

# GS VERIFICATION AND CERTIFICATION REPORT

5<sup>TH</sup> PERIODIC VERIFICATION OF CP1

PEOPLE'S REPUBLIC OF BANGLADESH

GHG EMISSION REDUCTION THROUGH USE OF  
BONDHU CHULA (IMPROVED COOK STOVES) IN  
BANGLADESH

PoA GS ID: GS3112

**Report No: 23/016**

**Date: 31/10/2023**

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Verification Report:	Report No.	Rev. No.	Date of 1 <sup>st</sup> issue:	Date of this rev.
	8003055887 - 23/016	3.0	15/05/2023	31/10/2023
Programme of Activities:	<b>PoA Title:</b>		<b>Project design certification</b>	<b>GS ID:</b>
	GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh		01/04/2014	GS3112
	<b>PoA Scale</b>		<b>Verification No.:</b>	
	<input type="checkbox"/> Large Scale	<input checked="" type="checkbox"/> Micro scale	5 <sup>th</sup> periodic verification	
	<b>Duration of the PoA:</b>		<b>From:</b>	<b>To:</b>
	28 years 00 months (5-yr renewable cycle)		01/04/2014	31/03/2042
	<b>Crediting period:</b>		<b>From:</b>	<b>To:</b>
	<input type="checkbox"/> Renewable (5y) <input checked="" type="checkbox"/> Fixed (10y)		01/04/2014	31/03/2024
	<b>VPA title:</b>		<b>Crediting Period Start Date</b>	<b>GS No.:</b>
	VPA 01	VPA 1 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	01/04/2014	GS 3544
	VPA 02	VPA 2 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	05/05/2014	GS 3482
	VPA 04	VPA 4 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/09/2014	GS 3619
	VPA 05	VPA 5 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/09/2014	GS 3620
	VPA 06	VPA 6 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	28/10/2014	GS 3618
	VPA 07	VPA 7 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	01/08/2014	GS 4372
VPA 08	VPA 8 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/08/2014	GS 4373	
VPA 09	VPA 9 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	27/08/2014	GS 4374	
VPA 10	VPA 10 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/09/2014	GS 4375	
VPA 11	VPA 11 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	27/09/2014	GS 4376	
VPA 12	VPA 12 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	08/10/2014	GS 4377	
VPA 13	VPA 13 - GHG Emission Reduction Through Use of Bondhu Chula	21/10/2014	GS 4378	

	(Improved Cook Stoves) in Bangladesh		
VPA 14	VPA 14 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	02/11/2014	GS 4379
VPA 15	VPA 15 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/11/2014	GS 4380
VPA 16	VPA 16 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	26/11/2014	GS 4381
VPA 17	VPA 17 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	04/12/2014	GS 4382
VPA 18	VPA 18 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/12/2014	GS 4384
VPA 19	VPA 19 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	19/12/2014	GS 4383
VPA 20	VPA 20 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	28/12/2014	GS 4385
VPA 21	VPA 21 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	07/01/2015	GS 4386
VPA 22	VPA 22 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/01/2015	GS 4387
VPA 23	VPA 23 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	24/01/2015	GS 4388
VPA 24	VPA 24 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	14/02/2015	GS 4389
VPA 25	VPA 25 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	21/02/2015	GS 4390
VPA 26	VPA 26 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	21/02/2015	GS 4391
VPA 27	VPA 27 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/03/2015	GS 4392
VPA 28	VPA 28 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/03/2015	GS 4393
VPA 29	VPA 29 - GHG Emission Reduction Through Use of Bondhu Chula	24/03/2015	GS 4394

	(Improved Cook Stoves) in Bangladesh		
VPA 30	VPA 30 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	15/04/2015	GS 4395
VPA 31	VPA 31 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	26/04/2015	GS 4396
VPA 32	VPA 32 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	30/04/2015	GS 4397
VPA 33	VPA 33 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	23/05/2015	GS 4398
VPA 34	VPA 34 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	30/05/2015	GS 4399
VPA 35	VPA 35 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	30/05/2015	GS 4400
VPA 36	VPA 36 - GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh	23/06/2015	GS 4401
<b>Project Participant(s):</b>	<b>Non-Annex 1 country:</b>		<b>Annex 1 country:</b>
	People's Republic of Bangladesh		-
	<b>PP from non-Annex 1 country:</b>		<b>PP from Annex 1 country:</b>
	Bangladesh Bondhu Foundation		-
<b>Applied methodology/ies:</b>	<b>Title:</b>	<b>No.:</b>	<b>Scope(s) / TA(s)</b>
	The Gold Standard Simplified Methodology for Efficient Cookstoves		version 1.0 3 / 3.1
<b>Monitoring period and monitoring report</b>	<b>Monitoring period (MP):</b>		<b>Monitoring Report (final):</b>
	VPA 1-2 and 4-36 <sup>1</sup>  MS1 – 01/03/2020 – 28/02/2021 MS2 – 01/03/2021 – 28/02/2022		2023/06/14 v 3.0
<b>Verification team:</b>	<b>Verification Team:</b>		<b>Technical review:</b>
	Prakash Kumar Mishra – TL		Kunal Rami, Anna Kröger
<b>Key dates of verification:</b>	<b>Final approval:</b>		
	2023-03-31		2023-04-10 2023-04-10
<b>Summary of Verification opinion</b>	Bangladesh Bondhu Foundation has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 5 <sup>th</sup> periodic verification within the first crediting period for the PoA titled: "GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh" <b>GS PoA ID 3112</b> , with regard to the relevant GS requirements for project activities.		
	As a result of this verification, the verifier confirms that: <input checked="" type="checkbox"/> all operations of the project are implemented and installed as planned and described in the validated project design document, <input checked="" type="checkbox"/> the monitoring plan is in accordance with the applied approved GS methodology.		

<sup>1</sup> VPA3 is not covered in this monitoring period and verification

	<input checked="" type="checkbox"/> the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately, <input checked="" type="checkbox"/> the monitoring system is in place and functional. The project has generated GHG emission reductions, and <input checked="" type="checkbox"/> the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. <input checked="" type="checkbox"/> the project has contributed to sustainable development. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above-mentioned reporting period as listed below (verified amount).			
<b>Emission reductions:</b> [tCO <sub>2</sub> e]	<i>Total verified amount<sup>2</sup></i>		<i>As per VPA-DD</i>	
			MS#1 and MS#2	
	<b>Start Dates</b>	<b>End Dates</b>	<b>VERs (tCO<sub>2</sub>e)</b>	<b>Total</b>
	01/03/2020	31/12/2020	132,310	<b>596,695</b>
01/01/2021	31/12/2021	112,993		
01/01/2022	28/02/2022	16,882		
<b>Total</b>		<b>262,185</b>		
<b>Document information:</b>	<i>Filename:</i>		<i>No. of pages:</i>	
	FVerR-GSPoA3112_25-10-2023.docx		88	

<sup>2</sup> For VPA wise breakup, please refer section 5.12 of this FVR

**Abbreviations:**

<b>BBF</b>	Bangladesh Bondhu Foundation
<b>CA</b>	Corrective Action / Clarification Action
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CER</b>	Certified Emission Reduction
<b>CL</b>	Clarification Request
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>tCO<sub>2</sub>e</b>	tonne of CO <sub>2</sub> equivalent
<b>CP</b>	Crediting Period (or Certification Program)
<b>DVerR</b>	Draft Verification Report
<b>ER</b>	Emission Reduction
<b>FAR</b>	Forward Action Request
<b>GHG</b>	Greenhouse gas(es)
<b>ICS</b>	Improved Cooking Stoves
<b>MP</b>	Monitoring Plan
<b>MR</b>	Monitoring Report
<b>MS</b>	Monitoring Survey
<b>PA</b>	Project Activity
<b>PoA-DD</b>	Programme of Activities Design Document
<b>PP</b>	Project Participant
<b>QA/QC</b>	Quality Assurance / Quality Control
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VPA-DD</b>	Component Project Activity Design Document
<b>VVS</b>	Validation and Verification Standard

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## 1. INTRODUCTION

Bangladesh Bondhu Foundation has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 5<sup>th</sup> periodic verification of first crediting period (CP1) of the PoA titled:

### **“GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh”**

under corresponding Programme of Activities ID GS 3112 with regard to the relevant requirements for GS project activities. The verifiers have reviewed the implementation of the monitoring plan(s) (MP) as described in the registered PoA-DD and VPA-DDs.

GHG data for this monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the GS regulations and the applied methodology.

Sustainable Development Indicators for this monitoring period were verified in detailed manner as required under the GS requirements<sup>/GSR/</sup> relevant GS Annexes and GS4GG Requirements<sup>/GS4GG TA/</sup>.

This report summarizes the findings and conclusions of this 5<sup>th</sup> periodic verification of the above-mentioned GS project activity.

### **1.1. Objective**

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions. It includes the verification of the:

- implementation and operation of the project activity as given in the respective VPA-DD,
- compliance of the actual monitoring system and procedures with the provisions of the monitoring plan as a part of registered VPA-DD, GS SDG monitoring matrix and the applied approved monitoring methodology,
- data given in the monitoring report by checking the monitoring records, the emissions reduction calculation and supporting evidence,
- accuracy of the monitoring equipment,
- quality of evidence,
- significance of reporting risks and risks of material misstatements.

### **1.2. Scope**

The verification of VPA-DD is based on the validated Programme of Activities design document<sup>/GSPoA-DD/</sup>, the validated GS PoA / VPA Documents, the monitoring report(s)<sup>/MR/</sup>, emission reduction calculation spreadsheet<sup>/XLS/</sup>, GS4GG Requirements<sup>/GS4GG TA/</sup>, supporting documents made available to the verifier and information collected through performing interviews and during the On-site assessments. Furthermore, publicly available information was considered as far as available and required.

The verification is carried out on the basis of the following requirements, applicable for this Programme of Activities:

- Article 12 of the Kyoto Protocol <sup>/KP/</sup>,
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 <sup>/MA/</sup>, and subsequent decisions made by the Executive Board and COP/MOP,
- other relevant rules, including the host country legislation,
- CDM /GS Validation and Verification Standard <sup>/VVS/</sup>,
- Monitoring plan as given in the registered PoA-DD and VPA-DD(s) <sup>/GSPoA-DD/</sup>
- Approved GS Methodology <sup>/GSM/</sup>
- GS4GG Requirements <sup>/GS4GG TA/</sup>

## 2. GHG PROJECT DESCRIPTION

### 2.1. Technical Project Description of the Programme of Activities

The purpose of PoA is dissemination of efficient, improved cooking stoves (ICS) in Bangladesh. The PoA is already registered under GS Principles and requirements, applied methodology and other relevant rules and requirements established for GS4GG PoA.

The VPAs under the PoA promote installation of ICS (based on service levels):

- Domestic ICS

The replacement of traditional stoves by ICS improves heat transfer, hence reducing the total amount of wood-fuel required for cooking and reducing amount of GHG emitted into the atmosphere. These VPAs included in this report use the same technology / measure.

The improvement in efficiency is achieved by properly adjusting the dimensions of the combustion chamber and ensuring effective air flow during cooking. In comparison to traditional stoves, the ICS provide a fuel savings of ~50% to cook the same amount of food.

### 2.2. Technical Description of the Voluntary Project Activities (VPAs)

The Programme of Activities consists of VPAs as presented briefly below:

GHG Emission Reduction through use of Bondhu Chula (Improved Cook Stoves) in Bangladesh – VPA No.01 to 02 and 04 to 36.

The technology implemented under this project is improved cookstoves.

**The key parameters of the project are given in Table 2-1.1:**

**Table 2-1.1:** Technical data of the VPA

Description (Technical specification)	Domestic
Portable/Fixed	Fixed
Fuel grate present (Yes/No)	Yes
Chimney present (Yes/No)	Yes
Fuel Type	Wood-fuel
Fabrication Material	Cement concrete
Design Operational Lifetime	More than 6 years

### 2.3. Project Location

The details of the VPAs locations are given in Table 2-2:

**Table 2-2: VPA(s) Location**

VPA No.: 1-36	Project Location
Host Country	Bangladesh
Region:	All across Bangladesh
Project location address:	All across Bangladesh
Latitude / longitude of program provinces:	GPS Coordinates of Dhaka is 23°42'37.44"N, 90°24'26.78"E

## 2.4. Project Verification History

Essential events since the registration of the PoA are presented in the following Table 2-3.

**Table 2-3: Status of previous Monitoring Periods**

#	Item	Time	Status
i.	PoA validation (GS) based on Design Certification Review	01/04/2014	Registered
ii.	1 <sup>st</sup> Monitoring period	VPA 1 - 01/04/2014 - 30/04/2015 VPA 2 - 05/05/2014 - 30/04/2015 VPA 4 - 15/09/2014 - 30/04/2015 VPA 5 - 15/09/2014 - 30/04/2015 VPA 6 - 28/10/2014 - 30/04/2015 VPA 7 - 01/08/2014 - 31/07/2016 VPA 8 - 15/08/2014 - 31/07/2016 VPA 9 - 27/08/2014 - 31/07/2016 VPA 10 - 15/09/2014 - 31/07/2016 VPA 11 - 27/09/2014 - 31/07/2016 VPA 12 - 08/10/2014 - 31/07/2016 VPA 13 - 21/10/2014 - 31/07/2016 VPA 14 - 02/11/2014 - 31/07/2016 VPA 15 - 15/11/2014 - 31/07/2016 VPA 16 - 26/11/2014 - 31/07/2016 VPA 17 - 04/12/2014 - 31/07/2016 VPA 18 - 15/12/2014 - 31/07/2016 VPA 19 - 19/12/2014 - 31/07/2016 VPA 20 - 28/12/2014 - 31/07/2016 VPA 21 - 07/01/2015 - 31/07/2016 VPA 22 - 15/01/2015 - 31/07/2016 VPA 23 - 24/01/2015 - 31/07/2016	Issued

#	Item	Time	Status
		VPA 24 - 14/02/2015 - 31/07/2016 VPA 25 - 21/02/2015 - 31/07/2016 VPA 26 - 21/02/2015 - 31/07/2016 VPA 27 - 15/03/2015 - 31/07/2016 VPA 28 - 15/03/2015 - 31/07/2016 VPA 29 - 24/03/2015 - 31/07/2016 VPA 30 - 15/04/2015 - 31/07/2016 VPA 31 - 26/04/2015 - 31/07/2016 VPA 32 - 30/04/2015 - 31/07/2016 VPA 33 - 23/05/2015 - 31/07/2016 VPA 34 - 30/05/2015 - 31/07/2016 VPA 35 - 30/05/2015 - 31/07/2016 VPA 36 - 23/06/2015 - 31/07/2016	
iii.	2 <sup>nd</sup> Monitoring period	VPA 1 - 01/05/2015 - 21/02/2016 VPA 2 - 01/05/2015 - 21/02/2016 VPA 4 - 01/05/2015 - 21/02/2016 VPA 5 - 01/05/2015 - 21/02/2016 VPA 6 - 01/05/2015 - 21/02/2016	Issued
iv.	3 <sup>rd</sup> Monitoring period	VPA 1 - 22/02/2016 - 28/02/2018 VPA 2 - 22/02/2016 - 28/02/2018 VPA 4 - 22/02/2016 - 28/02/2018 VPA 5 - 22/02/2016 - 28/02/2018 VPA 6 - 22/02/2016 - 28/02/2018 VPA 7 - 01/08/2016 - 28/02/2018 VPA 8 - 01/08/2016 - 28/02/2018 VPA 9 - 01/08/2016 - 28/02/2018 VPA 10 - 01/08/2016 - 28/02/2018 VPA 11 - 01/08/2016 - 28/02/2018 VPA 12 - 01/08/2016 - 28/02/2018 VPA 13 - 01/08/2016 - 28/02/2018 VPA 14 - 01/08/2016 - 28/02/2018 VPA 15 - 01/08/2016 - 28/02/2018 VPA 16 - 01/08/2016 - 28/02/2018 VPA 17 - 01/08/2016 - 28/02/2018 VPA 18 - 01/08/2016 - 28/02/2018 VPA 19 - 01/08/2016 - 28/02/2018 VPA 20 - 01/08/2016 - 28/02/2018 VPA 21 - 01/08/2016 - 28/02/2018 VPA 22 - 01/08/2016 - 28/02/2018 VPA 23 - 01/08/2016 - 28/02/2018 VPA 24 - 01/08/2016 - 28/02/2018 VPA 25 - 01/08/2016 - 28/02/2018 VPA 26 - 01/08/2016 - 28/02/2018	Issued

#	Item	Time	Status
		VPA 27 - 01/08/2016 - 28/02/2018 VPA 28 - 01/08/2016 - 28/02/2018 VPA 29 - 01/08/2016 - 28/02/2018 VPA 30 - 01/08/2016 - 28/02/2018 VPA 31 - 01/08/2016 - 28/02/2018 VPA 32 - 01/08/2016 - 28/02/2018 VPA 33 - 01/08/2016 - 28/02/2018 VPA 34 - 01/08/2016 - 28/02/2018 VPA 35 - 01/08/2016 - 28/02/2018 VPA 36 - 01/08/2016 - 28/02/2018	
v.	4 <sup>th</sup> Monitoring period	VPA 1 - 01/03/2018 - 29/02/2020 VPA 2 - 01/03/2018 - 29/02/2020 VPA 4 - 01/03/2018 - 29/02/2020 VPA 5 - 01/03/2018 - 29/02/2020 VPA 6 - 01/03/2018 - 29/02/2020 VPA 7 - 01/03/2018 - 29/02/2020 VPA 8 - 01/03/2018 - 29/02/2020 VPA 9 - 01/03/2018 - 29/02/2020 VPA 10 - 01/03/2018 - 29/02/2020 VPA 11 - 01/03/2018 - 29/02/2020 VPA 12 - 01/03/2018 - 29/02/2020 VPA 13 - 01/03/2018 - 29/02/2020 VPA 14 - 01/03/2018 - 29/02/2020 VPA 15 - 01/03/2018 - 29/02/2020 VPA 16 - 01/03/2018 - 29/02/2020 VPA 17 - 01/03/2018 - 29/02/2020 VPA 18 - 01/03/2018 - 29/02/2020 VPA 19 - 01/03/2018 - 29/02/2020 VPA 20 - 01/03/2018 - 29/02/2020 VPA 21 - 01/03/2018 - 29/02/2020 VPA 22 - 01/03/2018 - 29/02/2020 VPA 23 - 01/03/2018 - 29/02/2020 VPA 24 - 01/03/2018 - 29/02/2020 VPA 25 - 01/03/2018 - 29/02/2020 VPA 26 - 01/03/2018 - 29/02/2020 VPA 27 - 01/03/2018 - 29/02/2020 VPA 28 - 01/03/2018 - 29/02/2020 VPA 29 - 01/03/2018 - 29/02/2020 VPA 30 - 01/03/2018 - 29/02/2020 VPA 31 - 01/03/2018 - 29/02/2020 VPA 32 - 01/03/2018 - 29/02/2020 VPA 33 - 01/03/2018 - 29/02/2020 VPA 34 - 01/03/2018 - 29/02/2020	Issued

#	Item	Time	Status
		VPA 35 - 01/03/2018 - 29/02/2020 VPA 36 - 01/03/2018 - 29/02/2020	
vi.	5 <sup>th</sup> Monitoring period	VPA 1 - 01/03/2020-28/02/2022 VPA 2 - 01/03/2020-28/02/2022 VPA 4 - 01/03/2020-28/02/2022 VPA 5 - 01/03/2020-28/02/2022 VPA 6 - 01/03/2020-28/02/2022 VPA 7 - 01/03/2020-28/02/2022 VPA 8 - 01/03/2020-28/02/2022 VPA 9 - 01/03/2020-28/02/2022 VPA 10 - 01/03/2020-28/02/2022 VPA 11 - 01/03/2020-28/02/2022 VPA 12 - 01/03/2020-28/02/2022 VPA 13 - 01/03/2020-28/02/2022 VPA 14 - 01/03/2020-28/02/2022 VPA 15 - 01/03/2020-28/02/2022 VPA 16 - 01/03/2020-28/02/2022 VPA 17 - 01/03/2020-28/02/2022 VPA 18 - 01/03/2020-28/02/2022 VPA 19 - 01/03/2020-28/02/2022 VPA 20 - 01/03/2020-28/02/2022 VPA 21 - 01/03/2020-28/02/2022 VPA 22 - 01/03/2020-28/02/2022 VPA 23 - 01/03/2020-28/02/2022 VPA 24 - 01/03/2020-28/02/2022 VPA 25 - 01/03/2020-28/02/2022 VPA 26 - 01/03/2020-28/02/2022 VPA 27 - 01/03/2020-28/02/2022 VPA 28 - 01/03/2020-28/02/2022 VPA 29 - 01/03/2020-28/02/2022 VPA 30 - 01/03/2020-28/02/2022 VPA 31 - 01/03/2020-28/02/2022 VPA 32 - 01/03/2020-28/02/2022 VPA 33 - 01/03/2020-28/02/2022 VPA 34 - 01/03/2020-28/02/2022 VPA 35 - 01/03/2020-28/02/2022 VPA 36 - 01/03/2020-28/02/2022	Under Issuance

An overview of all Post Registration Changes is given in the following table.

