

Verification and certification report form for programme of activities		
BASIC INFORMATION		
Title and UNFCCC reference number of the programme of activities (PoA)	Improved cookstove program in Bangladesh supported by the Republic of Korea UNFCCC PoA Reference number: 10431 GS Reference number: GS11570	
Version number(s) of the PoA-DD(s) to which this report applies	Version 6.0 dated 13/09/2023	
GS ID (s) of the VPAs	VPA Ref. no.	Title
	GS 11571	Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 02
	GS 11572	Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 03
Version number of the verification and certification report	2.0	
Completion date of the verification and certification report	25/09/2023	
Monitoring period number and duration of this monitoring period	First Monitoring period for GS4GG 01/01/2021-31/12/2022 MS1 : 01-01-2021 to 31-12-2021 MS2 : 01-01-2022 to 31-12-2022	
Crediting period for VPAs	CDM/GS4GG crediting period: 10 years starting from 15/03/2020. CDM CERs claimed up to: 31/12/2020 GS4GG crediting period remaining- 01/01/2021 – 14/03/2030 (with CP1 end date: 14/03/2025).	
Version number of the monitoring report to which this report applies	5.0 Dated 25/09/2023	
Activity Requirements applied	Community Services Activities	
Product Requirements applied	GHG Emission Reduction & Sequestration	
Coordinating/managing entity (CME)	Value Network Venture Advisory Services Pte. Ltd.	

Host Country	Bangladesh
Applied methodologies and standardized baselines	AMS-II. G – Energy efficiency measures in thermal applications of non-renewable biomass (Version 8.0)
Mandatory sectoral scopes	3: Energy demand
Conditional sectoral scopes, if applicable	Not applicable
Name and UNFCCC reference number of the VVB	E-0052: Carbon Check (India) Pvt. Ltd.
Name, position, and signature of the approver of the verification and certification report	 Vikash Kumar Singh, Compliance Officer

SECTION A. Executive summary

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Introduction:

The Co-ordinating Managing Entity Value Network Venture Advisory Services Pte. Ltd. has appointed the VVB, Carbon Check (India) Private Ltd. (CC IPL) /12/ to perform independent verification of the GS Programme of Activities,” Improved cookstove program in Bangladesh supported by the Republic of Korea (Hereafter referred to as “Programme of Activities or PoA”) for the VPAs titled Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 02. Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 03

The PoA involves the replacement of less efficient baseline cooking stoves using woody biomass with biomass-based improved cookstoves (“ICS”). The activities involve selling and maintaining domestic improved stoves (ICS) manufactured by Bangladesh Bondhu Foundation (Private)/09/ at an attractive price. The improved cookstoves sold under VPA are more efficient in transferring heat from the fuel (wood) to the pot when compared to the three-stone stove typically used in the baseline. The PoA will save on wood biomass consumption by replacing inefficient stoves and reducing GHG emissions.

The VPAs are designed to generate emission reductions through the distribution of fuel-efficient cook stoves. The fuel-efficient cook stoves are replacing the less efficient baseline stoves in common use (baseline scenario). The CME and VPA implementer are responsible for the collection of data in accordance with the monitoring plan and reporting GHG emissions reductions from the component project activities.

This report summarises the verification findings of the project, performed based on Procedures, and GS4GG methodology requirements, as well as based on given criteria for consistent project operations, monitoring, reporting, and the subsequent decisions by the Gold Standard Secretariat. Verification is required for all registered GS project activities intending to confirm their achieved emission reductions and proceed with a request for issuance of VERs. This report contains the findings and resolutions from the verification along with a certification statement for the certified emission reductions.

Objective:

Verification is the process of periodic independent review and ex-post determination of both quantitative and qualitative information by a VVB. In verification, the monitored reductions in GHG emissions that have occurred because of the registered GS project activity during a defined monitoring period are to be verified.

Certification is the written assurance by a VVB that, during a specific period, a project activity achieved the emission reductions as verified.

The duration of this monitoring period is 01/01/2021 to 31/12/2022 (including both days). The objective of this verification was to verify and certify the Emission Reductions and SDG benefits achieved for the period of 01/01/2021 to 31/12/2022 (including both days) reported for the “Improved cookstove program in Bangladesh supported by the Republic of Korea.

The purpose of verification is to review the monitoring results and verify that the monitoring was implemented according to the monitoring methodology and the monitoring plan is given in the PoA VPAs and to confirm that the reductions in anthropogenic emissions by sources are sufficient, definitive, and presented in a concise and transparent manner. CC IPL’s objective is to perform a

thorough, independent assessment of the implementation of the registered program of activities VPAs.

In particular, the monitoring plan, monitoring report, and the project's compliance with relevant UNFCCC, GS, and host Party criteria are verified to confirm that the component project/s has/have been implemented in accordance with the previously registered/included component project design with conservative assumptions, as documented. Also, it is confirmed that if the monitoring plan is following the registered/included VPA-DDs and the approved monitoring methodology.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered/included VPA-DDs.
- To verify the implemented monitoring plan with the registered/included VPA-DDs or approved revised VPA-DDs and applied baseline and monitoring methodology.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data are free from material misstatement.
- To verify that reported GHG emission data are sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate, in order, to be certified.

The verification comprises a review of the monitoring report /03/ covering the monitoring period from 01/01/2021 to 31/12/2022 (inclusive of both dates) and based on the registered/included VPA-DDs including the monitoring plan, emission reduction calculation spreadsheet, monitoring methodology, and all related evidence/data/documents provided by the project participant.

The verification team assigned by the VVB concludes that the PoA GS11570 (Version 5.0, dated 09/05/2023) & VPAs CPA 02 (GS 11571) CPA 03 (GS 11572) /03/ meet all relevant requirements of the GS4GG requirements and UNFCCC for CDM project activities including article 12 of the Kyoto Protocol and paragraph 62 of CDM M&P, the modalities, and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board and Gold Standard Secretariat. The verification has been conducted in line with the GS4GG requirements Version 2.0.

The voluntary project activities were correctly implemented according to the selected monitoring methodology, monitoring plan, and the approved revised VPA-DD/s. The monitoring system was implemented, and maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the review of documents and information shared by the CME, the verification team confirms that the PoA has resulted in emission reductions during this monitoring period under GS 11571 emission reduction 1,145,274 tCO₂e and under GS 11572 emission reduction 1,145,275 tCO₂e. Total emission reduction 2,290,549 tCO₂e./02/.

CC IPL, as a VVB, is therefore pleased to issue a positive verification opinion expressed in the attached Certification statement.

SECTION B. Verification team

B.1. Verification team, technical reviewer, and approver

Carbon Check (India) Private Ltd. has appointed a competent team as per the UNFCCC Accreditation Standard, GS4GG requirements, and CCIPL's internal procedures. Further details regarding team competence can be found in Appendix 2. The team is outlined below:

Sr. No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other offices of VVB or outsourced entity)
1.	Team Leader/Technical Expert	IR	Sharma	Harish	CC IPL
2.	Team Member	IR	Haldar	Manas	CC IPL
3.	Technical Reviewer	ER	Chakraborty	Shivaji	CC IPL
4.	Trainee Assessor	IR	Kumar	Ajay	CC IPL
5.	Trainee Assessor	IR	Yadav	Shalini	CC IPL

Note: The same VVB team has conducted combined Validation and verification which is in line with GS4GG Principles and requirements V1.2, Pt 28.

SECTION C. Application of materiality in conducting the verification

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the potential risk		Assessment of the records/information/interview with personnel to check controls/ mitigation measures
		Risk level	Justification	
1.	Human Error: Recording and reporting of the information in the ER spreadsheet.	Medium	All the ER spreadsheet data of the stoves including sales database, determination of parameter for efficiency testing including data calculation. This includes all the parameters to be monitored ex-post as per the PDD/VPA-DDs	The risk will be mitigated by reviewing the training records of the personnel involved in the data capture and calculations. The monitoring responsibilities will be reviewed. Also, the ER data/calculations will be cross checked to insure the errorfree data.
2.	Information System: Use of spreadsheets without adequate controls related to data changes/updates,	Medium	The data is recorded in spreadsheets based on the raw data collected during the field visits. The Access the spreadsheets for calculation of ERs,	The identified risk will be mitigated by reviewing the management of access to the records. It will be confirmed through interviews whether the raw data is collected by the field personnel and then transmitted and stored electronically to the PP's office.

	version tracking, traceability, security		monitoring and sales database and baseline stove efficiency testing, project & baseline KPT, and other quality test records.	The data quality control to be checked.
3.	Sample	Medium	The sample size is not suitable; or the surveyed houses are not random	Cross-check the procedure to identify the sample size against the sampling guideline and standard and confirm the sample size is calculated correctly.

C.2. Consideration of materiality in conducting the verification

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The project is a Small-scale, project activity achieving total emission reductions Limited to the measures equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input in line with “CDM project standard for programs of activities 3.0”. as such, a 0.5 percent materiality threshold is applied. The threshold of materiality was evaluated based on Guideline “Application of materiality in verifications” Version 1.0 and §326 of CDM VVS for PoAs, version 5.0. It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 0.5% of CPA 02=1,145,274 tCO₂e and CPA 03= 1,145,275 tCO₂e which is equal to 2,290,549 tCO₂e.

In planning the verification, the verification team took cognizance of §11 of the “Guideline: Application of materiality in verifications” Version 02.0. A materiality threshold of 2,290,549 tCO₂e is determined in line with §326 (e) of “CDM validation and verification standard for project activities”, version 3.0.

Based on the above information, a risk analysis is carried out in the following activities:

1. Monitoring system including the data input procedure (including relevant personnel and applicable template forms used)
2. Copy of the agreement between household and Project Participant (s) (origin of data)
3. Stove unique ID system /7/
4. ER sheet (application of data)
5. Data flow
6. Data control procedures
7. Monitoring survey records /13/

In conducting the verification, VVB took cognizance of §13 of the guideline “Application of materiality in verifications” Version 02.0 and based on the input of data from different sources checked through a sampling of records. Data flow was checked through a comparison of data in hand-written forms, electronic databases/07/, and ER sheets/02/. The competence of the personnel involved in conducting the stove efficiency testing, recording of data, and calculation of the emission reduction data has been checked by the verification team by means of a review of the training documents /10/.

The risks identified can be mitigated through cross check with all sets of documents. The verification team performed the following checks to mitigate the effects of the above-identified sources of error:

Mitigation of Human error risks: The verification team mitigated the risk by checking the training records of the personnel and assessing their competencies, skills, monitoring/testing procedure followed, understanding of the monitoring survey forms, protocol and testing procedure, etc. Further, data was crosschecked with the ER calculation spreadsheet and the sample raw data.

Mitigation due to error in the Information system: Verification team by conducting interviews with the personnel responsible for such activities mitigated the risk due to errors in an information system. It was confirmed through interviews that the raw data is collected by the field personnel and then transmitted and stored electronically at CME's office. The data quality control is maintained by the CME.

Accuracy of the measuring equipment: The risk due to inaccuracy in measurements was mitigated by reviewing the calibration certificates of all the project equipment.

Competence of personnel involved in conducting standardized tests: Verification team has reviewed the abilities, qualifications, and recognition of involved personnel and institutions of the measuring team. The tests/procedures have been carried out by well-trained personnel. The training certificate of the personnel has been provided to the verification team in this respect. The training content has also been provided to the verification team.

Mitigation due to error in Sampling: The verification team mitigated the risk by checking the ER sheet for VPAs, list of random samples generated for monitoring surveys for VPAs, and the sample size calculation sheet.

