

Table 3. FARs from this validation

<b>FAR ID</b>	xx	<b>Section no.</b>		<b>Date:</b> DD/MM/YYYY
<b>Description of FAR</b>				
<b>CME response</b>				<b>Date:</b> DD/MM/YYYY
<b>Documentation provided by CME</b>				
<b>DOE assessment</b>				<b>Date:</b> DD/MM/YYYY

**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"><li>• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN);</li><li>• Make editorial improvements.</li></ul>
02.0	29 December 2017	Revision to align with the requirements of the “CDM validation and verification standard for programme of activities” (version 01.0).
01.0	4 May 2015	Initial publication.
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Document Type: Form		
Business Function: Registration		
Keywords:programme of activities, validation report		