




**Validation report form for inclusion of component  
project activities  
(Version 03.0)**

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

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the programme of activities (PoA)</b>	<b>The Project of CCC program of Activities (PoA) for Distribution of Improved Cookstoves (ICS) in Developing South and Southeast Asia Countries (Myanmar)</b> <b>Reference# 10471</b>	
<b>Version number of the validation report</b>	1.2	
<b>Completion date of the validation report</b>	26/08/2019	
<b>Version numbers of the PoA-DD to which this report applies</b>	<b>6.10</b>	
<b>Title and reference number of each CPAs to be included</b>	CPA Ref. no.	<b>Title</b>
	CPA 002	CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 002
	CPA 003	CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 003
	CPA 004	CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 004
	CPA 005	CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 005
	CPA 006	CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 006
<b>Applied methodologies and standardized baselines for each CPA</b>	CPA Ref. no.	<b>Applied methodologies and standardized baselines</b>
	CPA 002	AMS-II.G. (ver.9.0)
	CPA 003	AMS-II.G. (ver.9.0)
	CPA 004	AMS-II.G. (ver.9.0)
	CPA 005	AMS-II.G. (ver.9.0)
	CPA 006	AMS-II.G. (ver.9.0)
<b>Sectoral scopes for each CPA</b>	CPA Ref. no.	<b>Sectoral scopes (indicate mandatory and conditional sectoral scopes)</b>
	CPA 002	03 (Mandatory)
	CPA 003	03 (Mandatory)
	CPA 004	03 (Mandatory)
	CPA 005	03 (Mandatory)

	CPA 006	03 (Mandatory)
<b>Coordinating/managing entity (CME)</b>	Climate Change Center	
<b>Host Parties</b>	The Republic of the Union of Myanmar	
<b>Estimated amount of annual average greenhouse gas (GHG) emission reductions or GHG removals by sinks in the crediting period (tCO<sub>2</sub>e), per CPA</b>	CPA Ref. no.	<b>tCO<sub>2</sub>e</b>
	CPA 002	23,585
	CPA 003	23,384
	CPA 004	22,138
	CPA 005	22,055
	CPA 006	21,966
<b>Name and UNFCCC reference number of the DOE</b>	Korean Standards Association / CDME-0039	
<b>Name, position and signature of the approver of the validation report</b>	<p>JinSeong Park</p> <p>Director General of Certification Service Division</p> 	

## SECTION A. Executive summary

Korean Standards Association made contract with Climate Change Center to carry out validation of following 5(five) proposed component project activities under programme of activity “The Project of CCC program of Activities (PoA) for Distribution of Improved Cookstoves (ICS) in Developing South and Southeast Asia Countries (Myanmar)”:

“CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 002”

“CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 003”

“CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 004”

“CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 005”

“CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 006”

Validation was conducted in accordance with UNFCCC criteria for the clean development mechanism programme of activities, CDM validation and verification standard for PoA (ver.2.0), and host country criteria, as well as criteria given to provide for consistent PoA operations, monitoring and reporting.

The proposed CPAs are to distribute improved cookstoves (so called E-FREE) to household in Sagaing region in the host country (Myanmar) whose baseline device is three stone fire, to reduce woodfuel consumption for cooking.

The scope of the validation is to determine whether the proposed CPAs comply with the requirements in para 37 of CDM M&Ps (with the exception of para 37(c) for CCS CDM project activities), the eligibility criteria defined in generic CPA, and the other applied methodological regulatory documents and guidance provided by EB.

The KSA validation team follows a risk-based approach in the validation focusing on the identification of significant risks for project implementation and generation of certified emission reductions (CERs). Validation is not meant to provide any consulting toward the project participants. However, the corrective action requests (CARs) and clarifications (CL) may have provided input for improvement of the CPA design.

To assess proposed CPAs, validation team applied standard audit technique including (i) review of documents provided by CME and additional evidences validation team found, (ii) on-site assessment including interviews with relevant personnel, and (iii) follow-up actions and reporting. As a result of validation process, KSA concluded the proposed CPAs meet all applicable CDM requirements and eligibility criteria defined in the registered PoA-DD, and will result in greenhouse gas emission reductions that are real, measurable, and give long-term benefits to the mitigation of climate change.

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

### B.1. Validation team member

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	Interviews	Validation findings

1.	Team Leader	EI	Choi	SeungKeun	KSA	V	V	V	V
2.	Validator	EI	Park	SeongYong	KSA	V			V
3.	Validator	IR	Moon	HyunMan	KSA	V			V
4.	Local Expert	EI	Aye	Kyaw Nyein	KSA	V			

**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	Kyuil	Sohn	KSA
2.	Approver	IR	JinSeong	Park	KSA

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

>> All documents reviewed or referenced during the validation is listed in Appendix 3 below

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

Duration of on-site inspection: 01/08/2019 to 02/08/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Organizational structure and management system	Dry Zone Greening Department of Myanmar (DGZD)	01/08/2019	SeungKeun Choi
2	Local Stakeholder Consultation process	Dry Zone Greening Department of Myanmar (DGZD)	01/08/2019	SeungKeun Choi
3	Monitoring system and procedure	Dry Zone Greening Department of Myanmar (DGZD)	02/08/2019	SeungKeun Choi

**C.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Aye	U Maung Maung	Director of DZGD	01/08/2019	General background, government policy, and relevant information about proposed PoA	SeungKeun Choi
2	Shin	Thant	Assistant director of DZGD	01/08/2019	Organizational structure of DZGD(CPA implementer), monitoring arrangement and local stakeholder consultation process	SeungKeun Choi

3	Zaw	Moe	Deputy director of DZGD	02/08/2019	Monitoring and data management procedure	SeungKeun Choi
4	Miseong	Lee	Climate Change Center (CME)	02/08/2019	Monitoring and data management procedure	SeungKeun Choi

#### C.4. Sampling approach

>> Sampling approach was not applied to validate proposed program of activity.

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

Areas of validation of compliance (SECTION D)	No. of CL	No. of CAR	No. of FAR
Titles of the CPAs and corresponding generic CPAs		1	
Compliance with CPA-DD form			
General description of the CPAs		2	
Application of methodologies and standardized baselines			
• Reference to methodologies and standardized baselines			
• Project boundary, sources and GHGs			
• Baseline scenario			
Estimation of emission reductions or net anthropogenic removals			
• Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals			
• Data and parameters fixed ex ante			
• Ex ante calculation of GHG emission reductions or net anthropogenic GHG removals			
• Summary of ex ante estimates of GHG emission reductions or net anthropogenic GHG removals			
Monitoring plan			
• Data and parameters to be monitored			
• Description of the monitoring plan	1		
Start date, crediting period type and duration			
Environmental impacts			
Local stakeholder consultation			
Eligibility for inclusion			
Others (please specify)			
<b>Total</b>	<b>1</b>	<b>3</b>	<b>-</b>

### SECTION D. Validation findings

#### D.1. Proposed CPAs and corresponding generic CPAs

CPA title and reference number	Version number of the CPA-DD	Host Party	Generic CPA title, identification/reference number	Version number of the PoA-DD into which the CPA is included
CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 002	01.7	The Republic of the Union of Myanmar	Generic CPA 001	06.10

CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 003	01.7	The Republic of the Union of Myanmar	Generic CPA 001	06.10
CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 004	01.7	The Republic of the Union of Myanmar	Generic CPA 001	06.10
CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 005	01.7	The Republic of the Union of Myanmar	Generic CPA 001	06.10
CCC PoA for distribution of ICS in developing countries (Myanmar): CPA 006	01.7	The Republic of the Union of Myanmar	Generic CPA 001	06.10

## D.2. Compliance with CPA-DD form

<b>Means of validation</b>	Validation team visited UNFCCC CDM website to check valid version of CPA-DD form. Then, the team reviewed instruction in the form and each CPA-DD to verify description in each CPA-DD is complied with the instruction
<b>Findings</b>	CAR 01 was raised and closed
<b>Conclusion</b>	Validation team confirms that ver.9.0 is latest and valid version of CPA-DD form (CDM-CPA-DD-FORM), and all five (5) CPA-DDs provided by the CME applied same version.