**Table 2-4:** Overview Post Registration Changes

#	Changes on PoA-DD/VPA-DD	Applicable from – to / as of	MP	Type of post registration change <sup>1)</sup>	Description	Status <sup>2)</sup> / Date
	N.A.					

- <sup>1)</sup> IVPAiPoA : Inclusion of component project activities in programme of activities  
 TDfrMP : Temporary deviation from registered monitoring plan  
 TDfMM : Temporary deviation from the monitoring methodology  
 CrVPADD : Corrections to the registered VPA-DD  
 PCfrMP : Permanent changes from registered Monitoring Plan  
 PCfMM : Permanent changes from Monitoring Methodology  
 CoPD : Changes to the project design of a registered PoA, or generic or specific VPA
- <sup>2)</sup> Approval (by Accreditation Body) or Acceptance (by DOE)

### 3. METHODOLOGY AND VERIFICATION SEQUENCE

#### 3.1. Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- A desk review of the carbon and SD Monitoring Reports<sup>/MR/</sup> submitted by the client and additional supporting documents with the use of customized verification protocol<sup>/CPM/</sup> according to the Validation and Verification Standard.<sup>/VVS/</sup>
- Verification planning,
- On-site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

#### 3.2. Contract review

To assure that

- the project falls within the scopes, for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

#### 3.3. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consisting of one team leader, was appointed.

The list of involved personnel, the tasks assigned, and the qualification status are summarized in the Table 3-1 below.

**Table 3-1:** Involved Personnel

	Name	Company	Function <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence <sup>3)</sup>	Technical competence <sup>4)</sup>	Verification competence <sup>5)</sup>	Host country Competence	On-site visit <sup>3</sup>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Prakash Kumar Mishra	-	TL	SA	<input checked="" type="checkbox"/>	3.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Kunal Rami	TN CERT GmbH	TR/ FA <sup>*)</sup>	SA	<input checked="" type="checkbox"/>	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Anna Kröger	TN CERT GmbH	OR	A	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Stefan Winter	TN CERT GmbH	FA	SA	<input checked="" type="checkbox"/>	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1) TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

2) GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

3) GHG auditor status (at least Assessor)

4) As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

5) In case of verification projects

A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member

\*) Final approver as of 31.10.2023

All team members contributed to the review of documents, the assessment of the Voluntary project activities and to the preparation of this report under the leadership of the team leader.

Technical expert(s) contributed to the assessment of special aspects of the project activity, e.g., technical or host country aspects.

Statement of competence for the above-mentioned team member(s) are enclosed in Annex 2 of this report.

All above stated auditor(s) are Gold Standard approved auditors (source: <https://www.goldstandard.org/resources/approved-auditors>).

### 3.4. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Risk analysis and detailed audit testing planning

For the identification of potential reporting risks and the necessary detailed audit testing procedures for residual risk areas table A-1 is used. The structure and content of this table is given in Table 3-2 below.

**Table 3-2:** Table A-1. Identification of verification risk areas

<b>Table A-1: GHG calculation procedures and management control testing / Detailed audit testing of residual risk areas and random testing</b>				
<b>Identification of potential reporting risk</b>	<b>Identification, assessment and testing of management controls</b>	<b>Areas of residual risks</b>	<b>Additional verification testing performed</b>	<b>Conclusions and Areas Requiring Improvement (including Forward Action Requests)</b>
<i>The following potential risks were identified and divided and structured according to the possible areas of occurrence.</i>	<i>The potential risks of raw data generation have been identified in the course of the monitoring system implementation. The following measures were taken in order to minimize the corresponding risks.  The following measures are implemented:</i>	<i>Despite the measures implemented in order to reduce the occurrence probability the following residual risks remain and have to be addressed in the course of every verification.</i>	<i>The additional verification testing performed is described. Testing may include: - Sample cross checking of manual transfers of data - Recalculation - Spreadsheet 'walk throughs' to check links and equations - Inspection of calibration and maintenance records for key equipment - Check sampling analysis results Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.</i>	<i>Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties are highlighted.</i>

The completed table A-1 is enclosed in Annex 1 (table A-1) to this report.

Project specific periodic verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific verification protocol has been developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:

- It organizes, details and clarifies the requirements a GS project is expected to meet for verification
- It ensures a transparent verification process where the verifying VVB documents how a

particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the periodic verification is described in Table 3-3.

**Table 3-3:** Table A-2. Structure of the project specific periodic verification checklist

<b>Table A-2: Periodic verification checklist</b>				
<b>Checklist Item</b>	<b>Reference</b>	<b>Verification Team Comments</b>	<b>Draft Conclusion</b>	<b>Final Conclusion</b>
<i>The checklist items in Table A-2 are linked to the various requirements the monitoring of the project should meet. The checklist is organized in various sections as per the requirements of the topic and the individual project activity. It further includes guidance for the verification team.</i>	<i>Gives reference to the information source on which the assessment is based on.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the verification team and how the assessment was carried out. The reporting requirements of the VVS shall be covered in this section.</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft verification stage.</i>	<i>In case of a corrective action or a clarification the final assessment at the final verification stage is given.</i>

The periodic verification checklist (verification protocol) is the structural backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in Annex 1 (table A-2) to this report.

### 3.5. Desk review

During the desk review all documents initially provided by the client and documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PoA-DD and VPA-DDs including the monitoring plan<sup>/GSPoA-DD/VPA/</sup>,
- the last revision of the validation report<sup>/VAL/</sup>,
- documentation of previous verifications<sup>/VER/</sup>
- the monitoring report(s), including the claimed emission reductions for the project<sup>/MR/</sup>,
- the emission reduction calculation spreadsheet<sup>/ER/</sup>.
- The SD monitoring report / SD Indicators monitoring<sup>/S1/,/S2/,/SD1/</sup>
- Usage Survey Records<sup>/S1/,/S2/</sup>
- GS4GG requirements<sup>/GS4GG TA/</sup>

Other supporting documents, such as publicly available information on the GS4GG website and background information were also reviewed.

### 3.6. On-site assessment

As most essential part of the verification exercise, it is indispensable to carry out an inspection on-site in order to verify that the project is implemented in accordance with the applicable criteria and applied methodology and registered PoA-DD and VPA-DDs. Furthermore, the on-site assessment is necessary to check the monitoring data with respect to accuracy of the calculation of emission reductions. Changes to the key SDG Indicators and the achievement and implementation of mitigation / compensation measures are other integral parts of the on-site assessment. For this verification, main tasks covered during the on-site audit include, but are not limited to:

- an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data and monitoring/usage survey data were checked.
- The data aggregation trails were checked via spot sample down to the level of the data generation.
- Competency check of the ground personnel who conducts the monitoring survey.
- Appropriateness of the data collection, sampling and reliability test for the monitored sampling parameter.
- Possibility of leakage emissions were also checked.

The verification team performed an on-site audit from 10/04/2023 to 13/04/2023. During onsite visit, interviews with the project participants, all relevant personnel e.g. monitoring team, stakeholders and sampled end users to confirm and verify the results in MR and ER and to resolve issues identified during the document review have been conducted.

Representatives of the Bangladesh Bondhu Foundation including the manufacturing plant's operational staff, were also interviewed. The main topics of the interviews are summarized in Table 3 4.

**Table 3-4:** Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Projects & Operations Personnel Bangladesh Bondhu Foundation	<ul style="list-style-type: none"> <li>- General aspects of the project</li> <li>- Technical equipment and operation</li> <li>- Changes since validation / previous verification</li> <li>- Monitoring and measurement equipment</li> <li>- Remaining issues from validation / previous verification</li> <li>- Calibrations</li> <li>- Quality management system</li> </ul>

Interviewed Persons / Entities	Interview topics
	<ul style="list-style-type: none"> <li>- Involved personnel and responsibilities</li> <li>- Training and practice of the operational personnel</li> <li>- Implementation of the monitoring plan</li> <li>- Monitoring data management</li> <li>- Data uncertainty and residual risks</li> <li>- GHG emission reduction calculation</li> <li>- Implementation of SD indicators</li> <li>- Contribution to Sustainable Development</li> <li>- Procedural aspects of the verification</li> <li>- Maintenance</li> <li>- Environmental aspects</li> <li>- SD Indicators monitoring<sup>/S1/,/S2/,/SD1/</sup></li> <li>- Sampling approach</li> <li>- Usage survey<sup>/S1/,/S2/</sup></li> <li>- ER calculations</li> </ul>
2. Monitoring Agency	<ul style="list-style-type: none"> <li>- Implementation of the monitoring plan</li> <li>- Monitoring data management</li> <li>- Data uncertainty and residual risks</li> <li>- GS monitoring parameters</li> <li>- Usage rate monitoring, GS guideline</li> <li>- Monitoring team: competency and skills</li> </ul>
3. ICS users	<ul style="list-style-type: none"> <li>- Warranty extensions</li> <li>- Transfer of ownership of VERs credits to PP</li> </ul>

The list of interviewees has been provided via in table 7-4.

### 3.7. Draft verification reporting

On the basis of the desk review, on-site assessment, follow-up interviews and further background investigation the verification protocol is completed. This protocol together with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

### 3.8. Resolution of CARs, CLs and FARs

Non-conformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, in case:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or in case the evidence provided to prove conformity is insufficient;

- Mistakes have been made in applying assumptions, data or calculations of emission reductions, which will impair the estimate of emission reductions;
- Issues identified in a FAR during validation or previous verifications requiring actions by the project participants to be verified during verification have not been resolved.

The verification team uses the term Clarification Request (CL) in case:

- information is insufficient or not clear enough to determine whether the applicable GS requirements have been met.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, in case:

- the monitoring and reporting require attention and / or adjustment for the next verification period.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification please refer to the Chapter 4: Verification Findings.

### **3.9. Final reporting**

Upon successful closure of all raised CARs and CLs the final verification report including a positive verification opinion can be issued. In case not all essential issues could finally be resolved, a final report including a negative verification opinion is issued.

The final report summarizes the final assessments w.r.t. all applicable criteria.

### **3.10. Technical review**

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision-making process up to the technical review step.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may be confirmed or revised. Furthermore, reporting improvements might be achieved.

### **3.11. Final approval**

After successful technical review an overall (esp. procedural) assessment of the complete verification will be carried out by a senior assessor located in the accredited premises of TÜV NORD CERT.

After this step the request for issuance can be submitted.

#### 4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report<sup>MR/</sup>, the calculation spreadsheet<sup>ER/</sup>, PoA-DD/<sup>PDD/</sup>, the Validation Report<sup>VAL/</sup> and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

The summary of CAR, CL and FAR issued are shown in Table 4.1:

**Table 4.1:** Summary of CAR, CL and FAR

Verification topic	No. of CAR	No. of CL	No. of FAR
A – Description of project activity	0	0	0
B – Implementation of project activity	0	1	0
C – Description of Monitoring System	0	1	0
D – Carbon Data and Parameters	0	0	0
E - Calculation of Emission Reductions	0	0	0
F – Sustainability Monitoring Parameters	2	0	0
<b>SUM</b>	<b>02</b>	<b>02</b>	<b>0</b>

The findings of the verification process based on desk review are summarized in the tables below.

**Table 4.2 :** Remaining FAR(s) from validation and/or previous verification(s)

No FARs

**Table 4.3:** CL(s) from this verification

Finding	1		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section D.2, it is observed that the number of ICS distributed in this monitoring period (MP#5) is same as last MP#4, which is 183,882. Clarification requested.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	During the concerned monitoring period, no new ICSs were installed. The installation database remains same as that in the last monitoring period.		
	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s): Usage Data	New version No.:

Finding	1
<p><b>VVB Assessment #1</b>  <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i></p>	<p>Detailed explanation is provided under CL 02 Point 01 and 02. As there is no new stove installed after 2015; which is fairly realistic.</p>
<p><b>Conclusion</b>  <i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the next periodic verification  <input type="checkbox"/> Additional action should be taken (finding remains open)  <input checked="" type="checkbox"/> The finding is closed                 </p>

Finding	2														
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR												
<p><b>Description of finding</b>  <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>As per submitted ER worksheet, the stoves with lifetime above 5 years are considered under MS1 and MS2 for the Emission reduction calculation. The VVB performed background investigation of the lifetime of the ICS and below results were identified:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Sr. No.</th> <th style="text-align: center;">Document reference</th> <th style="text-align: center;">Lifetime</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Bondhu Chula Specifications</td> <td style="text-align: center;"><b>Estimated lifespan</b> 6 to 7 years</td> </tr> <tr> <td style="text-align: center;">2</td> <td><a href="https://energypedia.info/images/ef/GIZ_HERA_2013_Bondhu_Chula_Bangladesch.pdf">https://energypedia.info/images/ef/GIZ_HERA_2013_Bondhu_Chula_Bangladesch.pdf</a></td> <td style="text-align: center;"><b>Estimated lifespan</b> 3 to 5 years</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Lifespan Certificate by SZCSL (stove designer)</td> <td>Based on the tests, the Bondhu Chulas are being sold with a warrantee of 5 years. And it is being certified that the Bondhu Chula would have a lifetime of more than 6 years.</td> </tr> </tbody> </table> <p>It is necessary to justify how the stoves under category MS1 (6-7years), MS2 (6-7 years and 7-8 years) can be credited.</p> <p>Further, as per the submitted database the last stove included in the database is dated 30/06/2015. Thus, a clarification/confirmation is requested for the following issues:</p> <ol style="list-style-type: none"> <li>1. No new ICS is added</li> <li>2. If the above answer is yes, then the reason, why no new ICS is added</li> </ol>			Sr. No.	Document reference	Lifetime	1	Bondhu Chula Specifications	<b>Estimated lifespan</b> 6 to 7 years	2	<a href="https://energypedia.info/images/ef/GIZ_HERA_2013_Bondhu_Chula_Bangladesch.pdf">https://energypedia.info/images/ef/GIZ_HERA_2013_Bondhu_Chula_Bangladesch.pdf</a>	<b>Estimated lifespan</b> 3 to 5 years	3	Lifespan Certificate by SZCSL (stove designer)	Based on the tests, the Bondhu Chulas are being sold with a warrantee of 5 years. And it is being certified that the Bondhu Chula would have a lifetime of more than 6 years.
Sr. No.	Document reference	Lifetime													
1	Bondhu Chula Specifications	<b>Estimated lifespan</b> 6 to 7 years													
2	<a href="https://energypedia.info/images/ef/GIZ_HERA_2013_Bondhu_Chula_Bangladesch.pdf">https://energypedia.info/images/ef/GIZ_HERA_2013_Bondhu_Chula_Bangladesch.pdf</a>	<b>Estimated lifespan</b> 3 to 5 years													
3	Lifespan Certificate by SZCSL (stove designer)	Based on the tests, the Bondhu Chulas are being sold with a warrantee of 5 years. And it is being certified that the Bondhu Chula would have a lifetime of more than 6 years.													