In conducting the verification, VVB took cognizance of §13-17 of the Guideline: "Application of materiality in verifications" (version 2.0) and based on the input of data from different sources checked through sampling records.

Based on the assessment carried out, CCIPL confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions, or misstatements.

SECTION D. Means of verification

D.1. Desk/document review

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The verification was performed primarily based on the review of the Monitoring report and the supporting documentation. This process included reviewing data and information presented to verify their completeness and a review of the monitoring plan and methodology. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

D.2. On-site inspection

GS4GG Programme of Activity Requirements version 2.0, VVB require to conduct an on-site inspection for transition projects. Furthermore, on-site visit is done for the validation & verification activity. Following activities have been carried out during on-site visit.

The validation & verification team has carried out on-site interviews to assess the information included in the project design document, stakeholder consultation report. During the desk review, the relevant records related to project design, implementation and operation were checked, stakeholders engaged, implementing agency and onsite beneficiary interviews with stakeholders were taken on a sampling basis.

The type of questions asked from the end users have been listed in appendix 9.

D.3. Interviews

No.	Name	Organization	Date	Topic	Team member
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/1/	Ritesh Kumar	CSIPL (Consultant to BBF)	05/04/2023 & 06/04/2023	•Discussion on the stated goal and policy of the PoA. •Discussion on the sustainability, environmental impact, local stakeholders meeting procedure, baseline scenario, additionality, monitoring plan, Start date •Discussion on the GS PoA-PDD and VPA-DDs, eligibility criteria and its compliance, ongoing financial need, SDG impact, eligibility criteria for inclusion of VPA in the PoA, safeguarding principles, stakeholder consultations and grievance mechanism /05/ in line with GS4GG, requirements.	Harish Sharma, Manas Halder, Ajay Kumar
/2/	Saket Subham	CSIPL (Consultant to BBF)	05/04/2023 & 06/04/2023	Discussion on the GS PoA-PDD and VPA-DDs, eligibility criteria and its compliance, ongoing financial need, SDG impact, eligibility criteria for inclusion of VPA in the PoA, safeguarding principles, stakeholder consultations and grievance mechanism in line with GS4GG, requirements.	Harish Sharma, Manas Halder, Ajay Kumar
/3/	Mohit Gupta	CSIPL (Consultant to BBF)	05/04/2023 & 06/04/2023	Project implementation and operation, monitoring procedure, data and information flow, Quality Assurance – Management and operating system, Monitoring records, MR and ER calculation	Harish Sharma, Manas Halder, Ajay Kumar
/4/	Md.Khalequz zaman	BBF	05/04/2023 & 06/04/2023	Project implementation and operation, monitoring procedure, data and information flow, Quality Assurance – Management and operating system, Monitoring records, MR and ER calculation	Harish Sharma, Manas Halder, Ajay Kumar
/5/	Animesh Kumar Sarkar	BBF	05/04/2023 & 06/04/2023	Project implementation and operation, monitoring procedure, data and information flow, Quality Assurance – Management and	Harish Sharma, Manas Halder, Ajay Kumar

				operating system, Monitoring records, MR and ER calculation	
/6/	Ruman Mridha	BBF	05/04/2023 & 06/04/2023	Project implementation and operation, monitoring procedure, data and information flow, Quality Assurance – Management and operating system, Monitoring records, MR and ER calculation	Harish Sharma, Manas Halder, Ajay Kumar
/7/	Faroque Hossain	BBF	05/04/2023 & 06/04/2023	Project implementation and operation, monitoring procedure, data and information flow, Quality Assurance – Management and operating system, Monitoring records, MR and ER calculation	Harish Sharma, Manas Halder, Ajay Kumar
/8/	Md. Ashraful Alam	BBF	05/04/2023 & 06/04/2023	Project implementation, sales/distribution records and database management.	Harish Sharma, Manas Halder, Ajay Kumar
/9/	Mr Faruk Hossain	Manufacturer partner	05/04/2023 & 06/04/2023	Manufacturing specification, testing method, Project implementation, sales/distribution records and database management.	Harish Sharma, Manas Halder, Ajay Kumar
/10/	Salma (Sister in Low) ID-MAM4-SIR-SER-CHO-D-2860	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/11/	Khodeja Khatun (ID-RSA-SAT-DEB-NOA-D-2985	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/12/	MD. Joinal Abedin (ID-YES5-SIR-TAR-SAG-D-290	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/13/	Rabea Khatun (Wife) ID-KJS-SAT-KAL-DEA-D-5542	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar

/14/	China Begum (mother) ID-AKE1-FAR-SAL-RAM-D-1283	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/15/	Dilif (ID-NA01-NAO-NIA-SRE-D-3643	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/16/	Jannatun (mother) ID-ALI5-CNG-NAW-NAW-D-5198	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/17/	Marafat Ali (Son) ID-HA8-MYM-DHO-GAM-D-134	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/18/	Md. Abue Sama (ID-RIP- SAT-KAL-SON-D-2962	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/19/	Md.Manju miah (ID-sh3-mym-nan-jah-d-713	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/20/	Lucky Begum (wife) ID- MPH1-SIR-ULL-BAR-D-1220	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/21/	Fazlu Ali (ID-SVV-NAT-BAG-DAY-D-1226	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/22/	Riyajudin (ID-JAH4-NAO-POR-GHA-D-293	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/23/	Reni Khatun (Wife) ID-BAD-CNG-SHI-SHA-D-973	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar
/24/	Kanti Rani (wife) ID-SUH1-NAO-	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar

	PAT-DIB-D-295				
/25/	Sumara(ID-STR-CNG-BHO-BHO-D-239	End user	05/04/2023 & 06/04/2023	End user feedback	Harish Sharma, Manas Halder, Ajay Kumar

D.4. Sampling approach

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As assessed in the above sections, emission reductions for VPAs CPA 02 (GS 11571) and CPA 03 (GS 11572)

is being claimed for this monitoring period and the total population of the stoves under this VPA is as below:

Sl. No.	VPA Reference No.	Number of ICS Distributed
1.	GS 11571 Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 02	999,608
2.	GS 11572 Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 03	999,608

The monitoring parameters required to be monitored through the sampling plan are:

1. Stove Operating Fraction for determination of $N_{y,i,j}$
2. Utilization of Project stoves - μ_y
3. Other SDG Requirements.

The sample results comply with the 95/10 confidence/precision as required by paragraph 22 of the Standard 'Sampling and surveys for CDM project activities and PoAs', version 09.0, baseline stove/other stove use". In that specific case, the lower bound of the confidence interval has been conservatively applied by CME hence it is accepted.

VVB have checked the PoA GS11570/03/, VPAs GS (11571-11572) ER Sheet MP1 v4.0 30062023 GS11570 Database Project /03/. VPAs, sampling of 124 households has been conducted across 2 VPAs. Since all 2 VPAs are homogeneous. The possibility of "sampling across VPAs" is mentioned in the registered CDM VPAs in several sections.

The sample results should comply with the 95/10 confidence/precision as required by paragraph 5.1 of the Standard 'Sampling and surveys for CDM project activities and PoAs', version 09.0 as the criteria for the reliability of sampling efforts for small-scale project activities". As per para 5.1 project participants or the coordinating/managing entity have implemented the sampling and surveys according to the sampling plan in the registered monitoring plan. The verification includes determining:

- (a) Whether the required confidence/precision has been met.
- (b) Whether the selected sample was representative of the population.

VVB has applied the acceptance sampling approach through random sampling. The two types of cookstoves have been distributed under the VPAs, for each type of cookstove 08 samples HHs were selected randomly using a sampling approach for remote interviews as part of verification in accordance with paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programs of activities, Version 09.0. In accordance with paragraph 28 of the sampling standard, acceptance sampling has been chosen by the verification team, and accordingly, the steps listed in

paragraph 29 of the sampling standard were followed. So, in accordance with paragraph 39 (c) of the sampling standard the Verification team opted for AQL of 0.5% and UQL of 20%; producer risk of 10 %, and consumer risk of 20 % in determining the VVB's sample size for which the sample size (n) is 8 with acceptance number (c) 0.

Furthermore, the sampling plan implemented by the CME is in accordance with the applied approved monitoring methodology and the PoA-DD/VPA-DDs. The CME has appropriately performed the Sampling procedure in line with the applied methodology and PoA-DD / VPA-DDs.

The necessary confidence/precision of 95/10 for each of the parameters is met. This has been cross verified by the verification & validation team from the supporting documents i.e., /ER sheet/Sample survey conducted by VVB. During this monitoring exercise.

SECTION E. Verification findings

E.1. General

E.1.1. Compliance of the monitoring report with the monitoring report form

Means of verification	Document Review, Interview
Findings	-
Conclusion	CME has used the GS4GG template Monitoring Report, version 1.1. The verification team confirms that the latest available version of the monitoring report template has been used by the CME and the MR is in compliance with the monitoring report form and related template guide Monitoring Report, version 1.1. This confirms compliance with the §336 and §337 of CDM VVS for PoAs, version 5.0 /01/and GS4GG requirements.

E.1.2. Remaining forward action requests from validation and/or previous verifications

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E.2. Programme of activities

E.2.1. Compliance of the program implementation with the registered program design document

Means of verification	Document Review, Interview
Conclusion	CCIPL by means of on-site interviews & document review, assessed that all physical features (technology, project equipment, and monitoring equipment) of the included VPAs in the PoA are in place and that the coordinating/managing entity has operated the PoA and the VPAs as per the PoA-DD and the VPA-DD. There are no deviations or proposed or actual changes in the implementation or operation of the PoA and the included VPAs.

	The verification team confirms the actual operation of the VPA and PoA implementation and operation in compliance with the PoA / VPA in order to confirm the compliance of § 338, § 339 and § 340 of CDM VVS for PoA, Version 03.0 and GS4GG requirements.
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E.2.2. Implementation and operation of the management system

Means of verification	Document Review, Interview
Conclusion	The PoA management system including the record-keeping system has been explained in the PoA. During verification & validation, the verification team based on a review of provided documents and on-site discussion has assessed this management system. The verification team evaluated the management systems in place to implement the monitoring of the project activity. This included the roles and responsibilities of the monitoring staff, data collection, transfer and aggregation procedures, data storage, and archiving procedure for the monitoring system. Monitoring surveys were conducted by a team of the Bangladesh Bondhu Foundation (BBF) To ensure the avoidance of double counting, the completeness and accuracy of monitoring information, an electronic database is operated and maintained by the CPA implementer/CME. The data is further periodically checked by the CME to ensure there is no double counting. This provision for the avoidance of double counting as outlined in the PoA management system has been verified by means of review records of the sales database, the database of other VPAs, and on-site interviews during verification. The responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan. The details about the monitoring system have been provided in the Monitoring report. The verification team confirms that the monitoring management system of the CDM PoA is in place, with the responsibilities properly identified and in place. This confirms the compliance of § 338 (a) and § 345 (b) (iv) of CDM VVS PoA. Version 03.0 and GS4GG requirements.