## D.3. General description of the CPAs

<b>Means of validation</b>	<p>CME and CPA implementer planned total six (6) CPAs – CPA 001 to 006 – and validation for initial CPA (CPA 001) was separately carried out under CME's request. However, CME and CPA implementer regard all six (6) CPAs as a single program to distribute cookstoves within dryzone of the host party, but divide into six CPAs to allocate investors. So, all six (6) CPAs have been implemented with same timetable. In this reason, validation team referred to outcome from validation for CPA 001.</p> <p>To assess general information of the proposed five (5) CPAs, validation team reviewed following documents:</p> <ul style="list-style-type: none"> <li>(1) registered PoA-DD /01/ and CPA-DDs /02/</li> <li>(2) CME's program management manual /03/</li> <li>(3) Technical review record to include the proposed five (5) CPAs /04/</li> <li>(4) registered PoA and CPAs that applied same technology in the same host country /05/</li> <li>(5) Conformity letters /06/ signed by household who has been received project device under proposed CPAs</li> </ul> <p>Then, validation team conducted on-site interview with:</p> <ul style="list-style-type: none"> <li>(1) CME staff who in charge of technical review;</li> <li>(2) CPA implementer's staff</li> </ul>
<b>Findings</b>	Validation team found that the proposed CPAs:

	<p>(1) has only one host party, Myanmar</p> <p>(2) are implemented within the geographical boundary of the host party</p> <p>(3) has CPA implementer – Dry Zone Greening Department, government department of the host party</p> <p>(4) was initially proposed with PoA at the same time, by the CME</p> <p>(5) is to distribute improved cookstoves to household who previously used three stone fire to cook.</p> <p>(6) has not been excluded previously from a registered CDM PoA</p> <p>Validation team also found that the other information in the each CPA-DD is in line with general description in the PoA-DD.</p> <p>CAR 02 and 03 were raised and closed in this section</p>
<b>Conclusion</b>	As a result of assessment, validation team concluded that description in each CPA-DD is accurate and complete.

#### D.4. Application of methodologies and standardized baselines

##### D.4.1. Reference to methodologies and standardized baselines

<b>Means of validation</b>	<p>Validation team reviewed applied methodology at both PoA and CPA level, then checked applicability conditions in the methodology. In addition, validation team also checked which conditions about methodology application were defined in the eligibility criteria in the registered PoA-DD.</p> <p>Lastly, validation team reviewed technical review records /04/ conducted by CME for CPA inclusion.</p>
<b>Findings</b>	<p>Both PoA and CPAs applied AMS-II.G. (ver.9.0) /07/.</p> <p>In the section I.2 of the registered PoA-DD, CME demonstrated how the PoA meets each applicability conditions, and proposed five (5) CPAs are to distribute project devices into dryzone of the host country, as a piece of the program.</p> <p>Eligibility criterion #6 in the registered PoA-DD /01/ defines applicability conditions for corresponding CPAs, and CME confirmed the proposed five (5) CPAs meet applicability conditions by conducting technical review /04/ for inclusion. CME checked performance report /08/ of project device and confirmed 28% of reported efficiency is over 20% required in the methodology.</p> <p>No CARs, CLs, and FARs were raised in this section</p>
<b>Conclusion</b>	So, validation team concluded that the proposed CPAs also meet applicability conditions reviewed in the PoA-DD.

##### D.4.2. Project boundary, sources and GHGs

Means of validation	Validation team reviewed how project boundary and emission sources are defined in the generic CPA-DD, then compared to description in the CPA-DDs. After that, validation team carried out on-site assessment to confirm it.		
Findings	<u>Project Boundary</u> Project boundary is defined as geographical boundary of host party, Myanmar, and each proposed five (5) CPAs define project boundary as below:		
	CPA number	Region	Township
	CPA 002	Sagaing	Sagaing, Myinmu, Myaung
	CPA 003	Magway	Pakokku, Yesagyo, Myaing, Pauk, Seikphyu
	CPA 004	Magway	Chauk, Yenangyaung, Natmauk, Myothit, Taungdwingyi, Magway

	CPA 005	Mandalay	Myingyan, Nahtogyi, Taimgtha, Ngazun
	CPA 006	Mandalay	Yamethin, Pyawbwe

Validation team also compared list of townships in another CPA - CPA 001, and found that no townships in the CPA 001 are included in the proposed 5 CPAs

During on-site assessment, validation team was provided introduction material /9/ by Dry Zone Greening Department of Myanmar, and interviewed local household in the Sagaing region. The residents confirmed that they were received project device very recently, under registered PoA.

Emission Sources

Validation team found that generic CPA-DD defines following sources are considered, and same were covered in the CPA-DDs:

	Source	GHG	Included?	Justification/Explanation
Baseline	Consumption of non-renewable biomass for combustion	CO <sub>2</sub>	Yes	Source of emissions
		CH <sub>4</sub>	No	Not considered as per the methodology Exclusion if conservative assumption.
		N <sub>2</sub> O	No	Not considered as per the methodology Exclusion if conservative assumption.
Project activity	Implementation of energy efficient ICSs resulting in decrease of combustion of non-renewable biomass for cooking	CO <sub>2</sub>	Yes	Source of emissions
		CH <sub>4</sub>	No	Not considered as per the methodology Exclusion if conservative assumption.
		N <sub>2</sub> O	No	Not considered as per the methodology Exclusion if conservative assumption.
	Leakage (Diversion of non-renewable biomass saved under the project activity by non-project households that previously used renewable source)	CO <sub>2</sub>	Yes	Source of emissions
		CH <sub>4</sub>	No	Not considered as per the methodology Exclusion if conservative assumption.
		N <sub>2</sub> O	No	Not considered as per the methodology Exclusion if conservative assumption.