Finding	2						
<p><b>Corrective Action #1</b></p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></p>	<p>As evident from the lifespan certificates submitted by the project developer / manufacturer, the lifetime of project ICS is 7 years.</p> <p>Further in the ER sheet, tab: Inst summary and ER calculation, column C, calculates the date of expiry for each entry considering 7 years lifetime from the date of installation. Subsequently, the stove year for MS1 and MS2 has been calculated in column H and M respectively taking into consideration the ICS installation date, the start date and end date of annual monitoring periods and the ICS expiry date. This ensures that any ICS is being credited for up to 7-year lifetime and not a day more.</p> <p>For example, refer row 2 in tab: Inst summary and ER calculation. In column J &amp; K, the age of stove at start of MS#2 and end of MS#2 has been stated as 6.91 to 7.91 respectively. This means that the ICS was less than 7 years of age at the start of MS#2 but crossed to being more than 7 years of age before end of MS#2. Thus, for the same, the stove year has been calculated as only 0.08 substantiating that it is being credited for life only up to 7 years and not beyond that.</p> <p>The age category "7-8 years" indicate that the ICS may have crossed 7 year mark during MS#2, but as explained only credits for the portion of life that is up to 7 years during the MS#2 period.</p> <p>Lastly, the monitoring results clearly show that the project ICS remain operational even after 7 years (substantiated by a 74% usage rate for project ICS falling under the age category of 7-8 years). Having said that, limiting the crediting of project stoves to 7 years design rated lifetime is indeed conservative.</p> <p>Further, the PP confirms the following:</p> <ol style="list-style-type: none"> <li>1. The PD confirms that no new ICS has been installed post 30/06/2015 in the PoA.</li> <li>2. The decision to add new ICS depends upon factors like availability of carbon off-taker, availability of funds to subsidize stoves etc. Post 2016, the project suffered a lot due to the collapse of the carbon markets and hence no new investments were available to put in more stoves in the PoA. Please refer the GS approved deviation 299, section 3.1.1 wherein the same has been explained.</li> </ol> <table border="1" data-bbox="531 1563 1508 1630"> <tr> <td><input type="checkbox"/> Changes in MR</td> <td>Section(s):</td> <td>New version No.:</td> </tr> <tr> <td><input type="checkbox"/> Changes in XLS</td> <td>Worksheet(s): Usage Data</td> <td>New version No.:</td> </tr> </table>	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:	<input type="checkbox"/> Changes in XLS	Worksheet(s): Usage Data	New version No.:
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:					
<input type="checkbox"/> Changes in XLS	Worksheet(s): Usage Data	New version No.:					
<p><b>VVB Assessment #1</b></p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> <li>1. The VVB is accepting the CME's argument based on the below points:             <ol style="list-style-type: none"> <li>a) Submission of the manufacturer's declaration on the ICS lifetime</li> <li>b) The monitoring results confirming the 74 % usage rate.</li> <li>c) It also noteworthy that the raised finding lead to the emission reductions are restricted to 7 years of the technical lifetime.</li> </ol> </li> <li>2. The explanation of the restriction of the dissemination of ICS based on the practical situations is accepted. This was also confirmed by the CME during the audit interviews.</li> </ol>						
<p><b>Conclusion</b></p>	<p><input type="checkbox"/> To be checked during the next periodic verification</p>						

Finding	2
Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Table 4.4: CAR(s) from this verification

Finding	1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>Refer submitted ER worksheet</b> <b>MS 1:</b> <ol style="list-style-type: none"> <li>Mobile Number of all respondents missing in the Survey Form and Monitoring Summary in ER worksheet.</li> <li>The names of 121 Chulah Id Respondents in the Monitoring Summary are inconsistent with those in the Installation Database. Refer to submitted "GS 3112 MP#5 Installation Database v1.0" (Cells highlighted in <span style="background-color: #00aaff; color: black;">[REDACTED]</span> need be addressed) - MS1 Folder.</li> </ol> <b>MS2:</b> <ol style="list-style-type: none"> <li>Mobile Numbers of all respondents are missing in the Survey Form and Monitoring Summary in ER worksheet.</li> <li>Names of 91 Chulah Id Respondents in the Monitoring Summary are inconsistent with the Respondents in Installation Database. Refer to submitted "GS 3112 MP#5 Installation Database v1.0" (Cells highlighted in <span style="background-color: #00aaff; color: black;">[REDACTED]</span> need to addressed) – MS2 Folder.</li> <li>Information in the Column "3.2. Any other comment / Feedback on Bondhu Chula design/usability / after-sales service / warranty" between Survey Forms and ER Sheet is inconsistent for the following respondents:               <ol style="list-style-type: none"> <li>AKS-RAJ-MOH-MAU-D-128</li> <li>ASA-NOA-PRO-MUR-D-515</li> <li>NEW-RNG-RNG-W08-D-375</li> <li>RAF-CTG(N)-FAT-DAU-D-429</li> <li>RS-NRL-LOH-KAS-D-133</li> <li>SOK-RNG-RAN-CND-D-252</li> <li>SOZ-CNG-GOD-GOG-D-91</li> <li>SAI-COX-CHO-HAR-D-954</li> </ol> </li> </ol>		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<b>MS1:</b> <ol style="list-style-type: none"> <li>Please note that collection of phone numbers at the time of survey isn't mandated by the registered monitoring plan. The phone number option has been provisioned in the survey form in case it is used for remote monitoring purpose. However, it is worthy to note that each monitoring survey was conducted by making a physical visit to the sampled household, rendering the need to capture phone number in the survey forms redundant.</li> <li>Q. No 1.3 of the monitoring survey questionnaire seeks the name of User / Respondent, who is the primary cook in the sampled household. The installation database on the other hand refers to the registered owner, who is generally the head of the household, as reported at the time of installation. Thus, the reported user /</li> </ol>		

Finding	1						
	<p>respondent in the survey form, may or may not be same as the ICS owner listed in the installation database.</p> <p>Further, the ICS owner being the head of the family / owner of the property, may not be available at home at the time of survey or otherwise, might not be a suitable choice for collecting usage feedback (not being the primary cook). Lastly, during the on-site verification audit, for such cases, the relationship between the user/respondent and the owner listed in the installation database was checked by the VVB team and they were found to be directly related.</p> <p><b>MS2:</b></p> <ol style="list-style-type: none"> <li>1. Refer response #1 for MS1 above.</li> <li>2. Refer response #2 for MS1 above.</li> <li>3. This is attributed to a typographical error while transferring the data from survey form to the ER spreadsheet sheet. The same has been rectified for the aforesaid ICSSs.</li> </ol> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><input type="checkbox"/> Changes in MR</td> <td style="width: 45%;">Section(s):</td> <td style="width: 30%;">New version No.:</td> </tr> <tr> <td><input checked="" type="checkbox"/> Changes in XLS</td> <td>Worksheet(s): Monitoring Summary MS2</td> <td>New version No.: 2.0</td> </tr> </table>	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Monitoring Summary MS2	New version No.: 2.0
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:					
<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Monitoring Summary MS2	New version No.: 2.0					
<p><b>VVB Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i></p>	<p><b>MS 1:</b></p> <ol style="list-style-type: none"> <li>1. The explanation regarding the phone numbers missing in the survey form is accepted..</li> <li>2. The explanation of the PP regarding the inconsistency in the names of owner/respondent between installation database and monitoring survey is accepted..</li> </ol> <p><b>MS 2:</b></p> <ol style="list-style-type: none"> <li>1. The explanation regarding the phone numbers missing in the survey form is accepted.</li> <li>2. The explanation of the PP regarding the inconsistency in the names of owner/respondent between installation database and monitoring survey is accepted..</li> <li>3. The inconsistencies have been rectified, the survey forms and ER Sheet is found consistent.</li> </ol>						
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<table border="0"> <tr> <td><input type="checkbox"/> To be checked during the next periodic verification</td> </tr> <tr> <td><input type="checkbox"/> Additional action should be taken (finding remains open)</td> </tr> <tr> <td><input checked="" type="checkbox"/> The finding is closed</td> </tr> </table>	<input type="checkbox"/> To be checked during the next periodic verification	<input type="checkbox"/> Additional action should be taken (finding remains open)	<input checked="" type="checkbox"/> The finding is closed			
<input type="checkbox"/> To be checked during the next periodic verification							
<input type="checkbox"/> Additional action should be taken (finding remains open)							
<input checked="" type="checkbox"/> The finding is closed							

Finding	2
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>Documentary evidences as listed below are requested</b></p> <ol style="list-style-type: none"> <li>1. Sales Statement confirming monthly sales during this monitoring period</li> <li>2. Sample warranty activation certificate against incentive mechanism</li> <li>3. Sample Bondhu Chula Customer Agreement Form for MS#1, MS#2</li> </ol>

Finding	2						
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p><b>4. Bondhu Chula Photos and training sessions photos</b></p> <ol style="list-style-type: none"> <li>1. No new ICS under the PoA were installed in the concerned monitoring period, hence sales statement confirming monthly sales during this monitoring period are not applicable.</li> <li>2. Sample "Bondhu Chula Customer Agreement" is being submitted. The warranty conditions are stated therein.</li> <li>3. Sample copies of Bondhu Chula Customer Agreement Form each for MS#1, MS#2 are being submitted.</li> <li>4. Sample Bondhu Chula Photos for the monitoring samples are being submitted. For the training sessions, the training attendance records have been submitted to the VVB Team. The training sessions were not recorded (Video/photo) as that wasn't mandated by the registered monitoring plan.</li> </ol> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><input type="checkbox"/> Changes in MR</td> <td style="width: 45%;">Section(s):</td> <td style="width: 30%;">New version No.:</td> </tr> <tr> <td><input type="checkbox"/> Changes in XLS</td> <td>Worksheet(s): Usage Data</td> <td>New version No.:</td> </tr> </table>	<input type="checkbox"/> Changes in MR	Section(s):	New version No.:	<input type="checkbox"/> Changes in XLS	Worksheet(s): Usage Data	New version No.:
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:					
<input type="checkbox"/> Changes in XLS	Worksheet(s): Usage Data	New version No.:					
<b>VVB Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> <li>1. Sales Statement confirming monthly sales during this monitoring period- Refer assessment under CAR 01.</li> <li>2. Sample warranty activation certificate against incentive mechanism was reviewed published in the local language.</li> <li>3. Sample Bondhu Chula Customer Agreement Form for MS#1, MS#2- was reviewed published in the local language.</li> <li>4. Bondhu Chula Photos and training sessions photos- Bondhu Chula photos are submitted</li> </ol>						
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> To be checked during the next periodic verification</td> </tr> <tr> <td><input type="checkbox"/> Additional action should be taken (finding remains open)</td> </tr> <tr> <td><input checked="" type="checkbox"/> The finding is closed</td> </tr> </table>	<input type="checkbox"/> To be checked during the next periodic verification	<input type="checkbox"/> Additional action should be taken (finding remains open)	<input checked="" type="checkbox"/> The finding is closed			
<input type="checkbox"/> To be checked during the next periodic verification							
<input type="checkbox"/> Additional action should be taken (finding remains open)							
<input checked="" type="checkbox"/> The finding is closed							

**Table 4.4: FAR(s) from this verification**

No

## 5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CLs are closed out. For details of the assessments please refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

### 5.1. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity.

**Table 5-1:** Project Parties and project participants

Characteristic	Party	Project Participant
Non-Annex 1	Bangladesh	Bangladesh Bondhu Foundation
Annex 1	N/A	N/A

### 5.2. Implementation of the project

During the applied verification, an on-site visit was carried out on 10/04/2023 covering the monitoring period of VPA 1 to 2 and 4 to 36

MS1 – 01/03/2020 to 28/02/2021

MS2 – 01/03/2021 to 28/02/2022

Based on this on-site visit and the reviewed project documentation, it can be confirmed that w.r.t. the realized technology, the project has been implemented and operated as described in the registered PoA-DD, VPA-DDs.

This 5<sup>th</sup> monitoring period of CP1 is covering MS1 and MS2 for VPA 1 to 2 and 4 to 36 as stated above.

All the VPAs included in the monitoring report are micro-scale VPAs and have been implemented by the Bangladesh Bondhu Foundation. All VPAs involve installation and maintenance of domestic improved cooking stoves (“ICS” branded as Bondhu Chula) in Bangladesh. Till the end of the applied monitoring period 183,882 domestic units are installed<sup>/DB1, DB2/</sup>. Details of ICSs as stated in section D.2 of MR<sup>/MR/</sup> are verified and cross checked with spreadsheet data (tab: “Inst summary and ER calculation”)<sup>/ER/</sup> and found as deemed appropriate.

The verification team was able to confirm that the project is implemented in accordance with the project description contained in the registered GS PoA-DD<sup>/GSPoA-DD/</sup>. The verified sales breakdown is tabulated below:

GS ID	Total number of domestic ICS
VPA 01 – GS 3544	9,029
VPA 02 – GS 3482	8,623
VPA 04 – GS 3619	9,083
VPA 05 – GS 3620	8,837
VPA 06 – GS 3618	8,656
VPA 07 – GS 4372	3,425
VPA 08 – GS 4373	4,354
VPA 09 – GS 4374	2,943
VPA 10 – GS 4375	3,424

VPA 11 – GS 4376	2,350
VPA 12 – GS 4377	4,507
VPA 13 – GS 4378	3,744
VPA 14 – GS 4379	6,266
VPA 15 – GS 4380	3,882
VPA 16 – GS 4381	3,082
VPA 17 – GS 4382	4,705
VPA 18 – GS 4384	2,843
VPA 19 – GS 4383	4,330
VPA 20 – GS 4385	3,801
VPA 21 – GS 4386	7,622
VPA 22 – GS 4387	5,332
VPA 23 – GS 4388	5,799
VPA 24 – GS 4389	4,793
VPA 25 – GS 4390	619
VPA 26 – GS 4391	5,968
VPA 27 – GS 4392	1,642
VPA 28 – GS 4393	3,966
VPA 29 – GS 4394	8,834
VPA 30 – GS 4395	5,211
VPA 31 – GS 4396	6,449
VPA 32 – GS 4397	9,038
VPA 33 – GS 4398	2,027
VPA 34 – GS 4399	287
VPA 35 – GS 4400	9,192
VPA 36 – GS 4401	9,219
<b>Total</b>	<b>183,882</b>

The verification team can thus confirm the accuracy of the stated values in the emission reduction calculations.

As per the ex-ante calculation by VPA-DD, estimated emission reduction equivalent to the monitoring period **596,695 tCO<sub>2</sub>e** (for applied monitoring period). However, the actual occurred emission reduction as per the MR<sup>/MR/</sup> submitted for verification are **262,185 tCO<sub>2</sub>e**.

### 5.3. Project history

During the validation, the validating VVB might have raised issues that could not be closed or resolved during the validation stage. For this purpose, FARs might have been raised. All FARs raised during the validation (under GS)<sup>/VAL/</sup> have been addressed by the verifying VVB during the previous verifications.

### GS review of previous MP:

Based on the review of the validation report and GS Design review report<sup>/GSPoA-DD/</sup>, the VVB assessed and found no pending FAR(s) applicable to this verification<sup>/VER/</sup>.

### 5.4. Post registration changes

No post registration changes applicable for this monitoring period have been observed.

### 5.5. Compliance with the monitoring plan

The monitoring system and all applied procedures are in compliance to monitoring plan of the registered PoA-DD/<sup>GSPoA-DD/</sup>, VPA-DD/<sup>VPA/</sup>. Evidence was available to the verification team to check the compliance of the monitoring plan.

The reporting procedures reflect the requirements of the monitoring plan for the carbon monitoring and sustainability development criteria. All relevant data stored is for the whole monitoring period and traceable to the computer server at the PP office and database records.

### 5.6. Compliance with the monitoring methodology

The monitoring system is in compliance with the applied monitoring methodology "The Gold Standard Simplified Methodology for Efficient Cookstoves, Version 1.0/<sup>GSM/</sup>.

### 5.7. Carbon Monitoring parameters

During the verification all relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist.

#### Data and parameters monitored:

Parameter	Monitored Value			Verification Opinion
U <sub>p,y</sub> (Usage rate in project scenario p during year y)	MS1	5-6 years	0.9300	The Usage rate of ICS was determined by conducting monitoring survey, in line with applied version of methodology and the registered monitoring plan. The survey is conducted with the help of monitoring forms. The VVB has verified the form entries with the Usage rate calculation and assessed the calculations. Values applied in ER calculator and MR are consistent. The parameter is monitored and recorded annually. The measuring frequency is as per the monitoring plan and monitoring methodology. The calculation of the Usage Survey was found in line with the ER worksheet tab: "Sample Size cal and results").  The key personnel of monitoring survey were interviewed on procedures and associated training.
		6-7 years	0.8317	
	MS2	6-7 years	0.8200	
		7-8 years	0.6541	
N <sub>p,y</sub> (Cookstove in the project)	MS1	5-6 years	59,438	The parameter is monitored for calculation of baseline emissions or baseline net GHG removals by sinks. The number of
		6-7 years	124,444	

Parameter	Monitored Value	Verification Opinion										
database for project scenario p through year y)	<table border="1"> <tr> <td rowspan="2"><b>MS2</b></td> <td>6-7 years</td> <td>59,438</td> </tr> <tr> <td>7-8 years</td> <td>124,444</td> </tr> </table>	<b>MS2</b>	6-7 years	59,438	7-8 years	124,444	ICS installed is tracked through ICS Installation Database and recorded appropriately. The monitoring (at time of installation) involves the recording ICS type, ICS unique serial number, Date of installation, End user details, address, location etc. The VPA implementer excludes the subsequent ICS from the ER calculations, in case an existing Bondhu Chula is found at the household, thus ensuring that only one project device is credited per household. This is verified by the Verification Team. Furthermore, the team randomly selected households from the database to compare in the database with the actual stoves being used. The way of recording all stoves data (including end user detail) complies with the registered monitoring plan. Besides, the date of sampled end users (interviewed during the on-site assessment) was also compared with the ICS database. No inconsistency was identified.					
<b>MS2</b>	6-7 years		59,438									
	7-8 years	124,444										
DF <sub>b,stove,y</sub> (Discount factor to account for the baseline stove use in project scenario during the year y)	<table border="1"> <tr> <td rowspan="2"><b>MS1</b></td> <td>5-6 years</td> <td>0.0400</td> </tr> <tr> <td>6-7 years</td> <td>0.0427</td> </tr> <tr> <td rowspan="2"><b>MS2</b></td> <td>6-7 years</td> <td>0.0447</td> </tr> <tr> <td>7-8 years</td> <td>0.0507</td> </tr> </table>	<b>MS1</b>	5-6 years	0.0400	6-7 years	0.0427	<b>MS2</b>	6-7 years	0.0447	7-8 years	0.0507	<p>This parameter is used for the calculation of baseline emissions or baseline net GHG removals by sinks. It is calculated on the basis of survey calculated annually, with measuring frequency as per the monitoring plan. The parameter is calculated by taking proportion of number of meals cooked using the baseline stove/total number of meals.</p> <p>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied). The survey forms were verified by the Verification Team and deemed as complete and relevant with respect to the monitoring requirements.</p>
<b>MS1</b>	5-6 years		0.0400									
	6-7 years	0.0427										
<b>MS2</b>	6-7 years	0.0447										
	7-8 years	0.0507										

After appropriate corrections were made by the project participant, it can be confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

Refer closure to CL 01, CL 02 and CAR 02.