E.3. Voluntary project activities

E.3.1. Compliance of the VPA implementation with the included VPA design document

Means of verification	Document Review, Interview						
Conclusion	The implementation status of the PoA and the voluntary project activities is: <table border="1"> <tr> <td>Project Participants:</td><td>Bangladesh Bondhu Foundation</td></tr> <tr> <td>Title of PoA:</td><td>GS11570 Improved cookstove program in Bangladesh supported by the Republic of Korea</td></tr> <tr> <td>GS Reference No:</td><td>PoA – GS11570 CPA 02 GS 11571 CPA 03 GS 11572</td></tr> </table>	Project Participants:	Bangladesh Bondhu Foundation	Title of PoA:	GS11570 Improved cookstove program in Bangladesh supported by the Republic of Korea	GS Reference No:	PoA – GS11570 CPA 02 GS 11571 CPA 03 GS 11572
Project Participants:	Bangladesh Bondhu Foundation						
Title of PoA:	GS11570 Improved cookstove program in Bangladesh supported by the Republic of Korea						
GS Reference No:	PoA – GS11570 CPA 02 GS 11571 CPA 03 GS 11572						

Applied Baseline and monitoring methodology:	AMS-II.G., version 08, “Energy efficiency measures in thermal applications of non-renewable biomass”
Project Scale:	Small-scale
Location of the project activity:	Bangladesh
Reported monitoring Period verified in this verification:	1st Monitoring Period (GS) (01/01/2021 to 31/12/2022)

The VPAs include the selling of biomass based improved cookstoves (“ICS”). The VPA implementer is Bangladesh Bondhu Foundation. The Improved cook stoves (ICS) under the VPAs use wood as fuel. These ICSs are efficient in transferring heat from the fuel to the pot, thus saving fuel (Wood) compared the traditional stoves.

The number of stoves deployed under each VPAs has been confirmed by the monitoring database and as stated below:

Sr. No.	VPA Reference No.	Number of ICS Distributed
1.	Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 02 (GS 11571)	999,608
2.	Improved cookstove program in Bangladesh supported by the Republic of Korea – CPA 03 (GS 11572)	999,608

Value Network Venture Advisory Services Pte. Ltd is the Coordinating/Managing Entity for the PoA, whereas the. Bangladesh Bondhu Foundation (BBF) is the VPA implementer.

The information (including data and variables) provided in the MR is in line with the details provided in the VPAs.

CCIPL’s verification team considers the project description of the project contained in the PoA and the VPAs to be complete and accurate. The VPAs comply with the relevant methodology, tools, forms, and guidance.

In accordance with §340 (c) of CDM VVS for PoAs, version 05, the verification team confirms that there is no information (data and variables) in the current monitoring period that are different from that stated in the approved revised VPA-DDs which has caused an increase in the estimates of GHG emission reductions.

The verification team has assessed the project to check any proposed or actual changes to the project design in accordance with §267 of CDM VVS for PoAs, Version 5.0. In the opinion of CCIPL, there is no change to the project design. After reviewing the data shared by CME, CCIPL’s verification team confirms that the VPAs are implemented within the boundary of the PoA as described in the PoA-DD.

In the opinion of CCIPL, there is no change to the project design. CCIPL’s verification team confirms that the VPAs are implemented within the boundary of

	the PoA as described in the PoA and the implementation and operation of the project activity have been conducted in accordance with the description contained in the PoA and VPA.
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E.3.2. Compliance with the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	Document Review, Interview
Conclusion	The verification team can confirm that the monitoring plan contained in the VPAs is in accordance with the approved methodology applied by the project activity, i.e., AMS-II.G., version 08, "Energy efficiency measures in thermal applications of non-renewable biomass" The monitoring plan is in accordance with the approved methodology, is applied by the component project activities and as provided in the VPA. The verification took cognizance of § 341 to § 343 of CDM VVS for PoAs, Version 05.0 and GS4GG requirements.

E.3.3. Compliance of monitoring activities with the registered monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the VPAs. This conclusion has been made based on the assessment below.

E.3.3.1. Data and parameters fixed ex-ante or at the renewal of crediting period

Means of verification	Document Review, Interview
Conclusion	The verification team confirms that the Data and parameters fixed ex-ante are in compliance with the VPAs and the monitoring plan. Please refer to Appendix 5 for a detailed analysis of the ex-ante parameters. The verification took cognizance of § 344 of CDM VVS for PoAs, Version 05.0, and GS4GG requirements.

E.3.3.2. Data and parameters monitored.

Means of verification	Document Review, Interview
Conclusion	The Verification team confirms that the Data and parameters monitored are in compliance with the VPAs and the monitoring plan. A complete assessment of each of the monitored parameters has been provided in Appendix 6 of the verification report. The verification took cognizance of § 344, § 345(c), §356 and §357 of CDM VVS for PoAs, Version 05.0 GS4GG Requirements.

E.3.3.3. Implementation of sampling plan

Means of verification	Document Review, Interview
Conclusion	Monitoring surveys were conducted during the current monitoring period. The total population of the stoves under VPAs considered for the monitoring period is 999,608). The monitoring parameters required to be monitored through the sampling plan are: 1. Stove operating fraction for determination for $N_{y,i,j}$ 2. Utilization of project stove μ_y.

	3. Number of households using an ICS. 4. Monitored SDG. Across VPA random sampling was applied for the VPAs by CME for selection of the monitoring samples with 95/10 confidence/precision for all the four parameters for annual monitoring which is deemed acceptable as per the PoA and VPAs Applying the random number generator, the CS were randomly picked from the defined population up to the required sample size as calculated by the CME. The verification team confirms that the applied method for sample size calculation is in accordance with the PoA-DD /1/ & VPA-DDs. /3/. The verification team has checked and found that for all the parameters the confidence/precision of 95/10 was met. The sampling plan implemented by the CME is in accordance with the applied approved monitoring methodology and the PoA-DD/ VPAs. The CME has appropriately performed the Random Sampling procedure in line with the applied methodology and is best suited for this type of project. As the PoA mentions the option for a Random Sampling procedure, it is acceptable to the verification team. The population corresponding to the age group has been appropriately accounted in the survey and same has been transparently mentioned in section D.4 of the monitoring report in the sampling size/precision table. The necessary confidence/precision of 95/10 for each of the parameters is met. This has been cross verified by the verification team from the supporting documents submitted. The verification took cognizance of 'Guideline: Sampling and surveys for CDM project activities and programs of activities, version 04.0', paragraph 5.1
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E.3.4. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Document Review
Conclusion	WBTs were not conducted rather the results were borrowed from the already established results from CDM CPA 01, therefore calibration is not applicable for the given monitoring period.

E.3.5. Emission Reduction Quantification

Assessment of data and calculation of emission reductions or net removals In line with the requirement of CDM Methodology AMS-II.G – Energy efficiency measures in thermal applications of non-renewable biomass (Version 08.0) the verification team has reviewed the Monitoring report and ER spreadsheets to check the arithmetic calculation of the emission reductions. The equation used for the calculation is compared with those provided in the VPA and The CDM Methodology AMS-II.G – Energy efficiency measures in thermal applications of non-renewable biomass (Version 08.0).

E.3.5.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	Document Review, Interview
------------------------------	----------------------------

Conclusion	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.:		
	As per the methodology, and the PoA-DD, emission reductions are calculated as:		
	$ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y$		
	Where		
	i	=	Indices for the situation where more than one type of project device is introduced to replace the pre-project devices
	J	=	Indices for the situation where there is more than one batch of project device
	ER_y	=	Emission reductions during year y in t CO2e
	$ER_{y,i,j}$	=	Emission reductions by project device of type i and batch j during year y in t CO2e
	LE_y	=	Leakage emissions in the year y
	Where		
$ER_{y,i,j} = B_{y,savings,i,j} \times N_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil\ fuel}$			
Where			
$B_{y,savings,i,j}$	=	Quantity of woody biomass that is saved in tonnes per cook stove device of type i and batch j during year y	
$f_{NRB,y}$	=	Fraction of woody biomass that can be established as non-renewable biomass using survey methods or government data or default country specific fraction of non-renewable woody biomass (fNRB) values available on the CDM website	
$NCV_{biomass}$	=	Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne, based on the gross weight of the wood that is 'air-dried')	
$EF_{projected_fossilfuel}$	=	Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 t CO2/TJ	
$N_{y,i,j}$	=	Number of project devices of type i and batch j operating during year y	
μ_y	=	Adjustment to account for any continued use of pre-project devices during the year y when applying equations 6 (fraction).	

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

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

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

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

$$B_{old,i,j} = B_{old,HH} = B_{old,p} \times N_{p,HH}$$

Where,

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

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

$N_{p,HH}$ = Average number of persons served per household prior to the project implementation.

From the above equation and the parameter values, emission reductions for the period 01/01/2021 to 31/12/2022 are calculated as:

VPA reference number	Emission Reductions (tCO ₂ e)
CPA 02 (GS 11571)	1,145, 274
CPA 03 (GS 11572)	1,145, 275
Total	2,290,549

The verification team confirms that the calculation of baseline emission and emission reductions is in accordance with the applied methodological equation and the VPAs. Calculations have been checked and confirmed from the ER spreadsheet.

The verification took cognizance of § 356 of CDM VVS for PoA, version 03.0 and GS4GG requirements.

E.3.5.2. Calculation of project GHG emissions or actual net GHG removals by sinks

NA

E.3.5.3. Calculation of leakage GHG emissions

Means of verification	Document Review, Interview
Conclusion	As per para 6 of the applied methodology, the CME has conducted the site survey to analyze the applicability of leakage emissions. It is found that the project activity doesn't qualify for any of the criteria for considering leakage emission. Hence, leakage emission is deemed to be zero.

E.3.5.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Means of verification	Document Review, Interview
Conclusion	The verification team confirms that all parameters are used correctly in the calculations, all results are verifiable and transparent, all assumptions are described and based on verifiable evidence, and calculations are done in accordance with the pre-defined formulae from VPA/s. The total number of ERs achieved during the monitoring period for 2,290,549. In summary, the verification team confirms that the actual emission reduction is lower than the estimate of the VPAs for the monitoring period. The verification took cognizance of § 356 of CDM VVS PoAs, version 05 and GS4GG requirements.

Title and UNFCCC reference number of the VPA	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				Amount achieved from 1 Jan 2021 to 31 Dec 2021	Amount achieved from 1 Jan 2022 to 31 July 2022	Amount achieved in the monitoring period
CPA 02 (GS 11571)	0	0	0	468,151	677,123	1,145,274
CPA 03 (GS 11572)	0	0	0	468,152	677,123	1,145,275
Total	0	0	0	936,303	1,354,246	2,290,549

E.3.5.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included VPA

Means of verification	Document Review
Findings	-
Conclusion	A comparison of the actual GHG emission reductions with the estimates in the included specific VPAs is given in the below table. The verification team took cognizance of § 356 of CDM VVS for PoA, version 03 and GS4GG requirements.