No CARs, CLs, and FARs were raised in this section

<b>Conclusion</b>	Validation team confirms that emission sources in the CPA boundary are identified in accordance with applied methodology and generic CPA-DD.
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#### D.4.3. Baseline scenario

<b>Means of validation</b>	Validation team checked baseline scenario is defined in accordance with both applied methodology and generic CPA-DD.
<b>Findings</b>	<p>Baseline scenario is fixed by applied small-scale CDM methodology AMS-II.G. (ver.9.0) /07/ as below:</p> <p><i>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.</i></p> <p>Consequently, generic CPA-DD defines baseline scenario for the PoA as below:  <i>The baseline scenario is the projected use of fossil fuel, the non-renewable biomass, to meet similar thermal energy needs as those provided by the project devices.</i></p>



	<p>Validation team confirmed that same baseline scenario is demonstrated in the proposed five (5) CPAs. Baseline device for the registered PoA is three stone fire for cooking, so no remaining lifetime issue required in para 196 of CDM VVS PoA /10/ exists.</p> <p>No CARs, CLs, and FARs were raised in this section</p>
<b>Conclusion</b>	Validation team confirms that baseline scenario in the proposed CPA-DDs are established in accordance with applied methodology and generic CPA-DD

## D.5. Estimation of emission reductions or net anthropogenic removals

### D.5.1. Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals

<b>Means of validation</b>	Validation team compared equations and parameters applied to the CPA-DD with applied methodology and generic CPA-DD																																		
<b>Findings</b>	<p><u>Equations applied</u> Among the equations in the applied methodology, equation (1), (2), and (7) are applied in the generic CPA-DD. Validation team found that all equations defined in the generic CPA-DD are also applied in the proposed CPA-DD correctly.</p> <p><u>Parameters applied</u> Validation team compared parameters in the generic CPA-DD with proposed five (5) CPA-DDs, then found all parameters are correctly included in the proposed CPAs.</p> <table border="1"> <thead> <tr> <th>No</th><th>Data/Parameter defined in the generic CPA-DD</th><th>Description</th><th>Remarks</th></tr> </thead> <tbody> <tr> <td>1</td><td><math>f_{NRB,y}</math></td><td>Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass</td><td>Applied in the proposed CPAs as a fixed value</td></tr> <tr> <td>2</td><td><math>EF_{\text{projected\_fossil fuel}}</math></td><td>Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers.</td><td>Applied in the proposed CPAs as a fixed value</td></tr> <tr> <td>3</td><td>Leakage</td><td>-</td><td>Applied in the proposed CPAs as a fixed value</td></tr> <tr> <td>4</td><td><math>N_{y,i,j}</math></td><td>Number of project devices of type i and batch j operating during year y</td><td>Applied in the proposed CPAs as a monitoring parameter</td></tr> <tr> <td>5</td><td><math>\mu_y</math></td><td>Adjustment to account for any continued use of pre-project devices during the year y</td><td>Applied in the proposed CPAs as a fixed value</td></tr> <tr> <td>6</td><td><math>\eta_{\text{new},i,j}</math></td><td>Efficiency of the device of each type i and batch j implemented as part of the project activity</td><td>Applied in the proposed CPAs as a monitoring parameter</td></tr> <tr> <td>7</td><td><math>NCV_{\text{biomass}}</math></td><td>Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices</td><td>Applied in the proposed CPAs as a fixed value</td></tr> </tbody> </table>			No	Data/Parameter defined in the generic CPA-DD	Description	Remarks	1	$f_{NRB,y}$	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass	Applied in the proposed CPAs as a fixed value	2	$EF_{\text{projected\_fossil fuel}}$	Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers.	Applied in the proposed CPAs as a fixed value	3	Leakage	-	Applied in the proposed CPAs as a fixed value	4	$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Applied in the proposed CPAs as a monitoring parameter	5	$\mu_y$	Adjustment to account for any continued use of pre-project devices during the year y	Applied in the proposed CPAs as a fixed value	6	$\eta_{\text{new},i,j}$	Efficiency of the device of each type i and batch j implemented as part of the project activity	Applied in the proposed CPAs as a monitoring parameter	7	$NCV_{\text{biomass}}$	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices	Applied in the proposed CPAs as a fixed value
No	Data/Parameter defined in the generic CPA-DD	Description	Remarks																																
1	$f_{NRB,y}$	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass	Applied in the proposed CPAs as a fixed value																																
2	$EF_{\text{projected\_fossil fuel}}$	Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers.	Applied in the proposed CPAs as a fixed value																																
3	Leakage	-	Applied in the proposed CPAs as a fixed value																																
4	$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Applied in the proposed CPAs as a monitoring parameter																																
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7	$NCV_{\text{biomass}}$	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices	Applied in the proposed CPAs as a fixed value																																

	8	$\eta_{old,i,j}$	Efficiency of pre-project device	Applied in the proposed CPAs as a fixed value
	9	Life Span	The operating life time of the project device.	Applied in the proposed CPAs as a monitoring parameter. Lifespan suggested by manufacturer is 2~3 year, but CME determined to 2 year.
	10	Date of commissioning of batch j	-	Applied in the proposed CPAs as a monitoring parameter
	11	Date of commissioning of project device i	-	Applied in the proposed CPAs as a monitoring parameter
<b>Conclusion</b>	Validation team confirmed that equations and parameters applied to calculate emission reductions for the proposed CPAs are in accordance with the generic CPA 001.			

#### D.5.2. Data and parameters fixed ex ante

Means of validation	Validation team reviewed proposed five (5) CPA-DDs to verify whether data/parameters fixed ex ante are completely defined in accordance with generic CPA-DD			
Findings	Validation team found that all data/parameters fixed ex ante in the generic CPA-DD are correctly defined in the proposed five (5) CPA-DDs as below:			
	No	Data/Parameter in the generic CPA-DD	Value Applied in proposed CPA	Remarks
	1	$\eta_{old,i,j}$	0.1	This parameter defined in the generic CPA as parameter to be monitored, but default value in the methodology is applied instead of monitoring.
	2	$\mu_y$	1.0	Proposed CPAs and generic CPA-DD apply equation (7) of the methodology, so 1.0 of default value can be applied without monitoring activity.
	3	$f_{NRB,y}$	0.3	“Tool30: calculation of fraction of non-renewable biomass” /12/, 0.3 of default value is applied.
	4	$NCV_{biomass}$	0.0156 TJ/ton	This parameter defined in the generic CPA as parameter to be monitored, but default value in the methodology is applied instead of monitoring.
	5	$EF_{projected\ fossil\ fuel}$	63.7 tCO <sub>2</sub> /TJ	Provided in the applied methodology
	6	Leakage	0.95	Default value in the applied methodology
	No CARs, CLs, and FARs were raised in this section			
Conclusion	Validation team confirms that data and parameters fixed ex ante that are used in the equations to calculate GHG emission reductions for the CPA are defined in accordance with the corresponding generic CPA			

**D.5.3. Ex ante calculation of GHG emission reductions or net anthropogenic GHG removals**

<b>Means of validation</b>	Validation team reviewed generic CPA-DD to identify which equations are applied among the equations defined in the methodology, then confirmed if proposed CPA-DD followed calculations in the generic CPA.
<b>Findings</b>	<p>Validation team found that equation (1), (2) and (7) to determine emission reductions achieved by the proposed CPA.</p> <p><u>Step 1. equation (7) to determine <math>B_{y,savings,i,j}</math></u>  <math display="block">B_{y,savings,i,j} = B_{y=1,new,i,j,survey} \times (\eta_{new,i,j} / \eta_{old,i,j} - 1)</math></p> <p><u>Step 2. equation (2) to calculate <math>ER_{y,i,j}</math></u>  <math display="block">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}</math></p> <p><u>Step 3. equation (1) to determine emission reductions</u>  <math display="block">\therefore ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y</math></p> <p>Calculation logic described above is correctly cited as defined in generic CPA.</p> <p>No CARs, CLs, and FARs were raised in this section</p>
<b>Conclusion</b>	Validation team confirms that ex ante calculation of GHG emission reductions is in accordance with generic CPA.