### Data and parameters not monitored:

The ex-ante parameters stated in under section D.1 of MR<sup>MR/</sup> are derived from the registered VPA-DD. The ex-ante data will be applicable for the respective crediting periods for each VPA.

### Additional assessment for parameter "EF<sub>b,fuel,non\_CO2</sub>" ue to application of Global Warming Potential for GS4GG Projects:

The source of data is now appropriately updated to "Calculated based on the GWP values for CH<sub>4</sub> and N<sub>2</sub>O sourced from IPCC AR4 and IPCC AR5" for the parameter "EF<sub>b,fuel,non\_CO2</sub>" under the section D.1. of the MR. This change follows the para 2.1.1 of the rule update (Applicability of Global Warming Potential for GS4GG Projects) published by Gold Standard on date 03/06/2021. The same value is applied under the revised ER calculator, tab: Default Parameters, cell A13:H20.

Thus, an EF<sub>b,fuel,non\_CO2</sub> value of 0.530 tCO<sub>2</sub>/t of woodfuel is deemed applicable and appropriate for the monitoring period 01 Mar 2020 - 31 Dec 2020 and an EF<sub>b,fuel,non\_CO2</sub> value of 0.581 tCO<sub>2</sub>/t of woodfuel is deemed applicable for the monitoring period 01 Jan 2021 – 28 Feb 2022. The ERs and MR have been revised accordingly.

The ex-ante fixed parameters have been correctly applied in the emission reductions calculation for this monitoring period.

## 5.8. Monitoring report(s)

A GS Monitoring Report<sup>MR/</sup> along with relevant supporting documents was submitted to the verification team by the project participants. These documents form the basis for the verification opinion of TÜV NORD CERT.

During the verification, mistakes and needs for clarification were identified. The PP has carried out the requested corrections so that it can be confirmed that the Monitoring report is complete and transparent and accordance with the registered VPA-DDs<sup>VPA/</sup>, the GS PoA DD<sup>GS PoA-DD/</sup> and relevant GS requirements.

## 5.9. Sampling

### 5.10. Implementation of the sampling plan

The PP's sampling plan for determining various monitoring parameters is based on the requirements in the applied methodology "The Gold Standard Simplified Methodology for Efficient Cookstoves, Version 1.0, dated February 2013 and Guideline for sampling and survey which prescribes the desired level of confidence / precision (95/10 for single sample tests) for ex-post monitoring. The sample size for monitoring parameters were appropriately calculated as described below:

PP has monitored the parameters of interest under the project activity through a Random Sample Group (RSG). The size of the sample group was selected to ensure the parameters measured satisfy 95/10 precision (95% confidence interval and 10% margin of error), adhering to the requirements under the applied methodology.

Project has a large number of technology units, huge distribution area and many numbers of years coupled with the project. Along with data captured in Sales Record, further contact

details are compiled for a subset of stove customers in a Customer Sampling Record. The Customer Sampling Record is used for customer follow-up and sampling for monitoring surveys.

### Monitoring Usage Survey

The "The Gold Standard Simplified Methodology for Efficient Cookstoves, Version 1.0, dated February 2013 states that monitoring surveys should be carried out annually, beginning one year after project registration. The monitoring survey has the same sample size requirements as the baseline survey;

For determining the usage rate of the project technology (ies) via usage surveys, PP followed the sampling size requirements as given by the methodology on page 10<sup>4</sup>.

The sample size for usage survey were determined, applying the following approach;

- Group size < 300: Minimum size 30 or population size, whichever smaller
- Group size 300-1000: Minimum sample size 10% of group size
- Group size > 1000: Minimum sample size 100

Besides, as required by the methodology, the CME ensured that a minimum of 201 samples for MS 1 and 200 samples for MS2 were covered for monitoring. There was no shortfall in the required number of samples. The reliability assessment of the survey results shows that the precision for all age groups during the current monitoring period is attained except for age group 7-8 years under MS2 (11.61) where CME has utilized the lower bound and thus, same is considered to be deemed statistically acceptable by the verification team of VVB.

Particular	Monitoring results and Reliability Check – Usage			
	MS1		MS2	
Age →	5-6 years	6-7 years	6-7 years	7-8 years
Number of samples	100	101	100	100
Usage Measured	0.9300	0.8317	0.8200	0.6541
Standard Error of Usage	2.55%	3.72%	3.84%	4.38%
Relative Precision	5.37%	8.77%	9.18%	11.61%
Result	ok, acceptable	ok, acceptable	ok, acceptable	use lower bound value

Usage survey respondents were selected as mentioned above. All the interviews were conducted following the other means of verification at respondent's home. Responses were then analyzed based on averages, allowing population trends to be established and reported on. A total of 401 surveys were conducted and have been used for the results.

### Usage Survey

As stipulated in the methodology Usage Survey needs to be conducted on a minimum sample size of 100 are to be monitored for each age category as checked and assessed in the ER calculator, (please refer tab: Monitoring Summary MS1, Monitoring Summary MS2), assessed to appropriately presented.

<sup>4</sup> The project monitoring survey has the same sample size requirements as given for the baseline survey in the methodology.



Usage Survey was conducted on a total of 201 (100 stoves for 5-6 years and 101 stoves for 6-7 years) stoves covering each age groups of stoves under crediting for MS1 and 200 (100 stoves for 6-7 years and 100 stoves for 7-8 years) stoves covering each age groups of stoves under crediting for MS2. The total population under the survey are:

183,882 (59,438 stoves for 5-6 years and 124,444 stoves for 6-7 years) for MS1 and 183,882 (59,438 stoves for 6-7 years and 124,444 stoves for 7-8 years) for MS2 and achieved usage rate for the monitoring period for MS1 (5-6 years is 93.00% and 6-7 years is 83.17%) and for MS2 (6-7 years is 82.00% and 7-8 years is 74.00%) as verified from the GS 3112 MP#5 ER calculator v4.0 18102023.xlsx spreadsheet (integrated into ER Worksheet under Tab "Sample Size cal and results"). The detailed calculation is presented in GS 3112 MP#5 ER calculator v4.0 18102023.xlsx spreadsheet (integrated into ER Worksheet under Tab "Sample Size cal and results"), which the verification team assessed to be appropriate. The VVB noted that the PP arrived at the lowest "Usage Rate Fraction" between MP#1 and MP#2. The arrived Usage Fraction for MS1 and MS2 is, thus, deemed conservative.

Furthermore, the reliability test conducted for the parameters monitored and were assessed to be appropriately conducted and found to be complying with the precision requirement (95/10) and in accordance with the applied methodology and Guidelines for sampling and survey version 04.0.

Based on above and sectoral and local expertise, verification team can confirm that the sampling approach is in accordance with the requirements of applied methodology and "Standard: Sampling and surveys for CDM Project Activities and programmes of activities" Version 09.0 and "Guideline: Sampling and surveys for CDM project activities and programme of activities" (version 04.0). Furthermore, based on review of the ex-post monitoring survey records verification team confirms that the sampling surveys appropriately covered end users of improved cook stoves technologies in household's purposes in the host country of Bangladesh. Thus, the survey design covers the regional distribution of the population (within the geographical boundary) and is representative of actual population for improved cookstoves technologies in household user groups.

## 5.11. Sampling approaches during verification

The verification team followed the "Standard for Sampling and Surveys for CDM Project Activities and Programme Activities" version 09.0, para 29 to 32 and 39, esp. for taking sample out of the CME's sample. Verification team has adopted the acceptance sampling approach (AS) in accordance with § 29, 30, 31 to 32 and 39 of the Sampling Standard. The verification Team checked provisions of the para 39 of the applied standard to apply the producer risk and consumer risk following the provision of para 39 as assessed below:

Statement of para 39: <i>A DOE may select a different sample size than the one indicated in paragraph 32 above, either by choosing a different value for the consumer risk and producer risk (e.g. 20 per cent for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply</i>		
Sr. No.	Requirement of para	VVB Assessment
a)	The estimated volume of annual GHG emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 tCO <sub>2e</sub> ;	Not applicable.

b)	The project activity or the PoA is located in a least developed country or a host Party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified	The PoA is located in the LDC i.e. Host Country Bangladesh as per <a href="https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information">https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information</a>
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Following the provisions stipulated under of § 39 of "Standard: Sampling and Surveys for CDM Project Activities and Programme Activities" version 09.0, the verification team (VT) is considering AQL 0.5 % and UQL 20%, Producer risk of 10% and consumer risk of 20% for determination of the sample size to be verified for on-site audit assessment. Considering the above § under applied sampling standard, the VVB should have verified 8 samples under the acceptance sampling approach with acceptance) number 0. The VT has verified total of 10 sampled end users for MS1 and 10 sampled users for MS2 from user sample, which were over and above to further verify the project implementation on ground across the entire vintage under crediting during current monitoring period. Project usage survey samples were randomly selected (from PP samples) by VT. The sampled end users and other documentary evidence demonstrating implementation of the project ICS, continuous use of baseline stove (if any), and also confirmation on the usage rate of project and baseline devices have been reconfirmed with the end user interviewed on sample basis .The list of the end users verified during on-site visit is presented under section above (section D.3).

During the on-site assessment, the VT selected the following approach:

From the observations / results from MS1 – 10, MS2 – 10 verified ICS, the following could be confirmed:

1. The usage rate of cook stoves technologies in households (domestic use);
2. Living conditions with improved stoves over conventional unimproved stoves;
3. Reduce usage of wood/charcoal;
4. SD aspect as per the registered GS project Passport;

AQL	0.5%
UQL	20%
Producer risk	10%
Consumer risk	20%
Required Minimum Sample size	08
Acceptance Number	0
Total samples covered	MS1 – 10, MS2 – 10 (from Usage survey) (20)

No PP sampling-based monitoring records/data results were found discrepant during the VVB verification on-site audit. All the 10 samples of MS1 and 10 samples of MS2 verified samples interviewed on-site were found to be in compliance and adherence with the PP’s monitoring. Based on the Onsite assessed samples, it could be confirmed that the result presented for continuous use of baseline stoves (CU), usage survey, are reproducible and thus, sampling result is deemed acceptable. Further, the verification team reviewed all the primary monitoring records during on-site audit to assess the consistency of information with ER calculation spreadsheet and found the monitoring data to be correctly transcribed into the ER sheet and MR. Based on that, the VT concludes that sampling results and values presented by CME in

the MR and ER calculation spread sheet and results of survey are consistent with the on-site observation and interview with the end users.

The number of installed units, eligible for crediting during the current monitoring period are 183,882 (59,438 stoves for 5-6 years and 124,444 stoves for 6-7 years) for MS1 and 183,882 (59,438 stoves for 6-7 years and 124,444 stoves for 7-8 years) for MS2.

The details of the sampled domestic users (usage survey) assessed to confirm the project implementation and other monitoring aspects are presented in table 7-4 of this report.

## 5.12. ER Calculation

The methodology provides equation for emission reductions calculation (without separate baseline, projector leakage emission reduction equations). As per the methodology, and the PoA-DD, emission reductions are calculated as:

$$ER_y = \sum_{total}^{xtoY} N_{P,y} * P_y * U_{P,y} * (f_{NRB,y} * EF_{b,fuel,CO2} + EF_{b,fuel,non\_CO2}) * (1 - DF_{b,Stove,y})$$

Where,

$N_{P,y}$	Number of project cook stoves of each age group operational in the year y
$P_y$	Quantity of firewood that is saved in the year y (tons per household in year y)
$U_{P,y}$	Usage rate for project cook stoves in year y, based on adoption rate and drop off rate revealed by usage surveys (fraction)
$f_{NRB,b,y}$	Fraction of biomass, used in year y for baseline scenario, which can be established as non-renewable. The project proponents shall estimate project specific national/ regional value or apply the default $f_{NRB}$ value provided by the CDM Executive Board and endorsed by the host country DNA.
$EF_{b,fuel,CO2}$	CO <sub>2</sub> emission factor of firewood that is substituted or reduced. (Default value for wood fuel 1.747 tCO <sub>2</sub> /ton of wood)
$EF_{b,fuel,non\_CO2}$	Non-CO <sub>2</sub> emission factor of firewood that is substituted or reduced. (Default value for wood fuel 0.533 tCO <sub>2</sub> /ton of wood)
$DF_{b,Stove,y}$	Usage of baseline cook stove during the year y (fraction) in project scenario
x	y - 1
y	Year of the crediting period

### Determination of quantity of biomass saved ( $P_y$ ):

Quantity of firewood that is saved ( $P_y$ ) is estimated as follows:

$$P_y = B_{b,y} * (1 - \eta_b / \eta_{p,y}) * LAF$$

$B_{b,y}$	Quantity of firewood consumed in baseline scenario during year y (tones per household per year)
$\eta_{p,y}$	Efficiency of project cook stove in year y (fraction)
$\eta_b$	Efficiency of the baseline cook stove being replaced (fraction). A default value of 10% shall be used if the replaced cook stove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation
LAF	Default leakage adjustment factor = 0.95 to account for leakages related to non-renewable biomass saved by the project activity

### Determination of quantity of firewood consume in the baseline ( $B_{b,y}$ ):

The firewood consumed is the estimated average annual consumption of firewood per household (tons/year), which may be derived using option (a) of the methodology, i.e. historical data. Accordingly,  $B_{b,y}$  is referenced from historical data as available in published literature. As per table 2.2 of the World Bank Study, Restoring Balance: Bangladesh's Rural Energy Realities, March 2009, the fuel wood usage per household for cooking is 1.06484 tons per annum.

**Determination of project cook stove efficiency ( $\eta_{p,y}$ ):**

Efficiency of project cook stove in year y ( $\eta_{p,y}$ ) is estimated as follows:

$$\eta_{p,y} = \eta_p * (DF_\eta)^{y-1} * 0.94.$$

Where,

$\eta_{p,y}$	Efficiency of project cook stove in year y (fraction)
$\eta_p$	Efficiency of project cook stove (fraction) determined at the start of the project activity.
$DF_\eta$	Discount factor to account for efficiency loss of project cook stove per year of operation (Fraction). The default value for this parameter is 0.99 i.e. 1% efficiency loss/year.
0.94	Adjustment factor to account for uncertainty related to project cook stove efficiency test

VERs achieved by the vintage year (here vintages are defined based on MS1 and MS2)

VPA	Emission Reductions tCO <sub>2</sub> e		
	MS1	MS2	Total
VPA 01	7,434	1,911	9,345
VPA 02	7,099	2,084	9,183
VPA 04	7,478	4,097	11,575
VPA 05	7,275	3,531	10,806
VPA 06	7,126	4,436	11,562
VPA 07	2,819	982	3,801
VPA 08	3,584	1,332	4,916
VPA 09	2,423	969	3,392
VPA 10	2,819	1,246	4,065
VPA 11	1,934	898	2,832
VPA 12	3,710	1,842	5,552
VPA 13	3,082	1,600	4,682
VPA 14	5,159	2,843	8,002
VPA 15	3,196	1,825	5,021
VPA 16	2,537	1,497	4,034
VPA 17	3,873	2,397	6,270
VPA 18	2,340	1,472	3,812
VPA 19	3,565	2,307	5,872
VPA 20	3,129	2,066	5,195
VPA 21	6,275	4,304	10,579
VPA 22	4,390	3,078	7,468
VPA 23	4,774	3,500	8,274
VPA 24	3,946	3,011	6,957
VPA 25	509	393	902

VPA 26	5,301	4,495	9,796
VPA 27	1,530	1,358	2,888
VPA 28	3,696	3,282	6,978
VPA 29	8,233	7,311	15,544
VPA 30	4,856	4,312	9,168
VPA 31	6,010	5,337	11,347
VPA 32	8,423	7,480	15,903
VPA 33	1,889	1,677	3,566
VPA 34	267	237	504
VPA 35	8,566	7,607	16,173
VPA 36	8,592	7,629	16,221
<b>Total</b>	<b>157,839</b>	<b>104,346</b>	<b>262,185</b>

### 5.13. Quality Management

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this GS PoA-DD have been defined. The procedures defined can be assessed as appropriate for the purpose. No significant deviations thereof have been observed during the verification.

### 5.14 Actual emission reductions during the first commitment period and the period from 1 January 2013 onwards

The MR(s) include(s) actual ER values achieved from 1 January 2013 onwards as follows:

**Table 5-2:** Emission reductions before and after the end of 2012

	<b>MS1 (01/03/2020 – 28/02/2021)</b>	<b>MS2 (01/03/2021 – 28/02/2022)</b>
<b>Emission reductions [tCO<sub>2</sub>e]</b>	<b>157,839</b>	<b>104,346</b>

<sup>1)</sup> Both days included

### 5.15. Comparison with ex-ante estimated emission reductions

The MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered VPA-DD.

<b>VPA</b>	<b>Amount estimated ex ante for this monitoring period (tCO<sub>2</sub>e)</b>	<b>Actual values achieved during this monitoring period (tCO<sub>2</sub>e)</b>
GS 3544	17,991	9,345
GS 3482	17,991	9,183
GS 3619	17,991	11,575
GS 3620	17,991	10,806
GS 3618	17,991	11,562

GS 4372	16,651	3,801
GS 4373	16,674	4,916
GS 4374	16,688	3,392
GS 4375	16,720	4,065
GS 4376	16,732	2,832
GS 4377	16,751	5,552
GS 4378	16,769	4,682
GS 4379	16,789	8,002
GS 4380	16,801	5,021
GS 4381	16,900	4,034
GS 4382	16,834	6,270
GS 4384	16,839	3,812
GS 4383	16,851	5,872
GS 4385	16,858	5,195
GS 4386	16,876	10,579
GS 4387	16,888	7,468
GS 4388	16,904	8,274
GS 4389	16,931	6,957
GS 4390	16,934	902
GS 4391	16,952	9,796
GS 4392	16,966	2,888
GS 4393	16,968	6,978
GS 4394	16,999	15,544
GS 4395	17,018	9,168
GS 4396	17,030	11,347
GS 4397	17,050	15,903
GS 4398	17,075	3,566
GS 4399	17,075	504
GS 4400	17,097	16,173
GS 4401	17,117	16,221
<b>Total</b>	<b>596,695</b>	<b>262,185</b>

Ex-Ante ERs: **596,695** tCO<sub>2</sub>e

Ex-Post ERs: **262,185** tCO<sub>2</sub>e

Difference: **334,510** tCO<sub>2</sub>e

The ex-post value is found to be lower than the ex-ante determined value.

## 5.16 Contribution to Sustainable Development

The SD indicators as outlined in the sustainability monitoring plan of the GS PoA / VPA Documents are monitored and reported appropriately and cross-verified by means of desk review of survey reports, interviews with the CME operation personnel and selected

households. The monitoring system and all applied procedures are in compliance to the sustainability monitoring plan in the registered GS VPA-DD and the Gold Standard principles.