Title and UNFCCC reference number of the VPA	Value estimated in ex-ante calculation in the included VPA-DD(s)(VERs)	Actual values achieved by the VPAs during this monitoring period (VERs)
CPA 02 (GS 11571)	2,566,211	1,145,274
CPA 03 (GS 11572)	2,566,211	1,145,275
Total	5,132,422	2,290,549

E.3.5.6. Remarks on difference from the estimated value in included VPA

Means of verification	Document review																								
Findings	-																								
Conclusion	The actual emission reductions are less than the ex-ante estimated values in the VPA-DDs.																								
	A total of 2,000,000 ICS were expected to be installed for each VPAs (Refer section A.3. of the CPA-DD). However, the actual installations per VPA (for 1 Pot and 2 Pot) are 499,804 (refer the table below), leading to a corresponding reduction in the actual emission reductions (ERs) achieved.																								
	<table><tr><th rowspan="2">Year of Installation</th><th colspan="2">GS 11571</th><th colspan="2">GS 11572</th></tr><tr><th>1 Pot</th><th>2 Pot</th><th>1 Pot</th><th>2 Pot</th></tr><tr><td>2020</td><td>106696</td><td>35948</td><td>106698</td><td>35949</td></tr><tr><td>2021</td><td>262545</td><td>94615</td><td>262543</td><td>94614</td></tr><tr><td>Total</td><td>369241</td><td>130563</td><td>369241</td><td>130563</td></tr></table>	Year of Installation	GS 11571		GS 11572		1 Pot	2 Pot	1 Pot	2 Pot	2020	106696	35948	106698	35949	2021	262545	94615	262543	94614	Total	369241	130563	369241	130563
Year of Installation	GS 11571		GS 11572																						
	1 Pot	2 Pot	1 Pot	2 Pot																					
2020	106696	35948	106698	35949																					
2021	262545	94615	262543	94614																					
Total	369241	130563	369241	130563																					

E.3.6. Assessment of reported sustainable development co-benefits

Means of verification	Document Review, Interview
Findings	-
Conclusion	The Verification team confirms that the data and parameters monitored related to sustainable development co-benefits are in compliance with the VPAs and the monitoring plan. A complete assessment of each of the monitored parameters has been provided in Appendix 6 of the verification report. Hence, the reported sustainable development co-benefits are in line with § 359 - §361 of CDM VVS for PoAs, Version 05.0 and GS4GG Requirements.

E.3.7 Summary of stakeholder mitigation measures

Means of validation	DR, I
Conclusion	The PoA is already registered under CDM (UNFCCC Ref. No. PoA 10431 registered on 23/06/2018) and is seeking transition under GS4GG. The stakeholder meetings for Bangladesh took place on 12/01/2018 respectively. CME carried out LSC to cover all the identified gaps between CDM and GS4GG. There has been no substantial change to the design of the PoA during the GS transition process and all the key aspects related to

	the PoA are the same as those incorporated under CDM. Section F.1 of the CDM PoA-DD can be referred for details of the solicitation of comments from local stakeholders. In line with the PoA transition checklist, the CME has conducted stakeholder feedback round (SFR) for a group of VPAs after conducting LSC for transition to GS4GG. The SFR was initiated from 18/05/2022 for the two-month period till 19/07/2022. SFR was conducted by inviting the stakeholders through email and phone. A non-technical summary and questionnaire form to submit feedback was shared with all the identified stakeholders. The assessment team has checked the stakeholder report /14/ which includes the means of project non-technical summary, draft LSC report and the LSC Summary Report. The stakeholder report has been assessed to confirm that the feedback round has been conducted in line with the GS4GG Principles and Requirements and Stakeholder Consultation and Engagement requirements /B01/. Furthermore, to validate the LSC Report and feedback procedure, the interview of two random stakeholders who attended the LSC meeting were conducted to know about the meeting procedures and feed-back round. The stakeholders confirmed the meeting, information and proceedings as per the LSC Report. Furthermore, both respondents provided the positive feedback./14/
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SECTION F. Internal quality control

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The final verification report passed a technical review. A technical reviewer qualified in accordance with the CCIPL's qualification scheme for CDM validation and verification has performed the technical review.

SECTION G. Verification opinion

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Carbon Check (India) Private Ltd. has performed the verification for vintage 01/01/2021 to 31/12/2022 of the GS Programme of Activities" GS 11570 Improved cookstove program in Bangladesh supported by the Republic of Korea (hereafter referred to as "Programme of Activities or PoA") for the VPAs CPA 02 (GS 11571) CPA 03 (GS 11572)

The verification team assigned by the VVB concludes that the PoA (Version 5.0, dated 09/05/2023), VPAs CPA 02 (GS 11571) CPA 03 (GS 11572) as described in the VPA and the Monitoring report (Version 4.0 dated 30/06/2023) meet all relevant GS4GG requirements and requirements of the UNFCCC for CDM project activities including article 12 of the Kyoto Protocol and paragraph 62 of CDM M&P, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board.

Verification methodology and process:

The Verification team confirms the contractual relationship signed on 03/02/2023 between the VVB, Carbon Check (India) Private Ltd./12/ Managing Entity/ Project Participant, (Bangladesh Bondu Foundation.) The team assigned to the verification meets the Carbon Check (India) Private Ltd.'s internal procedures including the UNFCCC and GS requirements for team composition and competence. The verification team has conducted a thorough contract review as per UNFCCC and Carbon Check's procedures and requirements.

The verification was performed as per the requirements described in the CDM VVS for PoAs, version 5.0, and GS4GG requirements and constitutes the review and completion of the following steps:

- Reviewing the PoA (Version 5.0, date 09/05/2023 the VPAs for VPAs CPA 02 (GS11571) CPA 03 (GS 11572) including the monitoring plan and the corresponding validation report.
- Previous verification and certification reports and the monitoring reports for the previous monitoring periods.
- Desk review of the validation report, MR, and other relevant documents including documents related to the project activities in emission reductions.
- Review of the applied monitoring methodology (AMS-II.G., version 08, “Energy efficiency measures in thermal applications of non-renewable biomass);
- Review of any CMP and EB decisions, clarifications, and guidance.
- Resolution of CARs and CLs raised during verification.
- Issuance of Verification Report.

The voluntary project activities were correctly implemented according to the selected monitoring methodology, monitoring plan, and VPA/s. The monitoring system was installed, and maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the review, the verification team confirms that the PoA has resulted in the 2,290,549tCO₂e of emission reductions for the 01/01/2021 to 31/12/2022 (inclusive of both dates) during the 1st monitoring period for and achieved SDG benefits as detailed in Appendix 6 for the period.

Verified emission reductions:

VPA reference number	Emission Reductions (tCO ₂ e)
CPA 02 (GS 11571)	1,145,274
CPA 03 (GS 11572)	1,145,275
Total	2,290,549

CCIPL as a VVB is therefore pleased to issue a positive verification opinion in the attached Certification statement.

SECTION H. Certification statement

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Carbon Check (India) Private Ltd., the VVB, has performed the verification of the GS Programme of Activities, GS 11570, “Improved cookstove program in Bangladesh supported by the Republic of Korea in Bangladesh POA”. The PoA involves the replacement of less efficient three-stone cooking stoves with biomass-based improved cookstoves (“ICS”) which are more efficient. The activity involves the distribution and maintenance of domestic and non-domestic fuel-efficient stoves (ICS). The improved cookstoves distributed under VPAs are more efficient in transferring heat from the fuel to the pot when compared to the three-stone stove typically used in the baseline. By replacing inefficient stoves, the PoA will save on the consumption of woody biomass and reduce the GHG emissions reduction.

The voluntary project activities of the Programme of Activities are designed to generate emission reductions by the distribution of fuel-efficient wood fuel-based cookstoves in Bangladesh. The CME and VPA implementer are responsible for the collection of data in accordance with the monitoring plan and reporting GHG emissions reductions from the voluntary project activity/ies. It is VVB’s responsibility to express an independent verification statement on the reported GHG emission reductions from the component project/s. The VVB does not express any opinion on the selected

baseline scenario or on the validated and registered PoA-DD/VPA-DDs. The verification is carried out in line with the CDM VVS and GS4GG requirements.

The verification was performed to identify the compliance of the component project with implementation and monitoring requirements, and to verify the actual amount of emission reductions achieved by project, through obtaining evidence that included

Checking whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied.

The collection of evidence supporting the reported data.

The verification is based on:

PoA, Version 5.0 dated 09/05/2023.

VPAs included in the PoA and its monitoring plan for the monitoring period is 01/01/2021 to 31/12/2022.

Approved CDM monitoring AMS-II.G., version 08, "Energy efficiency measures in thermal applications of non-renewable biomass

Validation report for the PoA and the VPA;

Monitoring report Version 04 dated 30/06/2023.

This statement covers the verification period from 01/01/2021 to 31/12/2022.

The VVB had raised One (1) clarification Twelve (12) Corrective action requests (0) Forward action request which have been resolved by the CME.

The VVB considers it necessary to give reasonable assurance that reported GHG emission reductions were calculated correctly on the basis of the monitoring methodology and the monitoring plan contained in the VPAs is fairly stated.

The VVB, hereby certifies that the project activity, achieved emission reductions by sources of GHG equal to 2,290,549 tCO₂e for the period 01/01/2021 to 31/12/2022 and achieved SDG benefits as detailed in Appendix 6 and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records from site visit and Desk review.

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Limit
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CER	Certified Emission Reduction
CL	Clarification Request
CME	Co-ordinating and Managing entity
VPA	Voluntary Project Activity
VPA-DD	Voluntary Project Activity Design Document
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DR	Document review
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
EI	External individual
FA	Final Approval
FAR	Forward Action Request
FVR	Final verification Report
GACC	Global Alliance for Clean Cookstoves
GHG	Greenhouse gas(es)
GS4GG	Gold Standard for the Global Goals
GWh	Giga Watt Hour
I	Interview
IPCC	Intergovernmental Panel on Climate Change
IR	Internal resource
MP	Monitoring Period
MWh	Mega Watt Hour
MR	Monitoring Report
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PP	Project Participant
QC/QA	Quality control /Quality assurance
SDG	Sustainable Development Goal
TA	Technical Area
TR	Technical Review
PFT	Project Fuel Test
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Limit
VVS	Validation and Verification Standard
VVB	Validation & Verification Body
WBT	Water boiling test
FES	Fuel-Efficient Stoves
IP	Implementation partner
KPT	Kitchen Performance Test

Appendix 2. Competence of team members and technical reviewers


Carbon
 CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Harish Sharma

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☐ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

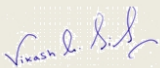
☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date

1st January 2023

Expiry Date

31st December 2023



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

CC IPL_FM 7.9 Certificate of Competency_V2.1_012023



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Manas Halder

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|---|---|--|--|
| ☒ Validator | ☒ Verifier | ☐ Team Leader | ☒ Technical Expert |
| ☐ Technical Reviewer | ☐ Health Expert | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☐ SDG+ | ☐ Social no-harm(S+) | ☐ Environment no-harm(E+) | ☐ CCB Expert |
| ☐ Financial Expert | ☒ Local Expert for India and Bangladesh | | |

in the following Technical Areas:

- | | | | | |
|----------------------------------|--|----------------------------------|---|----------------------------------|
| ☐ TA 1.1 | ☒ TA 1.2 | ☐ TA 2.1 | ☒ TA 3.1 | ☐ TA 4.1 |
| ☐ TA 4. n | ☐ TA 5.1 | ☐ TA 5.2 | ☐ TA 7.1 | ☐ TA 8.1 |
| ☐ TA 9.1 | ☐ TA 9.2 | ☐ TA 10.1 | ☒ TA 13.1 | ☐ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | | | |

Issue Date

1st January 2023

Expiry Date

31st December 2023



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Shivaji Chakraborty

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|--|---|--|
| ☐ Validator | ☐ Verifier | ☐ Team Leader | ☒ Technical Expert |
| ☒ Technical Reviewer | ☐ Health Expert | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☒ SDG+ | ☒ Social no-harm(S+) | ☒ Environment no-harm(E+) | ☐ CCB Expert |
| ☒ Financial Expert | ☒ Local Expert for India | | |

in the following Technical Areas:

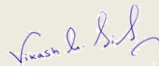
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| ☐ TA 4. n | ☐ TA 5.1 | ☐ TA 5.2 | ☐ TA 7.1 | ☐ TA 8.1 |
| ☐ TA 9.1 | ☐ TA 9.2 | ☐ TA 10.1 | ☐ TA 13.1 | ☐ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | | | |

Issue Date

1st January 2023

Expiry Date

31st December 2023



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

Appendix 3: Documents reviewed or referenced

Sr no.	Documents
/01/	CDM PoA 10431-Transition-request-form v5.0 09052023_CSIPL
/02/	PoA GS11570 VPAs GS (11571-11572) ER Sheet MP1 v2.0 16052023
/03/	PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v4.0 30062023_TR_R1_ResponsePoA
/04/	(a) Sample Employment Contract Letter - DSM Natore Salary 22,000 PM (b) Data of employment contract on sample base and employee list
/05/	Grievance Book Register
/06/	Training records for staffs conducting WBT
/07/	Distribution record in electronic data management system detailing serial numbers and date of distribution of appliances
/08/	Sample Employment Contract Letter - DSM Natore Salary 22,000 PM
/09/	10.0 Bondhu Chulha Lifetime
/10/	12.0 BBF Local Partner Training Workshop Photographs
/11/	Data of employment contract on sample base and employee list.
/12/	CCIPPL 1700 COUNTERSIGNED CONTRACT
/13/	GS 11570 MS2 Monitoring survey records
/14/	Feedback forms
/15/	Registered CDM POA DD Version
/16/	Monitoring Report MP 2 https://cdm.unfccc.int/UserManagement/FileStorage/046YULH9QDAXN2P7JS1KR8E3COVFZ5 Monitoring Report MP 3 https://cdm.unfccc.int/UserManagement/FileStorage/UB8O36I5XVYQ1KD9702MAHJPLRTZWG Monitoring Report MP 4 https://cdm.unfccc.int/UserManagement/FileStorage/71G3TVO6AEX59L8MIZNBQDF2JWHP40

Background Document

Ref	Document
/B01/	GS4GG Principles and Requirements and Stakeholder Consultation and Engagement requirements

Appendix 4: Clarification requests, corrective action requests and forward action requests

4.1 Clarifications from Verification

CL ID	1	Section no.	G.1	Date: 01/05/2023
Description of CL				
CME to clarify how the Continuous Input and Grievance Mechanism is ensured for stakeholders, what are the means by which a stakeholder can raise a grievance, how the stakeholders are made aware of grievance mechanism. Furthermore, CME to submit for this monitoring period.				
Project participant response				Date: 11/05/2023
A continuous input/grievance expression process book is placed at branch offices and other active locations in various districts to allow stakeholders without internet access to voice their concerns, complaints, grievances, and feedback. Additionally, users were provided with the contact numbers of the District Sales Manager and Assistant District Manager whom they can call and lodge their grievances. At the village level, "Bondhu Chula Doctors" have been appointed who are responsible and involved in identifying potential beneficiaries, create awareness about benefits of ICS and also training beneficiaries on the ICS usage. Due to their close association with the local beneficiaries, these can also be approached to escalate any such needs. Sample Grievance register photographs are being submitted.				
The documentation provided by project participant				
Sample Grievance register photographs				
GS VVB assessment				Date: 12/06/2023
VVB assessed that the measures implemented by CME effectively address the need for a continuous input/grievance expression process. The placement of process books, provision of contact numbers, appointment of "Bondhu Chula Doctors," and submission of sample photographs indicate a comprehensive approach to accommodating stakeholder concerns and feedback. CL # 1 is closed.				

CARs from this verification

CAR ID	1	Section no.	KPI	Date: 01/05/2023
Description of CAR				
CME to delete template instruction from KPI Section.				
Project participant response				Date: 11/05/2023
This has been corrected in the revised MR being submitted.				
Documentation provided by project participant				
PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023				
GS VVB assessment				Date: 12/06/2023
Changes reflected in the updated version of the MR. CAR # 1 is closed.				

CAR ID	2	Section no.	Table 1	Date: 01/05/2023
Description of CAR				
In table 1, CME shall update the VPA wise amount achieved for the applicable SDG.				

VVB has assessed the SDG Impact worksheet, the SDG parameters are directly written as a value in the worksheet without any calculation and details of assumption/survey results. CME shall detail the calculation method along with the calculation of survey result in SDG impact worksheet. CME shall update the unit of SDG parameter GSDM 7.1.1 in line with the SDG impact tool. CME has shared the declaration in support of SDG 8 (GSDM 8.5.1), however, in line with the requirement of SDG impact tool, CME shall share the employment data and supportive documents against the value applied for SDG 8 (GSDM 8.5.1).

Project participant response	Date: 11/05/2023
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VPA-wise values for SDG impacts achieved has been provided in the revised MR. The table for SDG 1 in section D.2. has now been provided with the detailed calculation approach to obtain the amount of money saved due to reduced fuel consumption. The same approach has been used in the SDG parameter worksheet of the ER sheet as well. The unit of SDG parameter GSDM 7.1.1 has been revised in line with the SDG impact tool. The SDG parameter refers to the number of employments generated, categorized on the basis of gender and skill. The declaration signed by the CEO of BBF, clearly specifies the number of male and female employees as 1070 and 380 respectively for MS#1 and 1150 and 450 respectively for MS#2. Sample Screenshots of the HR register are being submitted.

Documentation provided by project participant

PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023
 Sample screenshots of HR register.

GS VVB assessment	Date: 12/06/2023
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Changes reflected in the updated version of the MR. CAR closed. The table for SDG 1 in section D.2. changes reflected in MR and ER Calculation also cross-check found ok. Hence the CAR is closed. Changes reflected in the unit of SDG parameter GSDM 7.1.1 of the updated versions of the MR. CAR closed. CME has submitted the excel database of the employees however, CME shall submit the employment records on sample basis i.e. employment contract and/or salary slip or MIS attendance records etc. CAR is partially closed as point 4 is open.

Project participant response	Date: 14/06/2023
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A sample employment contract (for DSM Natore) specifying corresponding salary, is being submitted.

The documentation provided by the project participant

Sample Employment Contract Copy

GS VVB assessment	Date:
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CME has shared the Sample Employment Contract Letter - DSM Natore Salary 22,000 PM, VVB reviewed the Employment Contact letter and found ok. CAR #4 is closed.

CAR ID	3	Section no.	Table 2	Date: 01/05/2023
Description of CAR				
Table 2 shall be updated for the amount of product vintages achieved by each VPA separately.				
Project participant response				Date: 11/05/2023
The vintage wise amount of the VERs achieved is now mentioned for each VPA separately.				
Documentation provided by project participant				
PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023				
GS VVB assessment				Date: 12/06/2023
The Vintage wise amount is cross-checked and found updated for each VPA in MR. CAR #3 is Closed.				

CAR ID	4	Section no.	A.4	Date: 01/05/2023
Description of CAR				

In section A.4 the crediting period start date is not consistent with the start date mentioned in the VPA.	
Project participant response	Date: 11/05/2023
The MR mentions the CDM as well as GS crediting period start date for increased transparency. No change is required in the MR.	
Documentation provided by project participant	
PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023	
GS VVB assessment	Date: 12/06/2023
VVB cross-checked the Monitoring report and the crediting period start date of the GS4GG is consistently mentioned as 01/01/2021. CAR # 4 is closed.	

CAR ID	5	Section no.	B.1	Date: 01/05/2023
Description of CAR				
CME to provide evidence of ownership transferring agreement.				
Project participant response				Date: 11/05/2023
The sample end-user agreement is being submitted. Refer to the clause 11 of the same.				
Documentation provided by project participant				
Sample end-user agreement				
GS VVB assessment				Date: 12/06/2023
CME has shared the sample end-user agreement (EUA), VVB reviewed the EUA and found ok. CAR #5 is closed.				

CAR ID	7	Section no.	D.1	Date: 01/05/2023
Description of CAR				
CME to correct the formula provided in section D.1 of the MR for the parameter "SDG 15: NRFC Baseline.				
CME to add a weblink in MR for the mentioned document of SDG 13, in Section D.1				
PD is requested to provide the FNRB report and Corresponding calculation spreadsheet.				
Project participant response				Date: 11/05/2023
The same has been corrected.				
The same has been provided as a footnote 6.				
The fNRB assessment sheet is being submitted with the references used indicated.				
Documentation provided by project participant				
PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023				
fNRB assessment				
GS VVB assessment				Date: 12/06/2023
The formula provided in Section D.1 of the MR revised. point 1 is closed.				
Mentioned footnote found ok. Point 2 is Closed.				
Upon requesting the fNRB report and corresponding calculation spreadsheet from CME, VVB has received the fNRB sheet along with the indicated references used.				
Based on the assessment, VVB have reviewed the provided fNRB sheet and found it to be inclusive of the required references used in the assessment. The submission of the fNRB assessment sheet with indicated references is consistent with the applied methodology and allows for transparency and verification of the calculations and methodology used.				
CAR # 7 is closed.				

CAR ID	8	Section no.	D.2	Date: 01/05/2023
Description of CAR				
In section D.2 for SDG 8, Decent Work and economic growth are not as per the SDG value reported in the SDG Impact tool. CME to check and update accordingly. Moreover, VPA-wise values shall be reported throughout MR.				

CME to submit efficiency test records and training records for staff conducting WBTs.	
Project participant response	Date: 11/05/2023
The values for the parameter SDG 8 in section D.2 are now consistent with the ex-post SDG impact tool being submitted. The VPA-wise values for all applicable parameters have now been reported throughout MR.	
Following the methodological choices and registered monitoring plan of the PoA/CPAs, the project participant (PP) is obligated to determine the value for parameter $\eta_{new,i,j}$ for all future monitoring periods using option (c) of § 25 of AMS II.G version 8, given the same has been used in all previously approved issuances. The ICSSs under consideration for crediting pertain to age categories of Age 1, Age 2, and Age 3. The thermal efficiency values for these age categories have already been established in previous issuances under CDM (in line with option (c) of § 25 of AMS II.G version 8). The necessary references (weblinks) for the corresponding CDM issued MR, ER sheets for historical issuances have already been provided (refer section D.2, page 22 of revised MR). Consequently, no efficiency tests were conducted in the current monitoring period for the concerned VPAs and hence WBT records is not applicable. Training records for staff conducting WBT are being submitted.	
Documentation provided by project participant	
Training records for staffs conducting WBT PoA GS11570 VPAs GS (11571-11572) MP1 SDG Impact Tool v1.0 11052023	
GS VVB assessment	Date: 12/06/2023
The VPA wise values are not updated in the MR. Point #1 is open. Upon reviewing the methodological choices and registered monitoring plan of the PoA/CPAs, it has been observed that the CME has determine the value for parameter $\eta_{new,i,j}$ using option (c) of § 25 of AMS II.G version 8. VVB assessed that the use of option (c) of § 25 of AMS II.G version 8 aligns with the specified monitoring requirements and methodology. CAR # 08 is closed.	
Project participant response	Date: 14/06/2023
VPA wise values have now been updated in the MR, as deemed relevant	
Documentation provided by project participant	
-	
GS VVB assessment	Date: 15/06/2023
CME has updated the VPA-wise value in section D.2 of MR, Point #1 is Closed	

CAR ID	9	Section no.	D.4	Date: 01/05/2023
Description of CAR				
CME to submit the supporting evidence of the outcome of random number generator.				
Project participant response				Date: 11/05/2023
The random number evidence for each sampling stratum is being submitted.				
Documentation provided by project participant				
Random number evidence				
GS VVB assessment				Date: 12/06/2023
supporting evidence of the outcome of random number generator cross-checked and found ok. CAR #9 is Closed.				