**D.5.4. Summary of ex ante estimates of GHG emission reductions or net anthropogenic GHG removals**

<b>Means of validation</b>	<p>Validation team reviewed estimated emission reduction calculation spreadsheet /13/ provided by CME, then determined whether appropriate formulae and numbers are applied in accordance with generic CPA and AMS-II.G. (ver.9.0) /07/</p> <p>In addition, to assess if estimated emission reductions are appropriate, validation team verified assumed values for data/parameters to be monitored are also appropriate.</p>
<b>Findings</b>	<p>The proposed CPAs are to distribute about 36,000 cookstoves for initial two years – approximately 18,000 per year. However, expected lifetime of the cookstove is limited to 2 years by the CME, so the CME and CPA implementer (DZGD) has plan to replace about 18,000 cookstoves in 3<sup>rd</sup> year that would have been distributed in 1<sup>st</sup> year, and in 4<sup>th</sup> year, replace remaining 18,000 cookstoves distributed in 2<sup>nd</sup> year. With this manner, about 18,000 cookstoves would be distributed every single year, until the end of crediting period. In this reason, validation team confirmed that 36,000 for monitoring parameter <math>N_{y,i,j}</math> is appropriately assumed for ex ante estimation of emission reductions.</p> <p>After the proposed CPAs are included, the CPA implementer will carry out regular survey for monitoring parameter <math>\mu_y</math>. For ex ante estimation, <math>\mu_y</math> is assumed as 1.0, so appropriate.</p> <p>Efficiency of project device is to be monitored by representative samples, but 28% is assumed as per performance test report /08/ issued by Yangon University.</p> <p>Based on emission reduction calculation formula defined in the generic CPA, the CME estimated ex ante emission reductions for CPA 002 as follows:</p> <p><u>Equation (2) in the applied methodology</u>  <math display="block">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} \times Leakage</math></p>

	$= 2.124 \text{ ton/yr} \times 39,207 \times 1.0 \times 0.3 \times 0.0156 \text{ TJ/ton} \times 63.7 \text{ tCO}_2/\text{TJ} \times 0.95$ $= 23,585 \text{ tCO}_2/\text{yr}$ <p>Where,  <u>Equation (7) in the applied methodology</u>  <math display="block">B_{y,\text{savings},i,j} = B_{y=1,\text{new},i,j,\text{survey}} \times (\eta_{\text{new},i,j} / \eta_{\text{old},i,j} - 1)</math> <math display="block">= 1.18 \times (0.28 / 0.1 - 1)</math> <math display="block">= 2.124 \text{ ton/yr}</math>   <u>Equation (1) in the applied methodology</u>  <math display="block">\therefore ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y</math> <math display="block">= 23,585 - 0 \text{ (Leakage is considered in equation (2))}</math> <math display="block">= 23,585 \text{ tCO}_2/\text{yr}</math>   As a same manner, emission reductions for remaining 4 CPAs are estimated as below: <ul style="list-style-type: none"> <li>• CPA 003 : 23,384 tCO<sub>2</sub>/yr, with 38,872 cookstoves</li> <li>• CPA 004 : 22,138 tCO<sub>2</sub>/yr, with 36,801 cookstoves</li> <li>• CPA 005 : 22,055 tCO<sub>2</sub>/yr, with 36,663 cookstoves</li> <li>• CPA 006 : 21,966 tCO<sub>2</sub>/yr, with 36,515 cookstoves,</li> </ul>   By analysing calculation spreadsheet, validation team found that calculation was correct.   No CARs, CLs, and FARs were raised in this section </p>
<b>Conclusion</b>	Validation team confirms that ex ante estimates of GHG emission reductions can be replicated, and is in accordance with generic CPA.

## D.6. Monitoring plan

### D.6.1. Data and parameters to be monitored

<b>Means of validation</b>	Validation team reviewed generic CPA-DD to assess whether monitoring plan in the proposed CPA-DD followed as designed at PoA level.			
<b>Findings</b>	For each monitoring parameter defined in the generic CPA, assessment result are described as below table:			
	No	Data/Parameter	Description	Assessment
	1	N <sub>y,i,j</sub>	Number of project devices of type i and batch j operating during year y	<p>During on-site assessment, validation team reviewed distribution records and visited manufacturing site, then found unique serial number for each cookstove is given and CPA implementer (DZGD) maintained distribution record.</p> <p>After distribution, CPA implementer has plan to visit all household regularly to check if they are using cookstoves. During on-site interview, validation team checked survey and recording template, and confirmed enough number of staffs for each township was assigned for</p>

				planned CPAs.  In this reason, validation team concluded that number of cookstoves which was operating could be recorded and managed.
	2	$\eta_{new,i,j}$	Efficiency of the device of each type i and batch j implemented as part of the project activity	To justify applicability condition, paragraph 3 of AMS-II.G. (ver.9.0), CME provided test report and datasheet /08/, which shows 28% of thermal efficiency. To determine emission reductions at CPA monitoring stage, CME is planned to conduct performance test in accordance with options given in the methodology. Compliance of requirement may be assessed with ex post monitoring result at verification stage.
	3	$B_{y=1,new,i,j,survey}$	Quantity of woody biomass used by project devices in tonnes per device of type i and batch j	Applied. CME planned to conduct survey for this parameter, at the first year of distribution, in accordance data/parameter 15 of applied methodology. Generic CPA-DD describes that stratified sampling method would be applied with random number generating software, and distinguish actual usage of project device in case of multiple device use. So, validation team concluded appropriate questionnaire would be prepared.  For ex ante estimation, CME applied 1.18 ton.
	4	Life Span	The operating life time of the project device.	Applied. Among the options in paragraph 27 of AMS-II.G. (ver.9.0), CME applied option (d), but PoA-DD describes that all cookstoves would be replaced in every two year even if thermal efficiency is still over 20%, so validation team required to determine this parameter. Introduction presentation of E-FREE cookstove /14/, provided by MCS (manufacturer), tells that E-FREE cookstove is durable for 2~3 years, so validation team confirmed two year of lifespan is appropriate.
	5	Date of commissioning of batch j	-	When CPA implementer distribute cookstoves to households, conformity letter would be received. CPA implementer's staff would type information in the signed letter into excel file, then transfer the file to CME. When validation team visited CPA implementer's office, cookstoves have been distributing, so validation could review actual records, so called "project

				database”, then confirmed that this parameter could be determined after distribution of each batch is complete.
	6	Date of commissioning of project device i	-	Assessment result is same with #6. The proposed CPAs are designed to distribute single type of cookstove.
	No CARs and CLs were raised			
<b>Conclusion</b>	Validation team confirms that all required parameters are appropriately defined in accordance with corresponding generic CPA.			