**Table 5-1: Assessment of monitored SD Indicators**

Indicator	Chosen Parameter	Situation as at 28/02/2022		Verification Opinion
<b>SDG 1: No Poverty</b>	BSA <sub>Project</sub> (Access to Basic Services (Number of ICS distributed under the project))	<b>VPA number</b>	<b>No. of ICS installed</b>	<p>The parameter "Number of ICS distributed under the project" indicates the access to the basic services, in this case clean and efficient cooking device (ICS). The program is develop with the objective to make efficient, economic (fuel economy), healthy devices to all the strata of community including the poor people.</p> <p>The parameter is therefore represented based on number of ICS disseminated. The VVB has verified the dissemination record of ICS during the verification. The VVB confirms that the applied values are accurate and best represent the monitored parameter under the perspective of meeting the SDG goal for the PoA.</p>
		VPA 01	9,029	
		VPA 02	8,623	
		VPA 03	0	
		VPA 04	9,083	
		VPA 05	8,837	
		VPA 06	8,656	
		VPA 07	3,425	
		VPA 08	4,354	
		VPA 09	2,943	
		VPA 10	3,424	
		VPA 11	2,350	
		VPA 12	4,507	
		VPA 13	3,744	
		VPA 14	6,266	
		VPA 15	3,882	
		VPA 16	3,082	
		VPA 17	4,705	
		VPA 18	2,843	
		VPA 19	4,330	
		VPA 20	3,801	
		VPA 21	7,622	
		VPA 22	5,332	
		VPA 23	5,799	
		VPA 24	4,793	
		VPA 25	619	
		VPA 26	5,968	
		VPA 27	1,642	
		VPA 28	3,966	
		VPA 29	8,834	
		VPA 30	5,211	
		VPA 31	6,449	
		VPA 32	9,038	
		VPA 33	2,027	
		VPA 34	287	
		VPA 35	9,192	
		VPA 36	9,219	
	<b>Total</b>	<b>183,882</b>		
<b>SDG 1: No Poverty</b>	HHS <sub>Project</sub> (% Users reporting money saving due to reduced fuel consumption in baseline)	<b>MS#1</b>	86.35	<p>The program is developed with the objective to make efficient, economic (fuel economy), healthy devices to all the strata of community including the poor people. The end users were also surveyed to confirm if the ICS saved fuel. Based on survey results, it was confirmed that ICS</p>
		<b>MS#2</b>	76.59	

Indicator	Chosen Parameter	Situation as at 28/02/2022	Verification Opinion				
			reduced the fuel consumption as well time for cooking and hence led to savings which was utilize for other expenses.				
<b>SDG 3: Good Health and Well Being</b>	SPM <sub>HHP</sub> Project - (% Users reporting reduction in smoke/PM emissions while cooking on improved stove in Project)	<table border="1" data-bbox="703 539 986 613"> <tr> <td><b>MS#1</b></td> <td>86.35</td> </tr> <tr> <td><b>MS#2</b></td> <td>76.59</td> </tr> </table>	<b>MS#1</b>	86.35	<b>MS#2</b>	76.59	<p>During the survey, the PP has enquired about reduction in smoke/PM emissions while cooking on improved stove. All of the end users have confirmed that there was certain decrease in the indoor emissions.</p> <p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed reduction in the smoke levels which in turn confirms good health and wellbeing.</p> <p>The VVB confirms that the applied values are accurate and best represent the monitored parameter under the perspective of meeting the SDG goal for the PoA.</p>
<b>MS#1</b>	86.35						
<b>MS#2</b>	76.59						
<b>SDG 5: Gender Equality</b>	HHT <sub>Project</sub> – (% Users reporting time saving due to reduced collected fuel consumption / cooking time in project)	<table border="1" data-bbox="703 1256 986 1330"> <tr> <td><b>MS#1</b></td> <td>86.35</td> </tr> <tr> <td><b>MS#2</b></td> <td>76.59</td> </tr> </table>	<b>MS#1</b>	86.35	<b>MS#2</b>	76.59	<p>During the survey, the PP has enquired about reduction in time saving due to reduced collected fuel consumption / cooking time in project while cooking on improved stove. The end users have confirmed that there was certain decrease in the fuel consumption, and hence corresponding decrease in the time required to collect the fuel.</p> <p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed reduction in the fuel requirement to cook food which in turn saves the time for women for the fuel collection.</p> <p>The reported parameter is deemed accurate.</p>
<b>MS#1</b>	86.35						
<b>MS#2</b>	76.59						

Indicator	Chosen Parameter	Situation as at 28/02/2022	Verification Opinion						
<b>SDG 7: Affordable and Clean Energy</b>	ACS <sub>Project</sub> - (Access to affordable and clean energy (% of operating ICS units under Project))	<table border="1"> <tr> <td><b>MS#1</b></td> <td>86.35</td> </tr> <tr> <td><b>MS#2</b></td> <td>76.59</td> </tr> </table>	<b>MS#1</b>	86.35	<b>MS#2</b>	76.59	Refer assessment under parameter (BSA <sub>Project</sub> ).		
<b>MS#1</b>	86.35								
<b>MS#2</b>	76.59								
<b>SDG 8: Decent Work and Economic Growth</b>	QE IG <sub>Project</sub> - Quantitative Employment and income generation (Number of person (male and female) hired under Project)	<table border="1"> <tr> <td><b>MS#1</b></td> <td>807</td> </tr> <tr> <td><b>MS#2</b></td> <td>1500</td> </tr> </table>	<b>MS#1</b>	807	<b>MS#2</b>	1500	<p>The employment database provided by BBF was reviewed to cross check the number of direct jobs created by the project activity.</p> <p>Based on the review of "Declaration of Employment MP5-MS1.pdf" and "Declaration of Employment MP5-MS2.pdf" (87 female employee and 720 male employees were employed, out of which 780 are skilled and 27 are unskilled for MS1) and (400 female employee and 1100 male employees were employed, out of which 1150 are skilled and 350 are unskilled for MS2).</p> <p>The VVB confirm that the wages were at par with the industrial standard and meeting the requirements of minimum wages (applicable to the host country Bangladesh) <sup>/SD1/</sup>.</p> <p>The reported parameter is deemed accurate.</p>		
<b>MS#1</b>	807								
<b>MS#2</b>	1500								
<b>SDG 12: Responsible consumption and production</b>	FC <sub>Project</sub> - Average fuel consumption per HH in Project	<table border="1"> <tr> <td><b>MS#1</b></td> <td>0.5493</td> </tr> <tr> <td><b>MS#2</b></td> <td>0.5443</td> </tr> </table>	<b>MS#1</b>	0.5493	<b>MS#2</b>	0.5443	The parameter is monitored based on the monitoring surveys. The end users confirmed that there was reduction in the fuel wood consumption. The VVB has verified the submitted survey records and confirms the reported value as accurate.		
<b>MS#1</b>	0.5493								
<b>MS#2</b>	0.5443								
<b>SDG 13:</b>	Amount of CO <sub>2</sub> e emissions reduced by the project	<table border="1"> <tr> <td><b>MS#1</b></td> <td>157,839</td> </tr> <tr> <td><b>MS#2</b></td> <td>104,346</td> </tr> <tr> <td><b>Total</b></td> <td><b>262,185</b></td> </tr> </table>	<b>MS#1</b>	157,839	<b>MS#2</b>	104,346	<b>Total</b>	<b>262,185</b>	The ERs are calculated appropriately based on the ex-ante fixed and the monitored parameters. Please refer to the detailed assessment of the ER calculation, monitored parameters and ex-ante parameters.
<b>MS#1</b>	157,839								
<b>MS#2</b>	104,346								
<b>Total</b>	<b>262,185</b>								

The verification team confirmed that no changes to the registered SD parameters have occurred that may have an impact on Gold Standard qualification of this project activity. Refer closure to CAR 01, CAR 02, CL 01 and CL 02.

## **5.17 Overall Aspects of the Verification**

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installed domestic ICS, which are relevant for the project performance and the monitoring activities.

The verification team has checked on the agreement between the manufacturer and users (domestic), which is basically the part of the purchase receipt where users of ICS surrender the carbon credits generated due to their use.

Users agreed to give up the right to the use the carbon emission reductions to Bangladesh Bondhu Foundation.

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are compliant with the GS requirements.

## **5.18. Grievances**

The verification team has interviewed the operational personnel, reviewed the survey report and there are no complaints and grievances raised by the householders.

The verification team has interviewed the domestic ICS users during the Onsite inspection and observed that there were no complaints as regards to the CME personnel and the other involved parties.

## **5.19 Hints for next periodic Verification**

Not applicable. No FAR(s) were raised during the current verification.

## 6. VERIFICATION AND CERTIFICATION STATEMENT

Bangladesh Bondhu Foundation has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 5<sup>th</sup> periodic verification of first crediting period (CP1) of the PoA titled:

**“GHG Emission Reduction Through Use of Bondhu Chula (Improved Cook Stoves) in Bangladesh” GS PoA ID-3112,**

with regard to the relevant GS requirements for project activities.. The PoA reduces GHG emissions by reducing the use of non-renewable biomass or fossil fuel for cooking. Technologies disseminated under the PoA are more efficient than baseline. This verification covers the emission reductions achieved by VPAs in its corresponding monitoring periods:

VPA No.	Monitoring period (MP): 01/03/2020 to 28/02/2022	
1 to 2 and 4 to 36	MS1	MS2
	01/03/2020-28/02/2021	01/03/2021 – 28/02/2022

In the course of the verification 02 Corrective Action Requests (CAR), 02 Clarification Requests (CL) were raised/assessed and successfully closed. Besides, no Forward Action Request (FAR) has been raised to be considered during next subsequent verification. The verification is based on the draft monitoring report(s), revised monitoring report(s), the monitoring plan as set out in the registered VPA-DD(s), the validation report, emission reduction calculation spreadsheet and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved GS methodology.
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.
- the project contributes to sustainability development

As the result of the 5<sup>th</sup> periodic verification of first crediting period (CP1), the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the PoA has achieved emission reductions in the above-mentioned reporting period by vintage and VPA wise as follows:

pecific-case VPA reference number	GHG emission reductions or net GHG removals by sinks (tCO <sub>2</sub> e) achieved in the monitoring period				
	Up to 31/12/2012	From 01/01/2013			Total amount
		2020	2021	2022	
VPA 01	0	6,232	2,804	309	9,345
VPA 02	0	5,951	2,895	337	9,183
VPA 04	0	6,269	4,643	663	11,575
VPA 05	0	6,099	4,136	571	10,806

VPA 06	0	5,974	4,870	718	11,562
VPA 07	0	2,363	1,279	159	3,801
VPA 08	0	3,004	1,696	216	4,916
VPA 09	0	2,031	1,204	157	3,392
VPA 10	0	2,363	1,500	202	4,065
VPA 11	0	1,621	1,065	146	2,832
VPA 12	0	3,110	2,144	298	5,552
VPA 13	0	2,583	1,840	259	4,682
VPA 14	0	4,325	3,217	460	8,002
VPA 15	0	2,679	2,047	295	5,021
VPA 16	0	2,126	1,666	242	4,034
VPA 17	0	3,246	2,636	388	6,270
VPA 18	0	1,961	1,613	238	3,812
VPA 19	0	2,988	2,511	373	5,872
VPA 20	0	2,623	2,238	334	5,195
VPA 21	0	5,260	4,623	696	10,579
VPA 22	0	3,680	3,290	498	7,468
VPA 23	0	4,002	3,706	566	8,274
VPA 24	0	3,308	3,162	487	6,957
VPA 25	0	426	412	64	902
VPA 26	0	4,444	4,625	727	9,796
VPA 27	0	1,282	1,386	220	2,888
VPA 28	0	3,098	3,349	531	6,978
VPA 29	0	6,902	7,460	1,182	15,544
VPA 30	0	4,071	4,399	698	9,168
VPA 31	0	5,038	5,446	863	11,347
VPA 32	0	7,061	7,632	1,210	15,903
VPA 33	0	1,583	1,711	272	3,566
VPA 34	0	223	242	39	504
VPA 35	0	7,181	7,762	1,230	16,173
VPA 36	0	7,203	7,784	1,234	16,221
<b>Total</b>	<b>0</b>	<b>132,310</b>	<b>112,993</b>	<b>16,882</b>	<b>262,185</b>

Emission reductions: **262,185 tCO<sub>2</sub>e**

New Delhi, 25/10/2023



Prakash Kumar Mishra  
TÜV NORD JI/CDM Certification Program  
Verification Team Leader

Essen, 31/10/2023



Kunal Rami  
TÜV NORD JI/CDM Certification Program  
Final Approval

## 7. REFERENCES

**Table 7-1:** Documents provided by the project participant(s)

Reference	Document
<b>Monitoring Report</b>	
<b>/MR/</b>	<ol style="list-style-type: none"> <li>1. Monitoring Report dated 17/02/2023 v 1.0</li> <li>2. Monitoring Report dated 02/05/2023 v 2.0</li> <li>3. Monitoring Report dated 14/06/2023 v 3.0</li> <li>4. Monitoring Report dated 18/10/2023 v 4.0</li> </ol>
<b>ER Spreadsheet</b>	
<b>/ER1/</b>	<ol style="list-style-type: none"> <li>1. Emission reduction worksheet for Monitoring Report dated 17/02/2023 v 1.0</li> <li>2. Emission reduction worksheet for Monitoring Report dated 02/05/2023 v 2.0</li> <li>3. Emission reduction worksheet for Monitoring Report dated 14/06/2023 v 3.0</li> <li>4. Emission reduction worksheet for Monitoring Report dated 18/10/2023 v 4.0</li> </ol>
<b>Database</b>	
<b>/DB1/</b>	ICS installation database GS 3112 MP#5 Installation Database v1.0.xlsx
<b>/DB2/</b>	<ul style="list-style-type: none"> <li>• Sample Bondhu Chula Customer Agreement Form for MS#1, MS#2</li> <li>• Random Number Evidence               <ul style="list-style-type: none"> <li>○ MS1 Random Number Evidence (5-6 yrs)</li> <li>○ MS1 Random Number Evidence (6-7 yrs)</li> <li>○ MS2 Random Number Evidence (6-7 yrs)</li> <li>○ MS2 Random Number Evidence (7-8 yrs)</li> </ul> </li> </ul>
<b>/DB3/ /RC/</b>	<ul style="list-style-type: none"> <li>• Sample Monitoring Survey Forms in form of questionnaire</li> <li>• Reliability Check</li> <li>• Sample size and Reliability check for WBT integrated into the ER worksheet</li> </ul>
<b>/TRG/</b>	<ul style="list-style-type: none"> <li>• BBF Local Partner Training Manual:               <ul style="list-style-type: none"> <li>○ Partner responsibilities.pdf</li> <li>○ Partner Training Manual.pdf</li> </ul> </li> <li>• Monitoring Survey Team Attendance sheet</li> <li>• Surveyor Training on (Improved Cookstove monitoring requirements and measurements) dated 20/02/2020</li> <li>• Surveyor Training on (Improved Cookstove monitoring requirements and measurements) dated 27/12/2021</li> </ul>
<b>Survey and monitoring records</b>	
<b>/S1/</b>	Monitoring Survey Form <ul style="list-style-type: none"> <li>• Monitoring Survey Records for MS#1</li> <li>• Sample Bondhu Chulas Photos</li> </ul>

Reference	Document
<b>/S2/</b>	Monitoring Survey Form <ul style="list-style-type: none"> <li>• Monitoring Survey Records for MS#2</li> <li>• Sample Bondhu Chulas Photos</li> </ul>
<b>Sustainability Development Indicator</b>	
<b>/SD1/</b>	<ul style="list-style-type: none"> <li>• HR Records               <ul style="list-style-type: none"> <li>○ Declaration of Employment MP5-MS1.pdf</li> <li>○ Declaration of Employment MP5-MS2.pdf</li> </ul> </li> </ul>
<b>/S1/, /S2/</b>	Refer description above
<b>Training</b>	
<b>/TECH/</b>	<ul style="list-style-type: none"> <li>• Test report of ICS - Bondhu Chula (ICS) Test Report.jpg.pdf</li> <li>• Specification of ICS -- - Bondhu Chula Specifications.pdf</li> <li>• Lifespan certificate of ICS -- - Lifespan Certificate by SZCSL (stove designer).pdf</li> </ul>

**Table 7-2:** Background investigation and assessment documents

Reference	Document
<b>/CPM/</b>	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
<b>/GS4GG TA/</b>	GS4GG Requirements
<b>/GSR/</b>	GS requirements
<b>/GSM/</b>	The Gold Standard Simplified Methodology for Efficient Cookstoves, version 1
<b>/GSS/ /SSP/</b>	Guidelines for Sampling and Surveys for CDM Project Activities and Programme Of Activities, EB 67, Annex 22
<b>/IPCC/</b>	Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories: <ol style="list-style-type: none"> <li>1. Non-CO<sub>2</sub> Stationery Combustion</li> <li>2. Emissions from Livestock and Manure Management (Chapter 10)</li> <li>3. IPCC Second Assessment Report – Climate Change 1995: A Report of the Intergovernmental Panel on Climate Change</li> </ol>
<b>/KP/</b>	Kyoto Protocol (1997)
<b>/MA/</b>	Decision 3/CMP. 1 (Marrakesh – Accords)