CAR ID	10	Section no.	E.4	Date: 01/05/2023
Description of CAR				
In section E.4, CME shall make the formula for Bold,i,j consistent with the VPA DD.				

Project participant response	Date: 11/05/2023
The formula in section E.4 is consistent with the VPA-DD.	
Documentation provided by project participant	
PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023	
GS VVB assessment	Date: 12/06/2023
The formula presented in section E.4 aligns with the content outlined in the VPA-DD. CAR #10 is closed.	

CAR ID	11	Section no.	E.5	Date: 01/05/2023
Description of CAR				
The ex-ante estimates of approved VPA DD in section E.5 of MR shall be corrected and made consistent with the estimates provided in VPA DD. The reference of TRF (Section B.6.2) mentioned in Section E.5 of the MR is not available in TRF form. CME shall correct the reference.				
Project participant response				Date: 11/05/2023
The ER Calculator, tab: "Ex-ante estimation", provides detailed calculation for ex-ante values specified in section E.5 The correct reference has now been provided.				
Documentation provided by project participant				
PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v2.0 11052023				
GS VVB assessment				Date: 12/06/2023
CME has made the necessary changes in Section E.5 of the revised MR and in ER calculations spreadsheet. Hence the CAR is closed. Changes reflected in the updated version of the MR. CAR closed. CAR # 11 is closed.				

CAR ID	12	Section no.	G.3	Date: 01/05/2023
Description of CAR				
CME to provide a declaration against no legal contests/disputes and grievance received during the current monitoring period.				
Project participant response				Date: 11/05/2023
A declaration confirming the absence of any legal disputes is being submitted.				
During the site visit for verification, a minor issue was noted regarding the wear and tear of the ICS. However, since this grievance was documented in April 2023, which is beyond the current monitoring period. The same shall be included in the next monitoring period.				
Documentation provided by project participant				
Declaration regarding legal contests/disputes				
GS VVB assessment				Date: 12/06/2023
The provided Declaration from CME has undergone a thorough cross-verification process, and it has been found that CME did not explicitly state that the project is free from any legal disputes. CAR #12 is open.				
Project participant response				Date: 14/06/2023
A revised declaration is being submitted affirming that the project was free from any legal disputes in the concerned monitoring period.				
Documentation provided by project participant				
Declaration regarding legal contests/disputes (revised)				
GS VVB assessment				Date: 16/06/2023
CME has Submitted the Declaration Regarding the Legal Dispute. CAR #12 is closed.				

Appendix 5. Data and parameters fixed ex-ante

Means of validation	DR, I	
Conclusion	Ex-ante parameters provided under section D.1 of the PoA GS11570 VPAs GS (11571-11572) Monitoring Report MP1 v4.0 30062023 /are found to be appropriate and in line with the applied methodology AMS-II. G (version 08). Ex-ante parameters of the proposed MR are as follows:	
	SDG 1:	
	Data/Parameter	HHS _{Baseline}
	Data unit	Taka/year
	Description	Average household savings/reduced expenditure on basic services in baseline
	Source of data	--
	Value(s) applied	0
	Choice of data or measurement methods and procedures	--
	Purpose of data	SDG 1 Impact calculation
	Additional comment	--
	SDG 5:	
	Data/Parameter	TS _{Baseline}
	Data unit	Hrs/HH/day
	Description	Average time saving associated with cooking and/or fuel collection time in baseline
	Source of data	--
	Value(s) applied	0
	Choice of data or measurement methods and procedures	--
Purpose of data	SDG 5 Impact calculation	

	Additional comment	--
	SDG 7:	
	Data/Parameter	ACS _{Baseline}
	Data unit	%
	Description	Access to affordable and clean energy (% of operating ICS units under Baseline)
	Source of data	--
	Value(s) applied	0
	Choice of data or measurement methods and procedures	--
	Purpose of data	SDG 7 Impact calculation
	Additional comment	--
	SDG 7:	
	Data/Parameter	NBH _{Baseline}
	Data unit	Number
	Description	Total number of beneficiaries unique households that were provided access to clean fuels and technologies for domestic cooking in baseline
	Source of data	--
	Value(s) applied	0
	Choice of data or measurement methods and procedures	--
	Purpose of data	SDG 7 Impact calculation

	Additional comment	--
	SDG 8:	
	Data/Parameter	TJ_{Baseline}
	Data unit	Number
	Description	Total Number of jobs (male and female) created under Baseline by project activity
	Source of data	--
	Value(s) applied	0
	Choice of data or measurement methods and procedures	--
	Purpose of data	SDG 8 Impact calculation
	Additional comment	--
	SDG 15:	
	Data/Parameter	NRFC_{Baseline}
	Data unit	Tonnes of NRB /HH /year
	Description	amount of non-renewable fuel consumption per HH in Baseline
	Source of data	Calculated
	Value(s) applied	1.81
	Choice of data or measurement methods and procedures	Calculated as $NRFC_{Baseline} = B_{old,i,j} * f_{NRB,y}$ Wherein, $B_{old,i,j}$ and $f_{NRB,y}$ are ex-ante fixed parameters
	Purpose of data	SDG 15 Impact calculation
	Additional comment	--

SDG 13:

Data/Parameter	$f_{NRB,Y}$
Data unit	Fraction
Description	Fraction of woody biomass save by the project activity during year y that can be established as non-renewable biomass
Source of data	Fixed ex-ante at VPA level
Value(s) applied	0.843
Choice of data or measurement methods and procedures	Calculated as per Tool: Calculation of the fraction of non-renewable biomass, EB 97, Annex 9, in accordance with para 27 – 30 of AMS II.G. version 08.0
Purpose of data	Calculation of baseline emissions
Additional comment	--

Data/Parameter	$B_{old,p}$
Data unit	tonnes/person/year
Description	Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices
Source of data	AMS II.G. version 8.0
Value(s) applied	0.5
Choice of data or measurement methods and procedures	Default value specified by the methodology.
Purpose of data	To calculate baseline emission
Additional comment	--

Data/Parameter	$N_{p,HH}$
Data unit	Number
Description	Average number of persons served per household prior to the project implementation

	Source of data	The Bangladesh Multiple Indicator Cluster Survey (MICS) 2019 ¹
	Value(s) applied	4.3
	Choice of data or measurement methods and procedures	Published information / literature defining the average household size in the project region
	Purpose of data	To calculate baseline emission (For parameter $B_{old,HH}$)
	Additional comment	--
	Data/Parameter	$B_{old,HH}$
	Data unit	tonnes/household/year
	Description	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices
	Source of data	Calculated
	Value(s) applied	2.15
	Choice of data or measurement methods and procedures	Calculated as $B_{old,p} * N_{p,HH}$
	Purpose of data	To calculate baseline emission
	Additional comment	Further as VPA IMPLEMENTER plans distribution of only one ICS unit per household, $B_{old,HH} = B_{old,i,j}$
	Data/Parameter	L_{AFy}
	Data unit	Fraction
	Description	Leakage adjustment factor
	Source of data	AMS-II.G, ver. 08.0, paragraph 42(c)
	Value(s) applied	0.95
	Choice of data or measurement methods and procedures	Default value as prescribed by methodology applied
	Purpose of data	To calculate baseline emissions
	Additional comment	--

¹ https://www.unicef.org/bangladesh/media/3281/file/Bangladesh%202019%20MICS%20Report_English.pdf

	Data/Parameter	$EF_{\text{projected_fossilfuel}}$		
	Data unit	tCO ₂ /TJ		
	Description	Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers		
	Source of data	AMS-II. G version 8 equation (2), page 5		
	Value(s) applied	81.6		
	Choice of data or measurement methods and procedures	Default values prescribed by the methodology applied		
	Purpose of data	Calculation of baseline emissions		
	Additional comment	--		
	Data/Parameter	NCV_{biomass}		
	Data unit	TJ/tonne		
	Description	Net Calorific Value of the non-renewable woody biomass, briquettes or charcoal used project devices.		
	Source of data	AMS-II. G version 08		
	Value(s) applied	0.015		
	Choice of data or measurement methods and procedures	The default value as prescribed by methodology applied		
	Purpose of data	Calculation of baseline emissions		
	Additional comment	--.		
	Data/Parameter	$\eta_{old,i,j}$		
	Data unit	Fraction		
	Description	Efficiency of pre - project device, which is a three-stone fire using fuelwood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation		
	Source of data	AMS-II. G version 08		
	Value(s) applied	0.11		
	Choice of data or Measurement methods and procedures	Default value suggested in AMS.II-G ver 08.0 for a three-stone fire using fuelwood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation = 0.10		
		Default value suggested in AMS.II-G ver 08.0 for other types of devices =0.20		
		Description	Values	Source

		Population using Three Stone Fire / conventional stoves	90%	Country Action plan for clean cookstoves, Nov 2013
		Population using other baseline Cookstoves	10%	Calculated (100% - 90%)
		Efficiency of Three Stone Fire Stove conventional stoves	10%	AMS II.G. default value
		Efficiency of other baseline Cookstoves	20%	
		Weighted average baseline stove efficiency	11.00%	Calculated
	Purpose of data	To calculate baseline emission		
	Additional comment	Fixed ex-ante for all CPAs following generic CPA 1		

Appendix 6. Data and parameters monitored

SDG#1

Data/Parameter	HHS _{Project}						
Unit	Taka/ Year						
Description	Average household savings/reduced expenditure on basic services due to the adoption of project technology i.e., improved cookstove						
Measured/calculated/default	Determined via ex-post monitoring over a sample of project ICS users using a survey questionnaire providing options for range of money savings. The monitoring data collected, thus, is a grouped frequency table (with various groups representing different money saving range and frequency representing number of samples reporting corresponding money savings). The weighted average is then determined using the midpoint of each group range, weighing to the reported. frequency.						
Source of data	Ex-post monitoring surveys						
Value(s) of monitored parameter	<table border="1"> <tr> <td>VPA→</td><td>GS 11571 & GS 11572</td></tr> <tr> <td>MS1</td><td>4,674</td></tr> <tr> <td>MS2</td><td>5,147</td></tr> </table>	VPA→	GS 11571 & GS 11572	MS1	4,674	MS2	5,147
VPA→	GS 11571 & GS 11572						
MS1	4,674						
MS2	5,147						
Measuring/reading/recording frequency	Annual / Biennial						
Calculation method (if applicable)	Data monitored through survey of sample of project ICS users						
QA/QC procedures	Surveys was conducted by trained/experienced staff						
Purpose of data/parameter	SDG 1 Impact calculation						
Additional comments	NA						

SDG 5:

Data/Parameter	TS _{Project}
Unit	Hrs/HH/day
Description	Average time saving associated with cooking and/or fuel collection time in project

Measured/calculated/default	Determined via ex-post monitoring over a sample of project ICS users using a survey questionnaire providing options for range of time savings. The monitoring data collected, thus, is a grouped frequency table (with various groups representing different time saving range and frequency representing number of samples reporting corresponding time savings). The weighted average is then determined using the midpoint of each group range, weighing to the reported frequency.						
Source of data	Ex-post monitoring surveys.						
Value(s) of monitored parameter	<table border="1"> <tr> <th>VPA→</th><th>GS 11571 & GS 11572</th></tr> <tr> <td>MS1</td><td>2.24</td></tr> <tr> <td>MS2</td><td>2.34</td></tr> </table>	VPA→	GS 11571 & GS 11572	MS1	2.24	MS2	2.34
VPA→	GS 11571 & GS 11572						
MS1	2.24						
MS2	2.34						
Monitoring equipment	Not applicable						
Measuring/reading/recording frequency	Annual / Biennial						
Calculation method (if applicable)	Data monitored through survey of sample of project ICS users						
QA/QC procedures	Surveys was conducted by trained/experienced staff						
Purpose of data/parameter	SDG 5 Impact calculation						
Additional comments	NA						