### D.6.2. Description of the monitoring plan

<b>Means of validation</b>	Validation team checked whether monitoring plan in the proposed five (5) CPA-DDs are described as designed in the generic CPA. Then, validation team also assessed information and data flow to determine emission reductions by the CME, including QA/QC procedures.
<b>Findings</b>	<p>Assessment result for monitoring plan of each data/parameters is already described in D.6.1 above.</p> <p>According to the sampling plan, validation team reviewed section B.5.2 of proposed CPA-DDs, then found that the description correctly reflected sampling design in the generic CPA.`</p> <p>Refer to QA/QC procedure, CME established “Program Management Manual” /03/, including roles and responsibilities for each level/stage of monitoring. Validation team interviewed staffs of CPA implementer, and concluded they have enough knowledges about CDM requirements and internal procedure.</p> <p>CL 01 was raised and closed.</p>
<b>Conclusion</b>	Validation team confirms that monitoring plan in the proposed five (5) CPAs is appropriately described in accordance with generic CPA

**D.7. Start date, crediting period type and duration**

<b>Means of validation</b>	<p>Validation team reviewed following documents to assess CPA start dates are correctly defined and is after the start date of PoA:</p> <ul style="list-style-type: none"> <li>(1) registered PoA-DD /01/</li> <li>(2) Glossary CDM terms (ver.9.1) /15/</li> <li>(3) EB41 meeting report /16/</li> <li>(4) First Conformity letters for each five (5) CPAs /06/</li> <li>(5) Contract with MCS(cookstove manufacturer) /17/</li> <li>(6) Payment record for cookstove order /18/</li> <li>(7) Record of discussion /19/, signed by CME and DZGD</li> <li>(8) Payment record, from CME to DZGD /20/</li> </ul> <p>According to start date of crediting period, validation team reviewed all five (5) CPA-DDs and following documents:</p> <ul style="list-style-type: none"> <li>(1) registered PoA-DD /01/</li> <li>(2) E-FREE Cook-stove based on Ancient Glazed Technology /14/</li> </ul>
<b>Findings</b>	<p><b><u>Background</u></b></p> <p>As mentioned in D.3 of this validation report, CPA 001~006 was planned at the same time, but divided into six (6) CPAs to allocate investors with each CPA. In this reason, all six (6) CPAs have same timeline except local stakeholder consultation - LSC for each CPA was held in sequence. Among the six (6) CPAs, validation for CPA 001 was separately carried out.</p> <p><b><u>Start date of CPA</u></b></p> <p>Validation team found that Glossary CDM terms /15/ defines start date as below:</p> <p><i>For a CDM project activity (non-A/R) or CPA (non-A/R), the date on which the project participants commit to making expenditures for the construction or modification of the main equipment or facility (e.g. a wind turbine), or for the provision or modification of a service (e.g. distribution of energy-efficient light bulbs, change of transport management system), for the CDM project activity or CPA. Where a contract is signed for such expenditures (e.g. for procurement of a wind turbine), it is the date on which the contract is signed. In other cases, it is the date on which such expenditures are incurred. If the CDM project activity or CPA involves more than one of such contracts or incurred expenditures, it is the first of the respective dates. Activities incurring minor pre-project expenses (e.g. feasibility studies, preliminary surveys) are not considered in the determination of the start date.</i></p> <p>Related to the definition, EB41 para 67 provides essential background of definition in the glossary CDM terms /15/</p> <p><i>67. The “Glossary of CDM terms” defines the start date of a CDM project activity as: “the earliest date at which either the implementation or construction or real action of a project activity begins”. To facilitate the clear definition of this term the Board further clarified that:</i></p> <p><i>"In light of the above definition, the start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity. This, for example, can be the date on which contracts have been signed for equipment or construction/operation services required for the project activity.</i></p> <p><i>Minor pre-project expenses, e.g. the contracting of services /payment of fees for feasibility studies or preliminary surveys, should not be considered in the determination of the start date as they do not necessarily indicate the commencement of implementation of the project. For those project activities which do not require construction or significant pre-project implementation (e.g. light bulb replacement) the start date is to be considered the date when real action occurs. In the context of the above definition, pre-project planning is not considered “real action”.</i></p>

As per the definition, start date can be (i) the first date of significant pre-project activity such as contract or payment was made, or (2) the date real action such as provision or modification of services occurs. Related to the proposed CPAs, validation team found following actions have been made:

Date	Activity made	Remarks
30/03/2018	ROD /19/ signed between CME (CCC) and CPA implementer (DZGD)	Decide to proceed PoA, including 6 expected CPAs
25/04/2018	CME signed contract with cookstove manufacturer (MCS) /17/	The contract defines volume and timing of order, roles and responsibilities, payment conditions for expected six (6) CPAs. Down payment was also made
25/05/2018	Notification of intension to UNFCCC CDM secretariat was made	Start date of PoA
15/06/2018	1 <sup>st</sup> bank transfer from CME to CPA implementer	As per the contract /19/ CME provided budget for workshop and prepare infrastructure.
19/12/2018	CPA implementer started to distribute cookstoves for all six (6) CPAs	Initial conformity letter /06/ was provided by CME

Validation team discussed whether two contracts made March and April should be regarded as significant pre-project implementation, but concluded that those were PoA level activities to prepare corresponding CPAs by considering:

- ROD with DZGD /19/ defines roles and responsibilities, expected cost and schedule, education and training, and CER ownerships for whole PoA including expected six (6) CPAs.
- Contract with MCS defines expected volume of order, payment conditions, roles and responsibilities, and QA/QC procedure for whole PoA including expected six (6) CPAs.

In summary, validation team confirmed that real action for the proposed CPAs were started on 19/12/2018, by distributing project devices to households, which is after start date of PoA, 25/05/2018.

#### **Crediting Period and Duration**

In section C.3 of each CPA-DD, the CME selected 7 year of renewable crediting period, which start from 31/08/2019 or the date of inclusion. Designated date is both after start date of each CPA and registration date of PoA, so appropriate. If inclusion of the proposed CPAs are made after the date, crediting period will begin on the date of inclusion, so validation team confirmed this is in accordance with para 188 of CDM PS PoA /21/

Project device, ICS, is known as 2~3 year of operation lifetime, so CME decided to replace all ICS distributed on a biennial basis. As per the plan, validation team concluded that 7-year crediting period is appropriate.

No CARs and CLs were raised.

#### **Conclusion**

Validation team confirms that start date of the proposed CPA 002~006, expected operational lifetime, type and duration of the crediting period, and start date of crediting period is appropriately defined in accordance with relevant requirements of CDM VVS PoA (ver.2.0) /10/ and CDM PS PoA (ver.2.0) /21/



**D.8. Environmental impacts**

<b>Means of validation</b>	Environmental impact was reviewed at PoA level
<b>Findings</b>	N/A
<b>Conclusion</b>	N/A