Reference	Document
<b>/GSPoA-DD/</b>	PoA GS 3112 Version 4.0 - GS 3112 PoA-DD Bondhu Chulha Program v4.0 20012015.pdf
<b>/PS/</b>	CDM Project Standard (Version 3.0)
<b>/SSS/</b>	Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 09
<b>/TRAN/</b>	Transition Annex for PoA "GHG Emission Reduction through use of Bondhu Chula (Improved CookStoves) in Bangladesh" for the VPA 1-36  Transition Review under Gold Standard for the Global Goals for PoA and VPA 1-36
<b>/VAL/</b>	GS Validation Report
<b>/VER/</b>	Documents of previous verification (Monitoring report, verification report, ER calculation sheet available on the project page) <a href="https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/SE7XIMKF8NYVOTL16BW3U45C9ZDZGAP/view?cp=1">https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/SE7XIMKF8NYVOTL16BW3U45C9ZDZGAP/view?cp=1</a>
<b>/VPA/</b>	<ol style="list-style-type: none"> <li>1. GS 3544 VPA01 VPA-DD ver 07.0 17032015 clean.pdf</li> <li>2. GS 3482 VPA02 VPA-DD ver 04.0 15042015 clean.pdf</li> <li>3. GS 3619 VPA04 VPA-DD ver 03.0 15042015 clean.pdf</li> <li>4. GS 3620 VPA05 VPA-DD ver 03.0 15042015 clean.pdf</li> <li>5. GS 3618 VPA06 VPA-DD ver 03.0 15042015 clean.pdf</li> <li>6. GS 4372 VPA 7 VPA-DD ver 03.0 03062016.pdf</li> <li>7. GS 4373 VPA 8 VPA-DD ver 03.0 03062016.pdf</li> <li>8. GS 4374 VPA 9 VPA-DD ver 03.0 03062016.pdf</li> <li>9. GS 4375 VPA 10 VPA-DD ver 03.0 21092016.pdf</li> <li>10. GS 4376 VPA 11 VPA-DD ver 03.0 21092016.pdf</li> <li>11. GS 4377 VPA 12 VPA-DD ver 03.0 21092016.pdf</li> <li>12. GS 4378 VPA 13 VPA-DD ver 03.0 21092016.pdf</li> <li>13. GS 4379 VPA 14 VPA-DD ver 03.0 21092016.pdf</li> <li>14. GS 4380 VPA 15 VPA-DD ver 03.0 21092016.pdf</li> <li>15. GS 4381 VPA 16 VPA-DD ver 03.0 21092016.pdf</li> <li>16. GS 4382 VPA 17 VPA-DD ver 03.0 21092016.pdf</li> <li>17. GS 4384 VPA 18 VPA-DD ver 03.0 21092016.pdf</li> <li>18. GS 4383 VPA 19 VPA-DD ver 03.0 21092016.pdf</li> <li>19. GS 4385 VPA 20 VPA-DD ver 03.0 21092016.pdf</li> <li>20. GS 4386 VPA 21 VPA-DD ver 02.0 13012016.pdf</li> <li>21. GS 4387 VPA 22 VPA-DD ver 02.0 13012016.pdf</li> <li>22. GS 4388 VPA 23 VPA-DD ver 02.0 13012016.pdf</li> <li>23. GS 4389 VPA 24 VPA-DD ver 02.0 13012016.pdf</li> <li>24. GS 4390 VPA 25 VPA-DD ver 02.0 13012016.pdf</li> <li>25. GS 4391 VPA 26 VPA-DD ver 02.0 13012016.pdf</li> <li>26. GS 4392 VPA 27 VPA-DD ver 02.0 13012016.pdf</li> <li>27. GS 4393 VPA 28 VPA-DD ver 02.0 13012016.pdf</li> <li>28. GS 4394 VPA 29 VPA-DD ver 02.0 13012016.pdf</li> <li>29. GS 4395 VPA 30 VPA-DD ver 02.0 13012016.pdf</li> <li>30. GS 4396 VPA 31 VPA-DD ver 02.0 13012016.pdf</li> <li>31. GS 4397 VPA 32 VPA-DD ver 02.0 13012016.pdf</li> </ol>

Reference	Document
	32. GS 4398 VPA 33 VPA-DD ver 02.0 13012016.pdf 33. GS 4399 VPA 34 VPA-DD ver 02.0 13012016.pdf 34. GS 4400 VPA 35 VPA-DD ver 02.0 13012016.pdf 35. GS 4401 VPA 36 VPA-DD ver 02.0 13012016.pdf
<b>/VVS/</b>	CDM Validation and Verification Standard (Version 03.0) GS Validation and Verification Standard (version 1.0 dated 06/03/2023)

Table 7-3: Websites used

Reference	Link	Organisation
<b>/gs/</b>	<a href="http://www.goldstandard.org/">http://www.goldstandard.org/</a>	Gold Standard
<b>/unfccc/</b>	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	UNFCCC
<b>/ipcc/</b>	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	IPCC publications
<b>/ssl/</b>	<a href="http://www.raosoft.com/samplesize.html">http://www.raosoft.com/samplesize.html</a>	Sampling Size

Table 7-4: List of interviewed persons

Reference	Mol <sup>1</sup>		Name	Organisation / Function
<b>/IM01/</b>	<b>V</b>	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Kamal Hossain	BBF - DGM Operation
<b>/IM01/</b>	<b>V</b>	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Atanu Kumar Saha	BBF - DGM Operation
<b>/IM01/</b>	<b>V</b>	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Ruman Mridha	BBF - Communication Officer
<b>/IM01/</b>	<b>V</b>	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Hasib	BBF - IT Officer
<b>/IM01/</b>	<b>V</b>	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Faroque Hossain	BBF- AGM Opearions
<b>/IM02/</b>	<b>V</b>	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Mohit Gupta	CSIPL- Associate Consultant
<b>/IM03/</b>	<b>V</b>	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Sabina Begum	Usage Survey (MS1)

/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Sharifa	Usage Survey (MS1)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	AB. Rahman	Usage Survey (MS1)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	MST. Ashma Bagum	Usage Survey (MS1)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Konika Haldar	Usage Survey (MS1)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Haider Loskar	Usage Survey (MS1)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ruksana	Usage Survey (MS1)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Rohima Khatun	Usage Survey (MS1)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Sarosoti Rani	Usage Survey (MS1)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Saddam Hosen	Usage Survey (MS1)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Mahabur Morol	Usage Survey (MS2)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Chandona Ghorami	Usage Survey (MS2)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Al-Mamun	Usage Survey (MS2)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nachima Begum	Usage Survey (MS2)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Krishna Biswas	Usage Survey (MS2)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Amol Biswas	Usage Survey (MS2)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Bijoy Sorkar	Usage Survey (MS2)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Jesmin Begum	Usage Survey (MS2)

/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Lila Sorkar	Usage Survey (MS2)
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nazrul Karikor	Usage Survey (MS2)

List of households visited: /LHH/

List of households interviewed by telephone calls: /LHH/

<sup>1)</sup> Means of Interview: (Telephone, E-Mail, Visit)

# **ANNEX**

- A1:** Verification Protocol
- A2:** Statements of Competence of involved Personnel

**ANNEX 1: VERIFICATION PROTOCOL**

**Table A-1:** GHG calculation procedures and management control testing / detailed audit testing of residual risk areas and random testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
<b>Raw data generation</b>				
<ul style="list-style-type: none"> <li>• Installation of measuring equipment</li> <li>• Dysfunction of installed equipment</li> <li>• Maloperation by operational personnel</li> <li>• Downtimes of equipment</li> <li>• Exchange of equipment</li> <li>• Change of measurement equipment characteristic</li> <li>• Insufficient accuracy</li> <li>• Change of technology</li> </ul>	<ul style="list-style-type: none"> <li>• Installation of modern and state of the art equipment</li> <li>• Process control automation</li> <li>• Internal data review</li> <li>• Regular visual inspections of installed equipment</li> <li>• Only skilled and trained personnel operates the relevant equipment</li> <li>• Daily raw data checks</li> <li>• Immediate exchange of dysfunctional equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate installation / operation of the monitoring equipment</li> <li>• Inadequate exchange of equipment</li> <li>• Change of personnel</li> <li>• Undetected measurement errors</li> <li>• Inappropriateness of Management system procedures w.r.t. monitoring plan requirements (e.g. substitute value strategies)</li> <li>• Non-application of management system procedures</li> <li>• Insufficient accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• Site – visit</li> <li>• Check of equipment</li> <li>• Check of technical data sheets</li> <li>• Check of suppliers information / guarantees</li> <li>• Check of calibration records, if applicable</li> <li>• Check of maintenance records</li> <li>• Counter-check of raw data and commercial data</li> <li>• Check of CDM management system</li> <li>• Check of CDM related procedures</li> </ul>	<ul style="list-style-type: none"> <li>• <b>See Table A-2</b></li> </ul>

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
<ul style="list-style-type: none"> <li>Accuracy of values supplied by Third Parties</li> </ul>	<ul style="list-style-type: none"> <li>Stand-by duty is organized</li> <li>Training</li> <li>Internal audit procedures</li> <li>Internal check of QA/QC measures of involved Third Parties</li> </ul>	<ul style="list-style-type: none"> <li>Inappropriate QA/QC measures of Third Parties</li> </ul>	<ul style="list-style-type: none"> <li>Application of CDM management system procedures</li> <li>Check of trainings</li> <li>Check of responsibilities</li> <li>Check of QA/QC documentation / evidences of involved Third Parties</li> </ul>	
<b>Raw data collection and data aggregation</b>				
<ul style="list-style-type: none"> <li>Wrong data transfer from raw data to daily and monthly aggregated reporting forms</li> <li>IT Systems</li> <li>Spread sheet programming</li> <li>Manual data transmission</li> <li>Data protection</li> <li>Responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Cross-check of data</li> <li>Plausibility checks of various parameters.</li> <li>Appropriate archiving system</li> <li>Clear allocation of responsibilities</li> <li>Application of CDM Management system procedures</li> </ul>	<ul style="list-style-type: none"> <li>Unintended usage of old data that has been revised</li> <li>Incomplete documentation</li> <li>Ex-post corrections of records</li> <li>Ambiguous sources of information</li> <li>Non-application of management system procedures</li> <li>Manual data transfer mistakes</li> </ul>	<ul style="list-style-type: none"> <li>Check of data aggregation steps</li> <li>Counter-calculation</li> <li>Data integrity checks by means of graphical data analysis and calculation of specific performance figures</li> <li>Check of management system certification</li> <li>Check of data archiving system</li> </ul>	<ul style="list-style-type: none"> <li><b>See Table A-2</b></li> </ul>

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
	<ul style="list-style-type: none"> <li>• Usage of standard software solutions (Spreadsheets)</li> <li>• Limited access to IT systems</li> <li>• Data protection procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Unintended change of spread sheet programming or data base entries</li> <li>• Problems caused by updating/upgrading or change of applied software</li> </ul>	<ul style="list-style-type: none"> <li>• Check of application of Management system procedures</li> </ul>	
<b>Other calculation parameters</b>				
<ul style="list-style-type: none"> <li>• Emission factors, oxidation factors, coefficients</li> </ul>	<ul style="list-style-type: none"> <li>• The values and data sources applied are defined in the VPA-DD and monitoring plan</li> </ul>	<ul style="list-style-type: none"> <li>• Unintended or intended Modification of calculation parameters</li> <li>• Wrong application of values</li> <li>• Misinterpretations of the applied methodology and/ or the VPA-DD</li> <li>• Missing update of applicable regulatory framework (e.g. IPCC values)</li> </ul>	<ul style="list-style-type: none"> <li>• Update-check of regulatory framework</li> <li>• Countercheck of the applied MP in the MR against the methodology and the VPA-DD</li> </ul>	<ul style="list-style-type: none"> <li>• <b>See Table A-2</b></li> </ul>
<b>Calculation Methods</b>				

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
<ul style="list-style-type: none"> <li>• Applied formulae</li> <li>• Miscalculation</li> <li>• Mistakes in spreadsheet calculation</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced calculation and reporting tools</li> <li>• A CDM coordinator is in charge of the CDM related calculations</li> <li>• Usage of tested / counterchecked Excel spreadsheets</li> <li>• Involvement of external consultants</li> </ul>	<ul style="list-style-type: none"> <li>• The danger of miscalculation can only be minimized.</li> </ul>	<ul style="list-style-type: none"> <li>• Countercheck on the basis of own calculation.</li> <li>• Spread sheet walk-through.</li> <li>• Plausibility checks</li> <li>• Check of plots</li> </ul>	<ul style="list-style-type: none"> <li>• <b>See Table A-2</b></li> </ul>
<b>Monitoring reporting</b>				
<ul style="list-style-type: none"> <li>• Data transfer to the author of the monitoring report</li> <li>• Data transfer to the monitoring report</li> <li>• Unintended use of outdated versions</li> </ul>	<ul style="list-style-type: none"> <li>• An experienced CDM consultant is responsible for monitoring reporting.</li> <li>• CDM QMS procedures are defined</li> </ul>	<ul style="list-style-type: none"> <li>• The danger of data transfer mistakes can only be minimized</li> <li>• Inappropriate application of QMS procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Counter check with evidences provided.</li> <li>• Audit of procedure application</li> </ul>	<ul style="list-style-type: none"> <li>• <b>See Table A-2</b></li> </ul>

**Table A-2:** (Project specific) Periodic Verification Checklist

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>A. Description of the PoA and its component project activity (-ies)</b>				
<p><b>A.1. Purpose and general description of the PoA and VPA(s)</b>  <i>Check if section of the MR includes the following:</i></p> <ul style="list-style-type: none"> <li>- Purpose of the PoA and each VPA and the measures taken to reduce GHG emissions</li> <li>- Brief description of the installed technology and equipment</li> <li>- Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc.)</li> <li>- Total emission reductions achieved in this monitoring period</li> </ul>	<p>/MR/            /GSPoA-DD/            /VPA/            /TRAN/</p>	<p>The verification team has checked section A.1 of the MR and confirms that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Purpose of the PoA and its VPA(s) and the measures taken to reduce GHG emissions</li> <li><input checked="" type="checkbox"/> Brief description of the installed technology and equipment's</li> <li><input checked="" type="checkbox"/> Relevant dates for the VPAs (e.g., construction, commissioning, continued operation periods, VPA inclusion, etc.)</li> <li><input checked="" type="checkbox"/> Emission reductions achieved in this monitoring period by each VPA and total emission reductions achieved by the PoA</li> </ul> <p>In this context the below finding has been identified:            NA</p>	OK	OK
<p><b>A.2. Location of project activity</b>  <i>Check if section of the MR reflects correctly the following:</i></p> <ul style="list-style-type: none"> <li>- Host Party(ies)</li> <li>- Region / State / Province etc.</li> <li>- City / Town / Community etc.</li> <li>- Physical / geographical location (e.g., Latitude and Longitude)</li> </ul>	<p>/MR/            /VPA/            /TRAN/            /IM01/            /IM03/</p>	<p>The verification team has checked section A.2 of the MR and confirms by means of comparison with the information given in the VPA-DD and information gathered during the Onsite site visit that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Host Party(ies)</li> <li><input checked="" type="checkbox"/> Region / State / Province</li> <li><input checked="" type="checkbox"/> City / Town / Community</li> </ul>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<input checked="" type="checkbox"/> Physical / Geographical location In this context no findings have been identified.		
<p><b>A.3. Parties and Project Participants</b> <i>(EB 75, Annex 7, A.3)</i></p> <p>Check if section of the MR includes the following:</p> <ul style="list-style-type: none"> <li>- All PPs as displayed on the UNFCCC website</li> <li>- A correctly filled table as per the MR template</li> </ul>	/MR/ /GS/	The verification team has checked Appendix of the MR as well as the GS website and confirms that: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> all PPs as displayed on the project related GS website are correctly listed</li> <li><input checked="" type="checkbox"/> the table as per the template MR has been correctly filled</li> </ul>	OK	OK
<p><b>A.4. Reference of applied methodology</b></p> <p>Check if section of the MR correctly describes / includes the following:</p> <ul style="list-style-type: none"> <li>- Reference to the applicable version of the methodology</li> <li>- Reference to the applicable version(s) of relevant methodological tools</li> <li>- Relevant GS/EB decisions, if applicable</li> </ul>	/MR/ /VPA/ /TRAN/ /GS/	The verification team has checked section A.3 of the MR and confirms by means of comparison with the information given in the VPA-DD and displayed on the GS website that the information provided is complete and correct with regards to the following: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number, title and version of the applicable GS Methodology</li> <li><input checked="" type="checkbox"/> Name and version of applicable methodological tools</li> <li><input checked="" type="checkbox"/> Relevant GS decisions</li> </ul> In this context no findings have been identified.	OK	OK
<p><b>A.5. Crediting period of project activity</b></p> <p>Check if section of the MR correctly includes the following:</p> <ul style="list-style-type: none"> <li>- Start date of the crediting period. In this context please check, if applicable, whether post registration changes to the start date have been accepted by the GS.</li> </ul>	/MR/ /GS/	The verification team has checked section A.4 of the MR(s) and confirms by means of comparison with the information provided in the corresponding VPA DD that the information provided is complete and correct with regards to the following: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Start date of the crediting period.</li> <li><input checked="" type="checkbox"/> Length of the crediting period.</li> </ul> In this context no findings have been identified.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
- <i>Length and type of the crediting period</i>				
<b>A.6. Publication of the Work Plan</b> <i>Check if the work plan has been made submitted to CME before the verification commenced.</i>	/GS/	The verification team has ensured and confirms by means of checking the respective project information on the GS website that: <input checked="" type="checkbox"/> The work and audit plan, was submitted to GS prior to the start of the verification activities. <input checked="" type="checkbox"/> No comments have been received. In this context no findings have been identified.	OK	OK
<b>B. Implementation of project activity</b>				
<b>B.1. Description of implemented registered programme of activities</b> <i>Check if section of the MR correctly describes / includes the following:</i> <ul style="list-style-type: none"> <li>- <i>Implementation status of the PoA and its VPAs</i></li> <li>- <i>Detailed description of installed technology(ies) / technical processes and equipment applied</i></li> <li>- <i>Diagrams (where appropriate)</i></li> <li>- <i>Whether a single report or two MR are prepared; in case of two MR, check that all VPAs are considered in two separate batches</i></li> </ul>	/MR/ /GSPoA-DD/ /VPA/ /TRAN/ /IM01/	The verification team has checked section A.1 of the MR and confirms by means of comparison with the information given in the PoA-DD and VPA-DD, the project standard and information gathered during the Onsite site visit that: <input checked="" type="checkbox"/> the description of the implementation status of the VPA is in line with the applicable provisions of the Gold standard <input checked="" type="checkbox"/> an appropriate description of the installed technology(ies), technical process and equipment incl. diagrams, where applicable, has been included <input checked="" type="checkbox"/> one single MR has been provided including all VPAs, OR <input type="checkbox"/> two different MRs are prepared including all VPAs and information on the reference numbers of the VPAs that are included in each batch. In this context no findings have been identified.	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><b>B.1.1. Initial project implementation</b></p> <p><i>Assess whether the VPA has been implemented and operated as per the registered VPA-DD and are all physical features of the project in place.</i></p> <p><i>Further focus on the potential phase wise implementation and check the reporting on the corresponding status and starting dates accordingly.</i></p> <p><i>Check if the project is still in compliance with the applicability conditions of the methodology.</i></p> <p><i>Also, discuss – if applicable – the necessity of PRC notifications / approvals.</i></p>	/MR/ /VPA/ /TRAN/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable Gold Standard Requirements and information gathered during the Onsite site visit that:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> the project has been implemented and operated as per the registered VPA-DDs and all physical features of the project are in place</li> <li><input checked="" type="checkbox"/> the project has been implemented phase wise and corresponding evidence has been provided</li> <li><input checked="" type="checkbox"/> the project is still in compliance with the applied methodology</li> </ul> <p>In this context no findings have been identified.</p>	OK	OK
<p><b>B.1.2. Technical equipment changes (VVS; § 225 a, 226)</b></p> <p><i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period. Further ensure that consistent notations of key equipment (meters etc.) in MR and calculation spreadsheet are applied</i></p> <p><i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered VPA-DD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i></p>	/MR/ /VPA/ /TRAN/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DDs, the applicable GS Requirements and information gathered during the Onsite site visit and interviews that:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> no technical equipment has been utilized during the monitoring period</li> </ul> <p>In this context no findings have been identified.</p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>In case of post registration changes pl. refer to chapter B.2.</i>				
<p><b>B.1.3. Operation of the project activity</b>                      (VVS; § 225 a, 226)</p> <p><i>Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.</i></p> <p><i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered VPA-DD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>	/MR/ /VPA/ /TRAN/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable Gold Standard Requirements and information gathered during the Onsite site visit and interviews that:</p> <p><input checked="" type="checkbox"/> no relevant operation modes of the project activity have been exchanged or modified during the monitoring period</p> <p><input type="checkbox"/> the following changes have been adopted during the monitoring period; however, the project is still in line with the registered PDD:</p>	OK	OK
<p><b>B.1.4. Incidents</b>                      (VVS; § 225 a, 226)</p> <p><i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?</i></p> <p><i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i></p>	/MR/ /VER/	<p>The verification team has checked the implemented project activity and the MR and confirms by means of comparison with the information given in the VPA-DD, the applicable Gold Standard Requirements and information gathered during the already executed Onsite site visit and interviews that:</p> <p><input checked="" type="checkbox"/> no significant incidents, deviant operation modes and / or downtimes of the equipment happened during the monitoring period</p> <p><input type="checkbox"/> the following incidents, deviant operation modes and / or downtimes of the equipment happened during the monitoring period</p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><b>B.1.5. Legislation</b></p> <p>Find out – esp. in the context of methodological requirements - whether relevant legislation with effect on the project activity in the host country has been changed.</p> <p>Assess, in case of changes, whether consequences for the PA with regard to relevant CDM requirements have been accounted for.</p> <p>In case of changes data sources shall be referenced.</p>	/MR/	<p>The verification team has checked the host country legislation and confirms by means of comparison with the implemented project that:</p> <p><input checked="" type="checkbox"/> No relevant legislation with effect on the project activity in the host country has been changed</p> <p>In this context no findings have been identified.</p>	OK	OK
<p><b>B.1.6. Open issues from validation (VVS; § 213)</b></p> <p><i>Check (esp. in case of 1<sup>st</sup> periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i></p>	/VAL/	<p><input checked="" type="checkbox"/> There were no open issues addressed in the validation report</p> <p><input checked="" type="checkbox"/> All open issues from the validation have been appropriately addressed.</p> <p><input type="checkbox"/> The following issues related to the validation have not yet been appropriately addressed:</p>	OK	OK
<p><b>B.1.7. Open issues from previous verification (VVS; §§ 213; 284 h)</b></p> <p><i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification reports (FAR) and take into consideration the guidance as specified in VVS.</i></p>	/MR/ /VER/	<p><input checked="" type="checkbox"/> There were no open issues addressed in the previous verification report</p> <p><input type="checkbox"/> All open issues from the previous verification have been appropriately addressed.</p> <p><input type="checkbox"/> The following issues related to the previous verification have not yet been appropriately addressed:</p> <p>NA</p>	OK	OK
<p><b>B.2. Post registration changes</b></p>				