SDG 7:

Data/Parameter	NBH _{Project}						
Unit	Number						
Description	Total number of beneficiaries (unique households) that were provided access to clean fuels and technologies for domestic cooking in project						
Measured/calculated/default	--						
Source of data	ICS distribution records						
Value(s) of monitored parameter	<table border="1"> <tr> <th>VPA→</th><th>GS 11571 & GS 11572</th></tr> <tr> <td>MS1</td><td>999,608</td></tr> <tr> <td>MS2</td><td>999,608</td></tr> </table>	VPA→	GS 11571 & GS 11572	MS1	999,608	MS2	999,608
VPA→	GS 11571 & GS 11572						
MS1	999,608						
MS2	999,608						
Monitoring equipment	Not applicable						
Measuring/reading/recording frequency	Continuous						
Calculation method (if applicable)	--						
QA/QC procedures							
Purpose of data/parameter	SDG 7 Impact calculation						

Additional comments	NA
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SDG#7

Data/Parameter	ACS _{Project}		
Unit	%		
Description	Access to affordable and clean energy (% of operating ICS units under Project)		
Measured/calculated/ default	Measured		
Source of data	Ex-post monitoring surveys		
Value(s) of a monitored parameter	VPA→	GS 11571 & GS 11572	
	MS1	98.48	
	MS2	96.34	
Monitoring equipment	Not applicable		
Measuring/reading/ recording frequency	Annual / Biennial		
Calculation method (if applicable)	Not applicable		
QA/QC procedures	Surveys was conducted by trained/experienced staff		
Purpose of data/parameter	SDG 7 Impact calculation		
Additional comments	NA		

SDG#8

Data/Parameter	TJ _{Project}		
Unit	Number		
Description	Total Number of jobs (male and female) created under Project-by-project activity		
Measured/calculated/ default	Measured/calculated		
Source of data	HR records/ Sales and marketing records/04//11/		
Value(s) of a monitored parameter	VPA→	GS 11571 & GS 11572	
	MS1	1,450	
	MS2	1,600	
Monitoring equipment	Not applicable		
Measuring/reading/recording frequency	Annual/ Biennial		
Calculation method (if applicable)	--		
QA/QC procedures	Not applicable		
Purpose of data/parameter	SDG 8 Impact calculation		

Additional comments	NA
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SDG#15

Data/Parameter	NRFC _{Project}						
Unit	Tonnes of NRB / HH / year						
Description	Amount of non-renewable fuel consumption per HH in Project						
Measured/calculated/ default	Measured/calculated						
Source of data	Calculated						
Value(s) of a monitored parameter	<table border="1"> <tr> <td>VPA→</td><td>GS 11571 & GS 11572</td></tr> <tr> <td>MS1</td><td>0.658</td></tr> <tr> <td>MS2</td><td>0.664</td></tr> </table>	VPA→	GS 11571 & GS 11572	MS1	0.658	MS2	0.664
VPA→	GS 11571 & GS 11572						
MS1	0.658						
MS2	0.664						
Monitoring equipment	Not applicable						
Measuring/reading/recording frequency	$NRFC_{Project} = NRFC_{Baseline} * \frac{\eta_{old}}{\eta_{new,i,j}}$ Wherein: η_{old} has been fixed ex-ante $\eta_{new,i,j}$ was monitored as per section B.5.1 of the CDM CPA-DD						
Calculation method (if applicable)	--						
QA/QC procedures	Not applicable						
Purpose of data/parameter	SDG 15 Impact calculation						
Additional comments	NA						

SDG#13

Data/Parameter	N _{y,i,j}			
Unit	Number			
Description	Number of project devices of type i and batch j operating during year y			
Measured/calculated/default	The VPA implementer is maintaining database of all the ICS installed. A usage monitoring survey was conducted to determine the number of operating stoves of type i and batch j on a sampling basis. The formula used to calculate the monitored value of operational ICS of type i and batch j is as follows: $N_{y,i,j} = (n_{i,j,operational} / n_{i,j,total}) * N_{y,i,j,installed}$ Where: N = total number of stoves in population n = number of samples monitored			
Source of data	Sales Record and monitoring survey			
Value(s) of monitored parameter		VPA → MS1	GS 11571 492,183	GS 11572 492,183

	MS2 481,536 481,536
Monitoring equipment	Not applicable
Measuring/reading/recording frequency	Annual/ Biennial
Calculation method (if applicable)	
QA/QC procedures	A 95 /10 confidence / margin of error is applied for the sampling parameter as per para 22 of Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 09.0
Purpose of data/parameter	To calculate baseline emissions
Additional comments	N/A

Data/Parameter	μ_y						
Unit	Fraction						
Description	Adjustment to account for any continued use of pre-project devices during the year y						
Measured/calculated/default	The sampled households were checked for presence of baseline stove and if it was being used along with project stove for cooking. - For samples where baseline stove was found not being used, $\mu_y = 1.0$. - For samples where the baseline stove is found to be in use, has been determined as: ratio of frequency of usage (i.e. number of meals cooked on ICS Vs total number of meals cooked on ICS and baseline stove)						
Source of data	Monitoring survey						
Value(s) of monitored parameter	<table border="1"> <tr> <td>VPA →</td><td>GS 11571 & GS 11572</td></tr> <tr> <td>MS1</td><td>1.000</td></tr> <tr> <td>MS2</td><td>1.000</td></tr> </table>	VPA →	GS 11571 & GS 11572	MS1	1.000	MS2	1.000
VPA →	GS 11571 & GS 11572						
MS1	1.000						
MS2	1.000						
Monitoring equipment	Not applicable						
Measuring/reading/recording frequency	Annual/ Biennial						
Calculation method (if applicable)							
QA/QC procedures	The parameter is determined based on sample surveys. The sample size is such determined to yield results with 95/10 confidence/precision.						
Purpose of data/parameter	To calculate baseline emissions						
Additional comments	N/A						

SDG Indicator	SDG 13: Climate Action
Data/parameter	$\eta_{new,i,j}$
Unit	Fraction

Description	Efficiency of the project device of each type i and batch j		
Source of data	WBT test records (/15/, /16/)		
Value(s) applied	$\eta_{new,i,j}$	Monit ored Value	Source (in line with para 25 of the methodology)
	$\eta_{new, 1}$ Pot, 2020, MS1	0.3312	Based on rated efficiency and efficiency loss for age 2 ICSs established in MP3 . Refer MP3 MR, page 11 of 21, available at:
	$\eta_{new, 2}$ Pot, 2020, MS1	0.3340	https://cdm.unfccc.int/UserManagement/FileStorage/UB8O36I5XVYQ1KD9702MAHJPLRTZ WG
	$\eta_{new, 1}$ Pot, 2021 MS1	0.3331	Based on rated efficiency and efficiency loss for age 1 ICSs established in MP2 (in line with para 25 of the methodology). Refer MP2 MR, page 11 of 21, available at:
	$\eta_{new, 2}$ Pot, 2021, MS1	0.3375	https://cdm.unfccc.int/UserManagement/FileStorage/046YULH9QDAXN2P7JS1KR8E3COVF Z5
	$\eta_{new, 1}$ Pot, 2020, MS2	0.3260	Based on rated efficiency and efficiency loss for age 3 ICSs established in MP4 (in line with para 25 of the methodology). Refer MP4 MR, page 11 of 21, available at:
	$\eta_{new, 2}$ Pot, 2020, MS2	0.3292	https://cdm.unfccc.int/UserManagement/FileStorage/71G3TVO6AEX59L8MIZNBQDF2JWHP 40
	$\eta_{new, 1}$ Pot, 2021, MS2	0.3312	Based on rated efficiency and efficiency loss for age 2 ICSs established in MP3 (in line with para 25 of the methodology). Refer MP3 MR, page 11 of 21, available at:
	$\eta_{new, 2}$ Pot, 2021, MS2	0.3340	https://cdm.unfccc.int/UserManagement/FileStorage/UB8O36I5XVYQ1KD9702MAHJPLRTZ WG
Measurement methods and procedures	--		
Monitoring frequency	Annual		
QA/QC procedures	The tests were conducted by trained staff having prior experience of conducting WBTs		
Purpose of data	Calculation of baseline emissions		
Additional comment	--		

Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved			Units/ Products						
13 Climate Action (mandatory) 13.2 Integrate climate change measures into national policies, strategies, and planning	Amount of GHG emissions avoided or sequestered	VPA →	GS 11571	GS 11572	tCO ₂ (eq)						
		MS1	468,151	468,152							
		MS2	677,123	677,123							
1 No Poverty 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.	GSDM 1.1.1 Average household savings i.e., decrease in expenditure on basic service such cooking, lighting, drinking.	<table><tr><td>VPA→</td><td>GS 11571 & GS 11572</td></tr><tr><td>MS1</td><td>4,674</td></tr><tr><td>MS2</td><td>5,147</td></tr></table>			VPA→	GS 11571 & GS 11572	MS1	4,674	MS2	5,147	Taka/Year
					VPA→	GS 11571 & GS 11572					
					MS1	4,674					
					MS2	5,147					
5 Gender Equality 5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	Average time saving associated with cooking time and/or fuel collection.	<table><tr><td>VPA→</td><td>GS 11571 & GS 11572</td></tr><tr><td>MS1</td><td>2.24</td></tr><tr><td>MS2</td><td>2.34</td></tr></table>			VPA→	GS 11571 & GS 11572	MS1	2.24	MS2	2.34	Hrs/HH/day
					VPA→	GS 11571 & GS 11572					
					MS1	2.24					
					MS2	2.34					

7 Affordable and Clean Energy 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	GSDM 7.1.1 Number of beneficiaries: Households	<table><tr><td>VPA→</td><td>GS 11571 & GS 11572</td></tr><tr><td>MS1</td><td>999,908</td></tr><tr><td>MS2</td><td>999,908</td></tr></table>	VPA→	GS 11571 & GS 11572	MS1	999,908	MS2	999,908	Number
VPA→	GS 11571 & GS 11572								
MS1	999,908								
MS2	999,908								
7 Affordable and Clean Energy 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	GSDG 7.1.2 Proportion of population with primary reliance on clean fuels and technology.	<table><tr><td>VPA→</td><td>GS 11571 & GS 11572</td></tr><tr><td>MS1</td><td>98.48</td></tr><tr><td>MS2</td><td>96.34</td></tr></table>	VPA→	GS 11571 & GS 11572	MS1	98.48	MS2	96.34	Percentage
VPA→	GS 11571 & GS 11572								
MS1	98.48								
MS2	96.34								
8 Decent Work and Economic Growth 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.	GSDM 8.5.1 Total number of jobs.	<table><tr><td>VPA→</td><td>GS 11571 & GS 11572</td></tr><tr><td>MS1</td><td>1,450</td></tr><tr><td>MS2</td><td>1,600</td></tr></table>	VPA→	GS 11571 & GS 11572	MS1	1,450	MS2	1,600	Number
VPA→	GS 11571 & GS 11572								
MS1	1,450								
MS2	1,600								
15 Life on Land 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	GSDM 15.1.1 Total non-renewable wood fuel saved	<table><tr><td>VPA→</td><td>GS 11571 & 11572</td></tr><tr><td>MS1</td><td>1.155</td></tr><tr><td>MS2</td><td>1.148</td></tr></table>	VPA→	GS 11571 & 11572	MS1	1.155	MS2	1.148	Tonnes of NRB / HH / year
VPA→	GS 11571 & 11572								
MS1	1.155								
MS2	1.148								

Furthermore, as per the report of CME, on-site interviews and VVB on site-visit and interviews with stakeholders D.3. it was represented that no disputes, inputs and comments have been received via the Continuous Input and Grievance Mechanism during this monitoring period.