**D.9. Local stakeholder consultation**

<b>Means of validation</b>	<p>Registered PoA-DD defines that local stakeholder consultation would be carried out at CPA level.</p> <p>To assess how local stakeholder consultation process was completed, validation team reviewed following documented evidences related to local stakeholder consultation:</p> <ul style="list-style-type: none"> <li>(1) Invitation letter /22/</li> <li>(2) Attendees list /23/</li> <li>(3) List of comments received /24/</li> <li>(4) Photos of consultation /25/</li> <li>(5) Presentation material for LSC history /27/</li> </ul>
<b>Findings</b>	<p><b><u>Validation findings</u></b></p> <p>As a result of desk review, validation team found that:</p> <ul style="list-style-type: none"> <li>• LSC was separately held in each CPA region</li> <li>• Local households were invited</li> <li>• LSC for each CPA was held on below schedule: <ul style="list-style-type: none"> <li>- CPA 002 : 06/08/2018</li> <li>- CPA 003 : 10/08/2018</li> <li>- CPA 004 : 31/07/2018</li> <li>- CPA 005 : 05/08/2018</li> <li>- CPA 006 : 09/08/2018</li> </ul> </li> </ul> <p>During on-site assessment, validation team reviewed LSC records and found that:</p> <ul style="list-style-type: none"> <li>• Invitation was announced throughout bulletin board of local authorities and oral transmission</li> <li>• Interviewees said most of the people were informed about the consultation event.</li> <li>• Participants were introduced about registered PoA and proposed CPAs, and they felt enough information was provided.</li> <li>• Participants had chance for question, list of comments provided by the CME was true, and no negative opinion was raised during the consultation</li> <li>• DZGD has opened more meetings and invited residents in each CPAs, not only to encourage use of cookstoves instead of three stone fire, but also to pay attention to government policies for dryzone greening and plantation.</li> </ul> <p><b><u>Scope of LSC</u></b></p> <p>During on-site interview, local residents answered enough information was provided about registered PoA and related CPA, so validation team concluded LSC was appropriately comprised</p> <p><b><u>Minimum Group of stakeholder to be involved</u></b></p> <p>Validation team found that local residents were invited and anyone could participated. By reviewing LSC records, validation team found list of participants:</p> <ul style="list-style-type: none"> <li>• CPA 002 : 153 residents including 33 local/regional authority representatives were participated</li> <li>• CPA 003 : 213 residents including 23 local/regional authority representatives were participated</li> <li>• CPA 004 : 154 residents including 25 local/regional authority representatives were participated</li> <li>• CPA 005 : 118 residents were participated</li> <li>• CPA 006 : 122 residents were participated</li> </ul> <p>In this reason, validation team concluded that appropriate group of local stakeholders were invited.</p>

	<p><b><u>Means of Invitation</u></b>  Invitation was made through banners, notice on bulletin board, and invitation letters /22/ distributed by CME staffs. Validation team was provided such documents and photos, then confirmed invitation activity was appropriate.</p> <p><b><u>Information to be made available to stakeholders</u></b>  Invitation banners, notice, and letters include subject of consultation, date/time, and location. During on-site assessment, validation team confirmed that the CME and CPA implementer provided appropriate information required by para 58 of CDM PS PoA /21/. Interviewees also confirmed that list of comments CME provided to validation team was accurate.</p> <p><b><u>Timing of LSC</u></b>  By expertise from local expert, validation team confirmed that host party (Myanmar) does not have any regulation which requires local stakeholder consultation for cookstove distributing project. This also confirmed by government officers of DZGD, CPA implementer. In this reason, para 64 (a) and (b) of CDM PS PoA should be met for the proposed CPA.</p> <p>(1) <i>Assessment for 64(a) of CDM PS PoA</i>  Start date of the proposed five (5) CPAs are defined as 19/12/2018. So, LSC was completed before the start date of each CPA, as required by 64(a) of CDM PS PoA.</p> <p>(2) <i>Assessment for 64(b) of CDM PS PoA</i>  Proposed CPA-DDs were submitted to DOE on 14/05/2019, so 64(b) of CDM PS PoA was met.</p> <p>No CARs and CLs were raised.</p>
<b>Conclusion</b>	As a result, validation team confirms that local stakeholder consultation process was adequate and appropriately conducted in accordance with relevant CDM requirements.

#### D.10. Eligibility for inclusion

<b>Means of validation</b>	<p>Validation team reviewed following documents to assess whether proposed CPAs meet all eligibility criteria defined in generic CPA</p> <ul style="list-style-type: none"><li>• Generic CPA in the registered PoA-DD /01/</li><li>• CME's Program Management Manual /03/</li><li>• Technical Review records for each CPA inclusion /04/</li><li>• Performance test report /08/</li></ul> <p>During on-site assessment, validation team interviewed CME, CI's staffs, and residents who participated in local stakeholder consultation.</p>								
<b>Findings</b>	<p>Assessment result for each eligibility criterion in generic CPA is as below.</p> <table><tr><th>No</th><th>Eligibility Criterion &amp; required conditions</th><th>CME's technical review for inclusion</th><th>Validation Opinion</th></tr><tr><td>1</td><td>Geographical boundary/ The PoA boundary corresponds to the boundaries of host country Myanmar. All distributed ICSs in each CPA shall be located within geographical boundary of Myanmar.</td><td>CME manual defines to check:<ul style="list-style-type: none"><li>•Details of the geographical location</li><li>•Location within the boundary of Myanmar</li><li>•Map of location</li><li>•ICS distribution database</li></ul><p>As per the actual</p></td><td>The proposed CPAs are to distribute cookstoves to dryzone of Myanmar, so proposed CPAs meet this condition.</td></tr></table>	No	Eligibility Criterion & required conditions	CME's technical review for inclusion	Validation Opinion	1	Geographical boundary/ The PoA boundary corresponds to the boundaries of host country Myanmar. All distributed ICSs in each CPA shall be located within geographical boundary of Myanmar.	CME manual defines to check: <ul style="list-style-type: none"><li>•Details of the geographical location</li><li>•Location within the boundary of Myanmar</li><li>•Map of location</li><li>•ICS distribution database</li></ul> <p>As per the actual</p>	The proposed CPAs are to distribute cookstoves to dryzone of Myanmar, so proposed CPAs meet this condition.
No	Eligibility Criterion & required conditions	CME's technical review for inclusion	Validation Opinion						
1	Geographical boundary/ The PoA boundary corresponds to the boundaries of host country Myanmar. All distributed ICSs in each CPA shall be located within geographical boundary of Myanmar.	CME manual defines to check: <ul style="list-style-type: none"><li>•Details of the geographical location</li><li>•Location within the boundary of Myanmar</li><li>•Map of location</li><li>•ICS distribution database</li></ul> <p>As per the actual</p>	The proposed CPAs are to distribute cookstoves to dryzone of Myanmar, so proposed CPAs meet this condition.						

			technical review record for initial CPA, CME found that: • CPA is for Sagaing region, located in Myanmar • Database is to be compiled during stove distribution	
	2	Double counting/ A unique system (i.e. conformity letter) for ICSs applies to each CPA, assigning a unique serial number on each ICS. This ensures no double counting of GHG emission reductions occur.	A conformity letter and a serial number is assigned to each ICS distributed at the time of distribution; collected information are compiled in the database.	Validation team visited manufacturing site and confirmed that unique serial number (incl. CME's name) is marked on every cookstove, and CI make distribution record with conformity letter signed by household. In addition, CI (DZGD, government department) decides villages to distribute cookstoves for each CPA. Target region for each CPA is also selected by DZGD.
	3	Exclusiveness of CPA/ The CPA shall not be previously registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered.	Review and confirmation with the CPA implementer for the districts confirms that the CPA was not registered, deregistered, excluded or expired in another project.	As mentioned in #2 above, CPA implementer, DZGD, decides villages for each CPA, and directly distribute cookstoves which have unique serial number on them. In this reason, validation team confirmed that the proposed CPAs are not a CDM project which have previously been registered.  In addition, validation team checked UNFCCC CDM website, but there was no CDM project activities or CPAs in dryzone in the host country.
	4	Specification of technology/measure/ The CPA specifies the level and type of service as well as performance specification in line with the PoA-DD. Distributed ICSs have	The efficiency of the ICS is 28% according to the third party certificate, above the required threshold. The test is conducted based on the Standard set by the Partnership for Clean	Performance test report /08/ was provided by the CME, and validation team confirmed thermal efficiency of project devices was 28%.  In addition, validation