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																																	
<p><b>B.2.1. Post registration changes applicable to the proposed project activity</b></p> <p><i>Indicate whether any post registration change already approved or under approval by the GS has been identified.</i></p>	<p>/MR/ /VPA/ /TRAN/</p>	<p><input type="checkbox"/> No, by means of on-site visit, document check and interview it could be verified that the project is implemented and operated in line with the registered VPA-DD and the applied methodology. (Please proceed with section C)</p> <p><input checked="" type="checkbox"/> Yes, post registration changes have been identified and are assessed in detail in the subsequent steps. (Please proceed with B.2.2.)</p>	<p>OK</p>	<p>OK</p>																																	
<p><b>B.2.2. Temporary deviations from the registered monitoring plan or applied methodology (TDfrMP; TDfMM)</b> <b>(EB 75, Annex 7, B.2.1; VVS §§ 251 - 256)</b></p> <p><i>Indicate whether any temporary deviations have been applied during this monitoring period. In cases where approval has been sought from the EB please provide reference. If applied, provide a description of the deviation(s). This should include the reasons for the deviation(s), how it deviates from the monitoring plan and/or applied methodology(ies), the duration for which the deviation(s) is(are) applicable and justification on the conservativeness of the approach. Indicate if the deviation will lead to a reduction in the accuracy and if so, which conservative assumptions and discount factors have been applied. For deviation(s) that require prior approval by the Board, include the date of approval and reference number.</i></p>	<p>/MR/ /VPA/ /TRAN/</p>	<table border="1"> <tr> <td data-bbox="1055 730 1128 810"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1128 730 1816 810">No TDfrMP or TDfMM have been submitted to the GS prior to the current monitoring period</td> </tr> <tr> <td data-bbox="1055 810 1128 890"><input type="checkbox"/></td> <td colspan="2" data-bbox="1128 810 1816 890">The following TDfrMP or TDfMM have been approved or are under approval by the GS</td> </tr> <tr> <td data-bbox="1055 890 1128 1086">1</td> <td data-bbox="1128 890 1335 938">Title</td> <td data-bbox="1335 890 1816 938"></td> </tr> <tr> <td data-bbox="1055 938 1128 986"></td> <td data-bbox="1128 938 1335 986">Status</td> <td data-bbox="1335 938 1816 986"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1055 986 1128 1034"></td> <td data-bbox="1128 986 1335 1034">Appr.date</td> <td data-bbox="1335 986 1816 1034"></td> </tr> <tr> <td data-bbox="1055 1034 1128 1082"></td> <td data-bbox="1128 1034 1335 1082">Ref. No.</td> <td data-bbox="1335 1034 1816 1082"></td> </tr> <tr> <td data-bbox="1055 1082 1128 1278">2</td> <td data-bbox="1128 1082 1335 1129">Title</td> <td data-bbox="1335 1082 1816 1129"></td> </tr> <tr> <td data-bbox="1055 1129 1128 1177"></td> <td data-bbox="1128 1129 1335 1177">Status</td> <td data-bbox="1335 1129 1816 1177"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1055 1177 1128 1225"></td> <td data-bbox="1128 1177 1335 1225">Appr.date</td> <td data-bbox="1335 1177 1816 1225"></td> </tr> <tr> <td data-bbox="1055 1225 1128 1273"></td> <td data-bbox="1128 1225 1335 1273">Ref.No.</td> <td data-bbox="1335 1225 1816 1273"></td> </tr> <tr> <td data-bbox="1055 1273 1128 1353"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1128 1273 1816 1353">During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring</td> </tr> </table>	<input checked="" type="checkbox"/>	No TDfrMP or TDfMM have been submitted to the GS prior to the current monitoring period		<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the GS		1	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref. No.		2	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref.No.		<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring		<p>OK</p>	<p>OK</p>
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<p><b>B.2.3. Corrections</b> <b>(EB 75, Annex 7, B.2.2; VVS; §§ 257 - 259)</b></p> <p><i>Indicate whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>In cases where the correction(s) and the revised VPA-DD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised VPA-DD.</i></p>	<p>/MR/ /VPA/ /TRAN/</p>	<table border="1"> <tr> <td data-bbox="1052 957 1126 1086"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1131 957 1816 1086">During the verification of the current MP no need for corrections has been identified.</td> </tr> <tr> <td data-bbox="1052 1090 1126 1134"><input type="checkbox"/></td> <td colspan="2" data-bbox="1131 1090 1816 1134">The following corrections have been applied:</td> </tr> <tr> <td data-bbox="1052 1137 1126 1182">1</td> <td data-bbox="1131 1137 1335 1182">Issue:</td> <td data-bbox="1339 1137 1816 1182"></td> </tr> <tr> <td data-bbox="1052 1185 1126 1230">2</td> <td data-bbox="1131 1185 1335 1230">Issue:</td> <td data-bbox="1339 1185 1816 1230"></td> </tr> </table> <p data-bbox="1052 1265 1816 1297">In this context no findings have been identified.</p>	<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.		<input type="checkbox"/>	The following corrections have been applied:		1	Issue:		2	Issue:		OK	OK									
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<p><i>Please check and report that the corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.</i></p>																																					
<p><b>B.2.4. Permanent changes from the registered monitoring plan or applied methodology (PCfrMP; PCfMM)</b> <b>(EB 75, Annex 7, B.2.3; VVS; §§ 262 - 268)</b></p> <p><i>Indicate whether any permanent changes from the registered monitoring plan or applied methodologies have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>Assure that modifications or additions of technologies/measures respect to the VPA-DD were already included in the originally registered PoA-DD.</i></p> <p><i>In cases where the change(s) and the revised VPA-DD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised VPA-DD.</i></p>	<p>/MR/ /VPA/ /TRAN/</p>	<table border="1"> <tr> <td data-bbox="1055 644 1126 719"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1131 644 1816 719">No PCfrMP or PCfMM have been submitted to the GS prior to the current monitoring period</td> </tr> <tr> <td data-bbox="1055 722 1126 798"><input type="checkbox"/></td> <td colspan="2" data-bbox="1131 722 1816 798">The following PCfrMP or PCfMM have been approved or are under approval by the GS</td> </tr> <tr> <td data-bbox="1055 801 1126 995">1</td> <td data-bbox="1131 801 1337 847">Title</td> <td data-bbox="1341 801 1816 847"></td> </tr> <tr> <td data-bbox="1055 850 1126 896"></td> <td data-bbox="1131 850 1337 896">Status</td> <td data-bbox="1341 850 1816 896"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1055 900 1126 946"></td> <td data-bbox="1131 900 1337 946">Appr.date</td> <td data-bbox="1341 900 1816 946"></td> </tr> <tr> <td data-bbox="1055 949 1126 995"></td> <td data-bbox="1131 949 1337 995">Ref. No.</td> <td data-bbox="1341 949 1816 995"></td> </tr> <tr> <td data-bbox="1055 999 1126 1193">2</td> <td data-bbox="1131 999 1337 1045">Title</td> <td data-bbox="1341 999 1816 1045"></td> </tr> <tr> <td data-bbox="1055 1048 1126 1094"></td> <td data-bbox="1131 1048 1337 1094">Status</td> <td data-bbox="1341 1048 1816 1094"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1055 1098 1126 1144"></td> <td data-bbox="1131 1098 1337 1144">Appr.date</td> <td data-bbox="1341 1098 1816 1144"></td> </tr> <tr> <td data-bbox="1055 1147 1126 1193"></td> <td data-bbox="1131 1147 1337 1193">Ref.No.</td> <td data-bbox="1341 1147 1816 1193"></td> </tr> <tr> <td data-bbox="1055 1197 1126 1319"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1131 1197 1816 1319">During the verification of the current MP no need for a PCfrMP or PCfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA</td> </tr> </table>	<input checked="" type="checkbox"/>	No PCfrMP or PCfMM have been submitted to the GS prior to the current monitoring period		<input type="checkbox"/>	The following PCfrMP or PCfMM have been approved or are under approval by the GS		1	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref. No.		2	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref.No.		<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP or PCfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		OK	OK
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<p><b>B.2.5. Changes to the project design of the registered PoA / VPA (CoPD)</b> <i>(EB 75, Annex 7, B.2.4; VVS; §§ 269 - 282)</i></p> <p><i>Indicate whether any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>Assure that modifications or additions of technologies/measures respect to the VPA-DD were already included in the originally registered PoA-DD</i></p> <p><i>In cases where the change(s) and the revised VPA-DD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the</i></p>	<p>/MR/ /VPA/ /TRAN/</p>	<table border="1"> <tr> <td data-bbox="1055 893 1126 970"><input type="checkbox"/></td> <td colspan="2" data-bbox="1131 893 1816 970">The following CoPD has been approved or are under approval by the GS</td> </tr> <tr> <td data-bbox="1055 973 1126 1161">1</td> <td data-bbox="1131 973 1335 1024">Title</td> <td data-bbox="1339 973 1816 1024"></td> </tr> <tr> <td data-bbox="1055 1027 1126 1078"></td> <td data-bbox="1131 1027 1335 1078">Status</td> <td data-bbox="1339 1027 1816 1078"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1055 1082 1126 1133"></td> <td data-bbox="1131 1082 1335 1133">Appr.date</td> <td data-bbox="1339 1082 1816 1133"></td> </tr> <tr> <td data-bbox="1055 1136 1126 1187"></td> <td data-bbox="1131 1136 1335 1187">Ref. No.</td> <td data-bbox="1339 1136 1816 1187"></td> </tr> <tr> <td data-bbox="1055 1190 1126 1366">2</td> <td data-bbox="1131 1190 1335 1241">Title</td> <td data-bbox="1339 1190 1816 1241"></td> </tr> <tr> <td data-bbox="1055 1244 1126 1295"></td> <td data-bbox="1131 1244 1335 1295">Status</td> <td data-bbox="1339 1244 1816 1295"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1055 1299 1126 1350"></td> <td data-bbox="1131 1299 1335 1350">Appr.date</td> <td data-bbox="1339 1299 1816 1350"></td> </tr> <tr> <td data-bbox="1055 1353 1126 1366"></td> <td data-bbox="1131 1353 1335 1366">Ref.No.</td> <td data-bbox="1339 1353 1816 1366"></td> </tr> </table>	<input type="checkbox"/>	The following CoPD has been approved or are under approval by the GS		1	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref. No.		2	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr.date			Ref.No.		OK	OK
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2	Issue:																	
<p><b>C. Description of monitoring system</b></p>																		
<p><b>C.1. Monitoring Plan – VPA-DD Compliance (VVS, §§ 233-236)</b></p> <p><i>Check if the monitoring plan is in accordance with the monitoring plan contained in the registered VPA-DD (or any accepted revised MP).</i></p> <p><i>Please check esp. if:</i></p>	<p>/MR/ /VPA/ /TRAN/ /S1/ /S2/</p>	<p>By means of comparison of the MR with the registered VPA-DD (or any revisions thereof) the verification team has checked whether the MP is in compliance with the registered VPA-DD. The outcome is as follows:</p> <table border="1"> <tr> <td data-bbox="1055 1230 1126 1310"><input checked="" type="checkbox"/></td> <td data-bbox="1126 1230 1816 1310">The MP is completely in accordance with the last registered/approved version of the VPA-DD / MP.</td> </tr> </table> <p>In this context no findings have been identified.</p>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the last registered/approved version of the VPA-DD / MP.	<p>OK</p>	<p>OK</p>												
<input checked="" type="checkbox"/>	The MP is completely in accordance with the last registered/approved version of the VPA-DD / MP.																	

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>												
<ul style="list-style-type: none"> <li>- <i>all parameters stated in the MP of the registered VPA-DD have been monitored and updated as applicable</i></li> <li>- <i>the monitoring equipment has been controlled and calibrated as per the MP</i></li> <li>- <i>the monitoring results are consistently recorded as per the approved frequency</i></li> <li>- <i>QA/QC procedures have been applied in accordance with the MP</i></li> </ul>																
<p><b>C.2. Monitoring Plan – Meth Compliance (VVS, §§ 229-232)</b></p> <p><i>Check if the monitoring plan is in accordance with the applied methodology.</i></p> <p><i>In case the methodology references applicable tools it has to be ensured that the MP is also compliant with those tools.</i></p> <p><i>Also please specify if monitoring aspects have been identified that are not specified in the methodology but may enhance the level of accuracy and completeness of the monitoring plan – this esp. applies for SSC VPAs.</i></p>	/MR/ /VPA/ /TRAN/ /GSM/	<p>By means of comparison of the MR with the applied GS methodology and related tools the verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology. The outcome is as follows:</p> <table border="1" data-bbox="1055 935 1816 1351"> <tr> <td data-bbox="1055 935 1126 1043" style="text-align: center;"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1126 935 1816 1043">The MP is completely in accordance with the approved methodology applied by the GS project (last registered/approved version of the VPA-DD)</td> </tr> <tr> <td data-bbox="1055 1043 1126 1152" style="text-align: center;"><input checked="" type="checkbox"/></td> <td colspan="2" data-bbox="1126 1043 1816 1152">The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:</td> </tr> <tr> <td data-bbox="1055 1152 1126 1203" style="text-align: center;">1</td> <td data-bbox="1126 1152 1429 1203">Title (of the tool)</td> <td data-bbox="1429 1152 1816 1203">GS4GG Requirements</td> </tr> <tr> <td data-bbox="1055 1203 1126 1351"></td> <td data-bbox="1126 1203 1429 1351">MP compliance</td> <td data-bbox="1429 1203 1816 1351"> <input checked="" type="checkbox"/> full compliance  <input type="checkbox"/> findings have been raised  <input type="checkbox"/> N/A (for MP)                 </td> </tr> </table>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the GS project (last registered/approved version of the VPA-DD)		<input checked="" type="checkbox"/>	The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:		1	Title (of the tool)	GS4GG Requirements		MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)	OK	OK
<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the GS project (last registered/approved version of the VPA-DD)															
<input checked="" type="checkbox"/>	The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:															
1	Title (of the tool)	GS4GG Requirements														
	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)														