APPENDIX 7. Assessment of Safeguarding Principles

Safeguarding Principles	Assessment Questions/ Requirements	How Project will achieve Requirements through design, management or risk mitigation.	Verification team assessment
Principle 1. Human Rights	1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights	1. The CME is a registered NGO (Reg. No. 3068) as per the “NGO Affairs Bureau” ² of the Prime Minister’s office. Humanism being one of the main pillars ³ /core values of BBF precludes it from being complicit in violence or human rights abuses.	NA.
	2. The Project shall not discriminate with regard to participation and inclusion	2. The PoA promotes universal participation and inclusion. The project ICSs’ beneficiary are not discriminated on the basis of race, ethnicity, gender, age, language, disability, religion, political opinion, origin, property etc.	NA.

² <http://www.ngoab.gov.bd/site/page/3de95510-5309-4400-97f5-0a362fd0f4e6/->

³ <http://bondhufoundation.org/Home/Index>

Principle Gender Equality	2. 1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women. 2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work	1. The primary beneficiaries of the PoA, include domestic households, where women usually serve as primary cook. Thus, ICSs shall contribute towards Gender equality by freeing the women from the drudgery of fuel collection and cooking. The time saved in these activities would also help them to conduct other more productive /income generation activities. This would further contribute towards Gender Equality. 2. BBF does not discriminates on the basis on gender and promotes equal work for equal pay. This is substantiated by the career section⁴ of BBF website, wherein the vacancies advertised are gender, class,	
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	community agnostic. PD (BBF) further confirms that the average wages / remunerations paid to the employees working with BBF is at / above par with the industry standards and in compliance with the minimum wage rate prescribed by the state / local government regulations. As of 28 Feb 2021, there are 807 people employed with the BBF (the project developer), of which 87 are female. 3. The project complies National Women Development Policy 2011 & Gender Policy July, 2016. The PoA does not limit women access to or control of resources, entitlements, and benefits. On the contrary, the VPA ameliorates the living	
	3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	

		condition of women by freeing them from the burden of biomass fuel collection, decreasing smoke levels and incidence of respiratory illness relative to cooking on traditional biomass stoves using solid biomass fuel. 4. Not required	
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Principle 3. Community Health, Safety and Working Conditions	The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	The PoA reduces community exposure to indoor air pollutants and smoke levels associated with cooking on traditional, inefficient stoves. The PoA therefore, reduces incidence of respiratory illness attributed to prolonged/sustained exposure to IAP from inefficient cooking on traditional biomass stoves using solid biomass fuel.	NA.
Principle 4.1 Sites of Cultural and Historical Heritage	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No, the ICSs are installed in the kitchen of beneficiary households. The ICSs do not interfere with any sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. Hence Requirements does not apply	NA
Principle 4.2 Forced Eviction and Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No, the project ICS are installed in the kitchens of the household and hence any possibilities of forced eviction/physical relocation of people due to the project is not applicable. The CME collaborates with the local entrepreneurs for fabrication as well as	NA

		installation of project ICS thereby empowering them economically rather than relocation / threat. Hence Requirements does not apply	
Principle 4.3 Land Tenure and Other Rights	a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?	No, refer justification for 4.1,4.2 above. Hence Requirements does not apply	NA
Principle 4.4 Indigenous People	Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No, the project does not involve any land/territory claim. The ICS are installed in the project beneficiary households at their discretion. Hence Requirements does not apply.	NA
Principle 5. Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	The CME is a registered NGO ⁵ (S/No: 293; Reg. No. 3068) as per the “NGO Affairs Bureau” that comes under the purview of the Prime Minister’s office of Bangladesh.	NA.

⁵ <http://www.ngoab.gov.bd/site/page/3de95510-5309-4400-97f5-0a362fd0f4e6/->

		Any registered NGO in Bangladesh must comply with several provisions / requirements for it to operate in Bangladesh as per the prevailing Laws. Being a registered NGO for a long time automatically substantiates that CME and the project is not complicit in, or inadvertently contribute to, or reinforce corruption. Also, BBF, being a registered NGO undergoes regular financial / statutory audits which precludes it from being complicit in any forms of corruption.	
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Principle 6.1 Labour Rights	1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall be documented and implemented and include: a. Working hours (must not exceed 48 hours per week on a regular basis), AND b. Duties and tasks, AND c. Remuneration (must include provision for payment of overtime), AND d. Modalities on health insurance, AND e. Modalities on termination of the contract with provision for voluntary resignation by employee, AND f. Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion)	All the employment in BBF, are in compliance to the provisions of labour legislation in force in Bangladesh i.e. "The Labour Act, 2006, and the "2015 Labour Rules". Working agreements⁶ with all individual workers is documented and implemented as per the guidelines provided in the PD's HR policy. The HR policy covers relevant provisions wrt to working hours, duties and tasks, remuneration, modalities, leaves, etc. BBF has a zero tolerance on child labour and neither promote, not is complicit in child labour. BBF trains the micro-entrepreneurs involved in ICS manufacturing, thus effecting country wide capacity building of manufacturing partners under the	NA.
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	5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures	programme. Please refer the partner training manual.	
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Principle 6.2 Negative Economic Consequences	Does the project cause negative economic consequences during and after project implementation?	No, the project will rather contribute to money and time saving because of the reduced fuel consumption. Therefore, the economic outcomes are expected to be positive. Hence Requirements does not apply	NA.
Principle 7.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No, the project shall reduce GHG emission by virtue of the increased efficiency of the ICS. Hence Requirements does not apply	NA
Principle 7.2 Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No, the project does not use or intervene with the fuel type used in baseline scenario. In fact, the project minimizes the consumption and thereby reduces the emission by virtue of the increased efficiency of the ICS. Hence Requirements does not apply.	NA
Principle 8.1 Impact on Natural Water Patterns/Flows	Will the Project affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No, the by-products (ash and smoke) of the project cookstoves operation are same as baseline scenario since there is no fuel change. This rule out any additional potential impact on natural or pre-existing pattern of	NA

		watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity? Hence Requirements does not apply.	
Principle 8.2 Erosion and/or Water Body Instability	a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No, the project shall result in reduction in demand of biomass fuel in the region putting less pressure of forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling. Also, Bangladesh has an abundance of water, with around 24,000 km of rivers flowing through its fertile land and thus can be excluded from the "water-scarce" category. Hence Requirements does not apply	Not Applicable.

Principle 9.1 Landscape Modification and Soil	Does the Project involve the use of land and soil for production of crops or other products?	No, project ICSs shall be installed in the kitchen/cooking area of the beneficiary. Hence Requirements does not apply	Not Applicable.
Principle 9.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No such consequences are envisaged. Hence Requirements does not apply	Not Applicable.
Principle 9.3 Genetic Resources	Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No, the project intervenes only with design of the baseline stoves. It does not carry out any change in baseline fuel or that may add additional pollutant to in the air. Hence Requirements does not apply	Not Applicable.
Principle 9.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No, the project intervenes only with design of the baseline stoves. It does not carry out any change in baseline fuel or that may add additional pollutant to in the air. Hence Requirements does not apply	Not Applicable.
Principle 9.5 Hazardous and Non-	Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-	No, the Project does not involve the manufacture, trade, release, and/ or use of hazardous and non-	Not Applicable.

hazardous Waste	hazardous chemicals and/or materials?	hazardous chemicals and/or materials. Hence Requirements does not apply	
Principle 9.6 Pesticides & Fertilisers	Will the Project involve the application of pesticides and/or fertilisers?	Requirements does not apply	Not applicable
Principle 9.7 Harvesting of Forests	Will the Project involve the harvesting of forests?	No, the PoA does not involve harvesting of forests. The PoA shall result in reduction in demand of biomass fuel in the region putting less pressure of forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/felling. Hence Requirements does not apply	Not Applicable.
Principle 9.8 Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No, the project does not intervene with the baseline food or other edible items. Hence Requirements does not apply	Not Applicable.
Principle 9.9 Animal husbandry	Will the Project involve animal husbandry?	No, the project will not involve animal husbandry. Hence Requirements does not apply	Not Applicable.
Principle 9.10 High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No, the ICS are going to decrease the baseline emission level solely due to improvements done on the key design element of the baseline stove. It does not involve change in baseline fuel or any other major	Not Applicable

		interventions that may add additional pollutant to in the air. Thus the project does not affect or alter the largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. Hence Requirement not apply.	
Principle 9.11 Endangered Species	Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No, the ICS are going to decrease the baseline emission level solely due to improvements done on the key design element of the baseline stove. It does not involve change in baseline fuel or does any other major interventions that may add additional pollutant to in the air. Therefore, the project implementation does not pose any threat to the endangered species prevalent in that area. Hence Requirements does not apply.	Not Applicable.

APPENDIX 8: Gold Standard Verification Protocol

CC IPL's Checklist question	Ref.	MoV ⁷	Findings, comments, references, data sources	Draft conclusion	Final conclusion
1. Sustainability Monitoring					
1.1 Have all non-neutral indicators been monitored as per the sustainability monitoring plan?		I,	Yes, all the non-neutral indicators have been monitored as per the sustainability monitoring plan.	OK	OK
1.2 Have the methods to monitor data changed? And are they suitable to the project scale and type?		DR	Methods to monitor data have not changed as compared with the monitoring plan in the registered passport and monitoring plan.	OK	OK
1.3 Has the way of monitoring been followed? With the inclusion of dates and parameters?		I	The sustainability monitoring plan has been followed as described in the Passport.	OK	OK
1.4 Have mitigation measures been put in place to prevent the risk of the violation of the safeguarding principle of the "Do No Harm" assessment or to neutralize a Sustainable Development Indicator that is being monitored?		DR	The POA is the distribution of efficient cookstoves to the masses and doesn't involve any large setup or organization base that can be qualified as significant for a "Do Not Harm" procedure.	OK	OK
1.5 Has all the data in the Sustainability development matrix been verified and cross-checked against available sources of project data? Has it been described how sustainable development would be affected if a variance occurred?		I	Yes, all data in the sustainability development matrix have been verified and cross-checked from the supporting documents/data and during the on-site audit.	OK	OK

⁷ MoV = Means of Verification, DR = Document Review, I = Interview, www = internet search.

CC IPL's Checklist question	Ref.	MoV ⁷	Findings, comments, references, data sources	Draft conclusion	Final conclusion
2. Other					
2.1 Are there any issues from the previous validation/verification? (ie FARs, requests / approvals for RMP)		DR	No	OK	OK
2.2 Has the project ever received any requests for reviews or incompletes from the UNFCCC or GS Secretariat?		DR	No there are no requests for reviews or incomplete for the project.	OK	OK
2.3 The evaluation of the status of mitigation and compensation measures has been verified.		DR	Yes, the status of mitigation and compensation measures has been verified.	OK	OK