		thermal efficiency of at least 20%, replacing conventional firewood cookstoves for biomass fired ICSs as defined in the PoA-DD. Stove type replaced is defined in the CPA-DD.	Indoor Air (PCIA) as suggested by the applied methodology.  The beneficiary households initially used three stone fire for cooking.  Actual efficiency during the project operation is measured at monitoring stage using on of the three methods listed in B.5.1	team visited manufacturing site and interviewed president of MCS, manufacturer, then confirmed technology applied to the project device.
	5	Start date/ The start date of CPA shall be on or after the start date of the PoA.	The start date is 19 December 2018, which is the first day of ICSs distribution, also the date after the start date of PoA	As described in D.7 of this report, start date was confirmed
	6	Applicability of methodology/ A CPA shall consist in the distribution of ICSs with efficiency improvements in thermal applications of non-renewable biomass. ICSs shall have a thermal efficiency of at least 20%.	The ICS has efficiency improvements in thermal applications of non-renewable biomass and has a thermal efficiency of 28%	Performance test report /08/ was provided by the CME, and validation team confirmed thermal efficiency of project devices was 28%.
	7	Additionality/ The CPA includes solely of units that qualify as "microscale CDM units" as defined in the "Methodological tool 19: Demonstration of additionality of microscale project activities", such that it is not required to meet the small-scale or microscale thresholds within those thresholds	Not applicable	Section C of the registered PoA-DD already demonstrated that the PoA is automatically additional regardless of aggregate size of CPA.  In this reason, validation team agrees this criterion is not needed for technical review for CPA inclusion.
	8	Other requirements of AMS-II.G./ Default leakage value (option c) applied which requires no survey	Not applicable	0.95 of default factor to consider leakage is already defined as parameter fixed ex ante in generic CPA  In this reason, validation team agrees this criterion is not needed for technical review for CPA inclusion.

	9	Local stakeholder consultation and environmental impact analysis/ The local stakeholder consultation is conducted at the CPA-level.	CME confirmed LCS was held in Monywa district office including government officers and over 200 residents. CME also reviewed invitation, pictures and list of attendees.	Refer to D.9 above.
	10	Official Development Assistance (ODA)/ The CME shall confirm that in case of funding received from Annex I Parties, there were no diversion of Official Development Assistance.	No public funding is expected throughout the PoA	The proposed five CPAs have been funded by Korean companies. In addition, host party's government department handles implementation of the CPAs. So, proposed CPAs are not sourced from ODA.
	11	Target group and Distribution Mechanism/ The target group in CPAs shall be households/SMEs; the ICSs shall be distributed to the end-users by CPA Implementers.	Target group is villages with no electricity access and currently using traditional wood stoves	Validation team conducted interview with DZGD's staff and CPA manager, then they confirmed no electricity is supplied to the CPA area.
	12	Sampling/ The CPA sampling plan shall comply the requirements as listed in the "Standard for sampling and surveys for CDM project activities and programme of activities".	Representative sampling undertaken in line with the requirements of the applied methodology, and the "Standard for sampling and surveys for CDM project activities and programme of activities" version 04.0	Section XI of CME's manual /03/ defines monitoring procedure, actions needed for each step, and responsible body. In details, step 3. "sampling plan" and step 4. "monitoring" describes procedure for sample selection, site visit, household interview and performance test.  Validation team also confirmed that sampling plan described in each CPA-DD complies with sampling design established in the generic CPA.
	13	Small-scale or microscale thresholds/ Not applicable	No applicable	Para 124(m) of CDM PS PoA describes that the condition is not required if generic CPA consists solely of units that qualify as microscale CDM unit as defined in tool19 /26/. In this reason,

				generic CPA defined this criterion is not applied.
	14	Debundling check/ Not applicable	No applicable	Para 124(n) of CDM PS PoA describes that the condition is not required if generic CPA consists solely of units that qualify as microscale CDM unit as defined in tool19 /26/. In this reason, generic CPA defined this criterion is not applied.
	No CARs, CLs, and FARs were raised in this section			
<b>Conclusion</b>	Finally, validation team confirms that the proposed CPAs comply with the eligibility criteria for the inclusion of CPAs defined for the corresponding generic CPA.			

## SECTION E. Internal quality control

>> After validation team prepared draft validation report for the proposed five (5) CPA-DDs, KSA designated technical review team, in accordance with internal procedure, to conduct independent technical review. As a result, the validation report was revised.

## SECTION F. Validation opinion

>> Korean Standards Association (KSA) has carried out validation of the following 5 CPAs to include in the registered programme of activities - "The Project of CCC program of Activities (PoA) for Distribution of Improved Cookstoves (ICS) in Developing South and Southeast Asia Countries (Myanmar)".

- : "CCC PoA for distribution of ICS in developing countries(Myanmar): CPA 002"
- : "CCC PoA for distribution of ICS in developing countries(Myanmar): CPA 003"
- : "CCC PoA for distribution of ICS in developing countries(Myanmar): CPA 004"
- : "CCC PoA for distribution of ICS in developing countries(Myanmar): CPA 005"
- : "CCC PoA for distribution of ICS in developing countries(Myanmar): CPA 006"

The validation has performed based on UNFCCC criteria for the Clean Development Mechanism and the host country criteria.

The proposed CPAs are to distribute improved cookstoves (so called E-FREE) to household in Sagaing region of the host country, whose baseline device is three stone fire, to reduce woodfuel consumption for cooking.

According to the standard audit technique defined in the 'CDM Validation and Verification Standard for Programme of Activities (ver.2.0)', the validation has been performed by desk review based on the proposed CPA-DDs, generic CPA and other additional documents, follow-up actions including on-site assessment and interviews with CME, CPA implementer and stakeholders, and resolution of outstanding issues and the preparation of the validation report.

Expected emission reductions for the each proposed CPAs are estimated about 20,000 tCO<sub>2</sub> per year by distributing about 18,000 cookstoves every year. The emission reduction forecast has been checked and is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

Validation team also confirmed that monitoring and sampling plan is clearly defined and adequate.

In KSA's opinion, the proposed five (5) CPAs meet all eligibility criteria defined in generic CPA and relevant UNFCCC requirements for CDM, and correctly applies the approved simplified baseline and monitoring methodologies AMS-II.G.(ver.9.0). Hence, KSA requests inclusion of the proposed CPAs.

## Appendix 1. Abbreviations

Abbreviations	Full Texts
CDM	Clean Development Mechanism
CI	CPA Implementer
CPA	Component Project Activities
DOE	Designated Operational Entity
DZGD	DryZone Greening Department, Myanmar government deperment
E-FREE	Environmental Friendly and Energy Efficient cookstoves
GSC	Global Stakeholder Consultation
ICS	Improved Cookstove
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MCS	Myanmar Ceramic Society
PoA	Programme of Activities
PoA-DD	PoA Design Document
PS	Project Standard
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard



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

<h1 style="margin: 0;">KSA</h1> <h2 style="margin: 0;">GHG Validator/Verifier Certificate</h2>	
<p>SeungKeun Choi</p> <p>Certificate No. : CDM-015</p> <p>Technical Area : 1.1, 1.2, 2.1, 3.1, 13.1, 13.2</p>	
<p>Korean Standards Association hereby certifies that the above person is qualified by KSA's Qualification requirements to conduct validation and verification for CDM and GHG project.</p>	
<p><u>VALID FROM</u></p> <p>2019.04.04</p>	<p><u>VALID UNTIL</u></p> <p>2022.04.03</p>
<p><u>PRESIDENT OF KSA</u></p> 	
<p><b>KOREAN STANDARDS ASSOCIATION</b></p> <p>20F, Kotech Center Bldg, 305 Teheran-ro, Gangnam-gu, Seoul, Korea</p>	

KSA-BF-506 (Rev. 2, '09.12.05)

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# KSA

## GHG Validator/Verifier Certificate

SeongYong Park

Certificate No. : CDM-014

Technical Area : 1.1, 1.2, 4.1, 5.1, 9.2, 13.1

Korean Standards Association hereby certifies that the above person is qualified by KSA's Qualification requirements to conduct validation and verification for CDM and GHG project.

VALID FROM

2019.04.04

VALID UNTIL

2022.04.03

PRESIDENT OF KSA



**KOREAN STANDARDS ASSOCIATION**

20F, Kotech Center Bldg, 305 Teheran-ro, Gangnam-gu, Seoul, Korea

# KSA

## CDM Validator/Verifier Certificate

HyunMan Moon

Certificate No. : CDM-030

Technical Area : 1.2, 3.1

Korean Standards Association hereby certifies that the above person is qualified by KSA's Qualification requirements to conduct validation and verification for CDM and GHG project.

VALID FROM

2019.05.01

VALID UNTIL

2021.04.30

PRESIDENT OF KSA



**KOREAN STANDARDS ASSOCIATION**

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# KSA

## CDM Local Expert

Kyaw Nyein Aye

Certificate No. : CDM-L.E.-004

Local Area : Myanmar

Korean Standards Association hereby certifies that the above person is qualified as Local Expert to conduct validation and verification for CDM project.

VALID FROM

2018.04.01.

VALID UNTIL

2021.03.31.

PRESIDENT OF KSA



**KOREAN STANDARDS ASSOCIATION**

20F, Kotech Center Bldg, 305 Teheran-ro, Gangnam-gu, Seoul, Korea

# KSA

## GHG Validator/Verifier Certificate

KyuIl Sohn

Certificate No. : CDM-001

Technical Area : 1.1, 1.2, 2.1, 3.1, 13.1, 13.2

Korean Standards Association hereby certifies that the above person is qualified by KSA's Qualification requirements to conduct validation and verification for CDM and GHG project.

VALID FROM

2019.04.04

VALID UNTIL

2022.04.03

PRESIDENT OF KSA



**KOREAN STANDARDS ASSOCIATION**

20F, Kotech Center Bldg, 305 Teheran-ro, Gangnam-gu, Seoul, Korea

## Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	CME	PoA-DD	Ver.6.10	CME
2	CME	CPA-DD for 5 CPAs	Ver.1.7	CME
3	CME	Program Management Manual	Ver.4.0	CME
4	CME	Technical review record to include the proposed CPA		CME
5	UNFCCC	Registered PoA-DD and its validation report : Installation of Energy Efficient Cookstoves in Myanmar	Reference# 10008	Others
6	Dry Zone Greening Department (DZGD)	Conformity letter signed by household who has been received project device under proposed CPAs	19/12/2019	CME
7	UNFCCC	Methodology AMS-II.G.	Ver.9.0	Others
8	University of Yangon	Water boiling test (WBT) report	10/10/2018	CME
9	DZGD	Background History , Policies and Activities of DZGD and Relevance to CCC Project	10/01/2019	CME
10	UNFCCC	CDM Validation and Verification Standard for Programme of Activities	Ver.2.0	CME
11	Ministry of Labour, Immigration and Population	The 2014 Myanmar Population and Housing Census (vol.4-E)	Dec 2016	CME
12	UNFCCC	Tool30: Calculation of the fraction of non-renewable biomass	Ver.1.0	Others
13	CME	Emission reduction calculation worksheet	Ver.01.1	CME
14	Myanmar Ceramic Society	E-FREE Cook-stove based on Ancient Glazed Technology		CME
15	UNFCCC	Glossary CDM terms	Ver.9.1	Others
16	UNFCCC	EB41 meeting report		Others
17	CME	Contract between CME and MCS	25/04/2018	CME
18	CME	Payment record for cookstove order		CME
19	CME	Record of Discussions between DZGD and CCC	30/03/2018	CME
20	CME	Payment record, from CME to DZGD		CME
21	UNFCCC	CDM Project Standard for Programme of Activities	Ver.2.0	Others
22	DZGD	Invitation letters		CME
23	DZGD	List of attendees		CME
24	DZGD	List of comments received		CME
25	DZGD	Photos of consultation		CME
26	UNFCCC	Tool 19: Demonstration of additionality of microscale project activities	Ver.9.0	Others
27	DZGD	Presentation material for Local Stakeholder Consultation	10/01/2019	CME

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

Table 1. CLs from this validation

CL ID	01	Section no.	D.6.2	Date: 02/08/2019
Description of CL				
CME is required to provide following documents which is developed for field survey				
1) self-assessment form				
2) integrated data template				
CME response				Date: 06/08/2019
Revised as appropriate.				
Documentation provided by CME				
Self-assessment form				
Integrated data form				
DOE assessment				Date: 08/08/2019
Validation team reviewed the documets provided by CME. then closed CL 01				

Table 2. CARs from this validation

CAR ID	01	Section No.	D.2	Date: 02/08/2019
Description of CAR				
Cover page of CPA-DD is not fully described. For example, "Title and UNFCCC reference number of the registered CDM PoA" section does not provide reference number. For another example, "Title and reference number of the corresponding generic CPA" section does not provide title of the corresponding generic CPA.				
CME response				Date: 06/08/2019
Revised. Location of each CPA has been updated to the GPS coordination of the township listed first in each CPA in order to avoid confusion.				
Documentation provided by CME				
Revised CPA-DDs				
DOE assessment				Date: 08/08/2019
Validation team reviewed revised CPA-DDs, then closed CAR 01				

CAR ID	02	Section No.	D.3	Date: 02/08/2019
Description of CAR				
Some CPAs have same geographical location and same GPS coordination. For example, CPA001 and CPA002, CPA003 and 004 are implemented in same region, even GPS coordination is identical. So, CME is required to demonstrate how the proposed CPAs will not lead to the discontinuation or modification of the other CPA.				
CME response				Date: 06/08/2019
Revised as per the format in CDM-CPA-DD-FORM				
Documentation provided by CME				
Revised CPA-DDs				
DOE assessment				Date: 08/08/2019
Validation team reviewed revised CPA-DDs, then closed CAR 02				

CAR ID	03	Section No.	D.3	Date:	02/08/2019
Description of CAR					
Paragraph 10 & 11 of general instruction of CPA-DD form (Ver.9.0) requires not to modify template, but CPA-DDs changed section number. For example, CPA-DD does not have section B.5 monitoring plan.					
CME response				Date:	06/08/2019
CME revised each CPA-DD.					
Documentation provided by CME					
Revised CPA-DDs					
DOE assessment				Date:	08/08/2019
Validation team reviewed revised CPA-DDs, then closed CAR 03					

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>				
<i>No FARs were raised</i>				
<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