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)		<b>Draft Concl.</b>	<b>Final Concl.</b>												
			<table border="1"> <tr> <td data-bbox="1128 432 1182 571"></td> <td data-bbox="1182 432 1429 571">Title (of the tool)</td> <td data-bbox="1429 432 1854 571">Tool for the demonstration and assessment of additionality</td> </tr> <tr> <td data-bbox="1128 571 1182 722">2</td> <td data-bbox="1182 571 1429 722">MP compliance</td> <td data-bbox="1429 571 1854 722"> <input type="checkbox"/> full compliance  <input type="checkbox"/> findings have been raised  <input checked="" type="checkbox"/> N/A (for MP)                 </td> </tr> <tr> <td data-bbox="1128 722 1182 770"></td> <td data-bbox="1182 722 1429 770">Title (of the tool)</td> <td data-bbox="1429 722 1854 770"></td> </tr> <tr> <td data-bbox="1128 770 1182 818"></td> <td data-bbox="1182 770 1429 818">Version</td> <td data-bbox="1429 770 1854 818"></td> </tr> </table>		Title (of the tool)	Tool for the demonstration and assessment of additionality	2	MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)		Title (of the tool)			Version			
	Title (of the tool)	Tool for the demonstration and assessment of additionality															
2	MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)															
	Title (of the tool)																
	Version																
<p><b>C.3. Management System (VVS, § 217 (a) (iii))</b></p> <p><i>Check if the GHG data monitoring system can be assessed as appropriate.</i></p> <p><i>In case reference is made to a (certified) company quality management system, check if all GS related monitoring procedures have been fully integrated in the project participant's quality management system.</i></p> <p><i>In case of a stand-alone system, check how the GHG management system has been implemented and effectiveness is ensured.</i></p>	/MR/ /DB1 /S1/ /IM01/	<p><i>Description:</i></p> <p>The monitoring system is described in Section C of the MR including monitoring and survey methods applied.</p> <p>The staff collects necessary data at the time of sale / installation from the customer. This unique data helps to avoid double counting and enables tracking of the units for monitoring purposes. The section D of MR is transparently stating this data.</p> <p><i>Verifier's action:</i></p> <p>The project database, survey reports and forms have been assessed by the verification team.</p> <p>The verification team as interviewed enumerators, to confirm the quality control and monitoring procedures are implemented appropriately.</p>		OK	OK												

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><b>C.4. Roles and Responsibilities</b>                      (EB 75, Annex 7, Section C.; PS §196)</p> <p><i>Check if all roles and positions of each person in the GHG data management process are clearly defined and implemented as stated in the monitoring plan. Please consider the complete data trail from raw data generation to submission of the final data.</i></p> <p><i>Identify, if relevant personnel w.r.t. monitoring has been exchanged?</i></p> <p><i>If so, have appropriate training measures been carried out.</i></p> <p><i>In case of changes, assure that the implemented monitoring procedures have not been affected.</i></p>	/MR/ /DB1/ /S1/	<p><i>Description:</i></p> <p>Section C described the monitoring system which includes monitoring methods applied for:</p> <ol style="list-style-type: none"> <li>1. Quality control measures</li> <li>2. Carbon monitoring survey</li> <li>3. Usage survey</li> </ol> <p><i>Verifier's action:</i></p> <p>The project database, survey report and forms have been assessed by the verification team.</p>	OK	OK
<p><b>C.5. Emergency procedures for the monitoring system</b>                      (EB 75, Annex 7, C; PS §196)</p> <p><i>Check, as appropriate, whether relevant emergency procedures for the monitoring system have been included in the MR and assess whether these procedures have been implemented, when required</i></p>	/MR/ /IM01/ /IM03/	<p><i>Description:</i></p> <p>The computer server in the office has the primary back-up data stored and an external back-up at external media which will be used in the event of an emergency.</p> <p><i>Verifier's action:</i></p> <p>During the Onsite visit, the verification team has checked the server to confirm the primary data and records stored are the most recent for the MR.</p> <p>The stored data are password protected and only authorized person could access.</p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
		The database officer was interviewed to confirm how the data is applied in emergency case.  <i>Conclusion:</i> By means of Onsite assessment and checking the stored data, it can be concluded emergency respond plan is in place.		
<p><b>C.6. Data archive and data protection (PS §56 b)</b></p> <p>Check whether all records of monitoring parameters are archived according to the monitoring plan.</p> <p>Assess further whether appropriate measures have been taken in order to avoid unintended or intended manipulation or loss of the measured data.</p>	/MR/ /VPA/ /TRAN/ /IM01/ /IM03/	<p><i>Description:</i></p> <p>Chapter D.2 of the monitoring report also described how the data is archived and backed up.</p> <p><i>Verifier's action:</i></p> <p>The data was kept in a project database at Bangladesh Bondhu Foundation.</p> <p>During the Onsite visit, the verification team has conducted interview and reviewed the records archiving method and procedures for the monitored parameters stated in MR and VPA-DD.</p> <p>Furthermore, the data stored at the server is password protected and only authorized personnel can access.</p> <p><i>Conclusion:</i></p> <p>By means of Onsite assessment and checking the stored data, it can be concluded data archiving and protection is in place and has been properly implemented.</p>	OK	OK
<p><b>D. Data and parameters</b></p>				
<p><b>D.1. Data and Parameters fixed ex ante</b></p>				

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><b>a) Compliance with registered VPA-DD</b>  <b>(EB 75, Annex 7; D1)</b>  <i>Check whether the value applied is in compliance with the registered VPA-DD.</i></p>	/MR/ /GSPoA-DD/ /VPA/ /TRAN/	<p>By means of comparison of the MR with the registered PDD (or any revisions thereof) the verification team confirms that:</p> <p><input checked="" type="checkbox"/> all ex-ante data and parameters are in compliance with the registered PoA-PDD, VPA-DD and the applied methodology or any other tool.</p> <p>In this context no findings have been identified.</p>	OK	OK
<p><b>b) Compliance with the applied methodology</b>  <b>(EB 75, Annex 7; D1)</b>  <i>Check whether the value applied is in compliance with the applied methodology or any other tool.</i></p>	/MR/ /GSM/	<p>By means of comparison of the MR with the methodology the verification team confirms that:</p> <p><input checked="" type="checkbox"/> all ex-post and parameters are in compliance with the applied methodology and any other tool.</p> <p>In this context no findings have been identified.</p>	OK	OK
<b>D.2. Data and Parameters monitored</b>				
<b>D.2.1. <math>U_{p,y}</math></b>				
<p><b>a) Measurement / Determination method</b>  <b>(VVS, §§ 233, 236)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i>  <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination</i></p>	/GSPoA-DD/ /SSP/ /SSS/ /MR/ /ER/ /DB1/ /S1/	<p><i>Description:</i></p> <p>The parameter was used to determine the usage rate of the ICS, in terms of fraction. It was used for calculation of baseline emissions or baseline net GHG removals by sinks. This parameter was measured by taking the proportion of number of project cookstoves found to be operational during the survey to the total number of samples surveyed.</p> <p><i>Verifier's action:</i></p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and the applied methodology.</i></p>	/IM01/ /VPA/ /TRAN/	<p>The key personnel interviewed on procedures, recording calculation and analysis of result and associated training. The usage records have been analyzed.</p> <p><i>Conclusion:</i></p> <p>The technical specification of the equipment was duly verified by the Verification Team and deemed accurate and acceptable.</p>		
<p><b>b) Accuracy and QA/QC Procedure</b>  <b>(VVS, §§ 237-243)</b></p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	/GSPoA-DD/ /SSP/ /SSS/ /MR/ /ER/ /DB1/ /VPA/ /TRAN/ /S1/ /IM01/	<p><i>Description:</i></p> <p>The parameter is derived from the Usage Survey. The MR is transparent in this regard.</p> <p><i>Verifier's action:</i></p> <p>The value applied from the Usage Survey is cross-checked with GS registered VPA DD and ER calculation. QA/QC procedure is implemented. Project personnel and consultants were interviewed.</p> <p><i>Conclusion:</i></p> <p>Calculations in ER Worksheet were found consistent with MR and VPA DD.</p>	OK	OK
<p><b>c) Correctness</b>  <b>(VVS, §§ 233, 236)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p>	/GSPoA-DD/ /VPA/ /TRAN/ /SSP/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The Verification Team cross checked the values and deemed accurate and acceptable.</p> <p><i>Conclusion:</i></p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/SSS/ /MR/ /ER/ /DB1/ /S1/ /IM01/	Applied value is appropriate.		
<b>D.2.2. N<sub>p,y</sub></b>		<b>Cookstove in the project database for project scenario p through year y</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 233, 236)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and the applied methodology.</i></p>	/GSPoA-DD/ /VPA/ /TRAN/ /SSP/ /SSS/ /MR/ /ER/	<p><i>Description:</i> The parameter is monitored to determine the baseline emissions. The number of ICS installed is tracked through ICS Installation Database and recorded appropriately the PP. The monitoring (at time of installation) involves the recording of ICS type, ICS unique serial number, Date of installation, End user details, address, location etc. The CPA implementer excludes the subsequent ICS from the ER calculations, in case an existing Bondhu Chulha is found at the household, thus ensuring that only one project device is credited per household.</p> <p><i>Verifier's action:</i></p> <p>For the applied monitoring period no ICS were eliminated from the ER calculation on account of this. This is verified by the Assessment Team. The verification team Onsitely pulled random end user agreement records and compared the details with the information in the provided ICS installation database.</p> <p><i>Conclusion:</i></p> <p>The data applied could be verified with the installation database.</p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><b>b) Accuracy and QA/QC Procedure</b>  <b>(VVS, §§ 237-243)</b></p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	/GSPoA-DD/ /VPA/ /TRAN/ /SSP/ /SSS/ /MR/ /ER/	<p><i>Description:</i></p> <p>The team randomly selected households from the database to compare the information in the database with the actual stoves being used. The way of recording all stoves data (including end user detail) complies with the registered monitoring plan.</p> <p><i>Verifier's action:</i></p> <p>The verification team Onsitely pulled random end user agreement records and compared the details with the information in the provided ICS installation database. The monitoring (at time of installation) involves the recording ICS type, ICS unique serial number, Date of installation, End user details, address, location etc.</p> <p><i>Conclusion:</i></p> <p>The data applied could be verified with the installation database</p>	OK	OK
<p><b>c) Correctness</b>  <b>(VVS, §§ 233, 236)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/GSPoA-DD/ /VPA/ /TRAN/ /SSP/ /SSS/ /MR/ /ER/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value is applied correctly.</p> <p><i>Verifier's action:</i></p> <p>The CPA implementer excludes the subsequent ICS from the ER calculations, in case an existing Bondhu Chulha is found at the household, thus ensuring that only one project device is credited per household.</p> <p><i>Conclusion:</i></p> <p>Applied value is correct.</p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<b>D.2.3.</b> DF <sub>b,stove,y</sub>		<b>Discount factor to account for the baseline stove use in project scenario during the year y</b>		
<p><b>a) Measurement / Determination method</b>  <b>(VVS, §§ 233, 236)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and the applied methodology.</i></p>	/MR/ /ER/ /DB1/ /VPA/ /TRAN/ /S1/ /IM01/	<p><i>Description:</i></p> <p>The parameter is applied to determine stoves that are still operating. The parameter is measured ex- post through survey user feedback. The determination is based on survey of samples for all ICS. The sampling frame for the surveys included all ICS (domestic ICS). Simple random sampling was applied to each ICS separately. The ICS were randomly sampled from a list of all the participating ICS.</p> <p><i>Verifier's action:</i></p> <p>The survey forms were verified by the Verification Team and deemed as complete and relevant with respect to the monitoring requirements.</p> <p><i>Conclusion:</i></p> <p>The measurement method was consistent with the registered monitoring plan of the VPA-DD and the applied methodology</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure</b>  <b>(VVS, §§ 237-243)</b></p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most</i></p>	/MR/ /ER/ /DB1/ /VPA/ /TRAN/ /S1/ /IM01/	<p><i>Description:</i></p> <p>Data was collected using survey questionnaire forms to enable surveyors to collect applicable and necessary information during monitoring visit to the sampled user. Procedures for sampling have been duly articulated in the monitoring report, and a sample of survey questionnaires furnished to VVB.</p> <p><i>Verifier's action:</i></p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>		<p>The survey forms were verified by the Verification Team and deemed as complete and relevant with respect to the monitoring requirements.</p> <p><i>Conclusion:</i> All applicable QA/QC procedures were met.</p>		
<p><b>c) Correctness</b> <b>(VVS, §§ 233, 236)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /ER/ /DB1/ /VPA/ /TRAN/ /S1/ /IM01/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> Procedures for sampling have been duly articulated in the monitoring report, and a sample of survey questionnaires furnished to DOE.</p> <p><i>Verifier's action:</i> All the survey forms were cross verified with the ER sheet and installation database. The values reported in MR were found inconsistent with values calculated in ER worksheet.</p> <p><i>Conclusion:</i> Applied value is correct.</p>	OK	OK
<b>D.3. SD Indicators Monitored</b>				
<b>D.3.1. SDG 1      No Poverty</b>		<b>BSA<sub>Project</sub> - Access to Basic Services (Number of ICS distributed under the baseline)</b>		
<p><b>a) Measurement / Determination method</b> <b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b></p>	<p>/GSPoA-DD/ /VPA/</p>	<p><i>Description:</i> This is being monitored through monitoring surveys.</p> <p><i>Verifier's action:</i></p>	GAR-01	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes.</i></p>	/TRAN/ /SSP/ /SSS/ /MR/ /S1/ /SD1/ /DB1/ /LHH/	<p>During the on-site assessments, the VVB interviewed to cross-check if the end users have access to the ICS. The VVB confirmed that the distribution of ICS ensures access of basic cooking services to the end user</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS VPA DD and the monitoring surveys. Refer closure to CAR 01.</p>		
<p><b>b) Correctness and Scoring</b></p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /S1/ /SD1/ /DB1/ /LHH/ /VPA/ /TRAN/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of the data in the monitoring report was based on the Monitoring survey.</p> <p><i>Verifier's action:</i></p> <p>The VVB confirmed that the distribution of ICS ensures access of basic cooking services to the end user, thus the contribution to 1 - Access to Basic Services is confirmed and were found acceptable.</p> <p><i>Conclusion:</i></p> <p>The data of the survey was found consistent.</p>	OK	OK
<b>D.3.2. SDG 1</b>	<b>No Poverty</b>	<b>HHS<sub>Project</sub> - % Users reporting money saving due to reduced fuel consumption in baseline</b>		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><b>a) Measurement / Determination method</b>  <b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes.</i></p>	<p>/MR/ /S1/ /SD2/ /DB1/ /IM01/ /VPA/ /TRAN/</p>	<p><i>Description:</i></p> <p>This parameter was monitored by the PP during the survey. No ICS was replaced during the current monitoring period.</p> <p><i>Verifier's action:</i></p> <p>The VVB verified the installation database and survey forms and cross verified the same during Onsite assessment. The end users also confirmed that the ICS helps in saving the fuel. Thus, the contribution to SDG 1 – “% users reporting time/money saving due to reduced fuel consumption in baseline” is confirmed and found acceptable</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS VPA DD an surveys. Refer closure to CAR 01.</p>	<p>CAR 01</p>	<p>OK</p>
<p><b>b) Correctness and Scoring</b></p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /SD2/ /IM01/ /VPA/ /TRAN/</p>	<p><input type="checkbox"/> Correct      <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The parameter is monitored based on the monitoring survey. The VVB has verified the submitted survey records and confirms the reported statement as accurate. No ICS was replaced during the current monitoring period.</p> <p><i>Verifier's action:</i></p> <p>The survey report was reviewed and compared with the results of the Onsite inspection and telephone interviews conducted by the verification team.</p> <p><i>Conclusion:</i></p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
			The monitored value of this SD indicator is in accordance with the GS VPA DD.		
<b>D.3.3. SDG 3</b>	<b>Good Health and Well Being</b>		<b>SPM<sub>HHProject</sub> - % Users reporting reduction in smoke/PM emissions while cooking on improved stove in Project</b>		
<p><b>a) Measurement / Determination method</b>  <b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i>  <i>Furthermore, verify the frequency of measurements as per the requirements.</i>  <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes .</i></p>		/MR/ /S1/ /ER/ /LHH/ /VPA/ /TRAN/	<p><i>Description:</i>            The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey results confirmed that the end users reported reduction in smoke levels which in turn confirms good health and wellbeing.</p> <p><i>Verifier's action:</i>            The VVB also confirms this fact during its interview with randomly selected end-user. All end user confirmed reduction in smoke level while cooking on the ICS.</p> <p><i>Conclusion:</i>            The monitoring of the indicator is consistent with the GS VPA DD.</p>	OK	OK
<p><b>b) Correctness and Scoring</b>  <i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i>  <i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the</i></p>		/MR/ /S1/ /ER/ /LHH/ /VPA/ /TRAN/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i>            Monitoring survey and associated supportive documents are assessed during Onsite assessments.</p> <p><i>Verifier's action:</i>            The supportive documents are assessed. The VVB also confirms this fact during its interview with randomly selected end-user. All</p>	OK	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>			<p>end user confirmed reduction in smoke level while cooking on the ICS.</p> <p><i>Conclusion:</i></p> <p>The database was verified and found data correct.</p>		
<b>D.3.4. SDG 5</b>	<b>Gender Equality</b>		<b>HHT<sub>Project</sub> -% Users reporting time saving due to reduced collected fuel consumption / cooking time in project</b>		
<p><b>a) Measurement / Determination method</b></p> <p><b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>		<p>/MR/ /DB1/ /S1/  /IM02/ /VPA/ /TRAN/</p>	<p><i>Description:</i></p> <p>During the survey, the PP has enquired about reduction in time saving due to reduced collected fuel consumption / cooking time in project while cooking on improved stove. The end users have confirmed that there was certain decrease in the fuel consumption.</p> <p><i>Verifier's action:</i></p> <p>The VVB has verified the parameter by comparing the requirements of monitoring under GS.</p> <p><i>Conclusion:</i></p> <p>The monitoring of this SD indicator is in accordance with the GS.</p>	OK	OK
<p><b>b) Correctness and Scoring</b></p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p>		<p>/MR/ /DB1/ /S1/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey. The monitoring survey</p>	OK	OK


Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>		/VPA/ /TRAN/	<p>results confirmed reduction in the fuel requirement to cook food which in turn saves the time for women for the collection of fuel.</p> <p><i>Verifier's action:</i></p> <p>The database was verified and found data correct</p> <p><i>Conclusion:</i></p> <p>The database was verified and found appropriate.</p>		
<b>D.3.5. SDG 7</b>	<b>Affordable and Clean Energy</b>		<b>ACS<sub>Project</sub> - Access to affordable and clean energy (% of operating ICS units under Project)</b>		
<p><b>a) Measurement / Determination method</b></p> <p><b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>		/MR/ /DB1/ /S1/  /IM02/ /VPA/ /TRAN/	<p>Description:</p> <p>The data is derived from the monitoring survey.</p> <p><i>Verifier's action:</i></p> <p>The end user confirmed that ICS promotes Affordable and clean energy services.</p> <p><i>Conclusion:</i></p> <p>The monitoring of the indicator is consistent with the GS requirement.</p>	OK	OK
<p><b>b) Correctness and Scoring</b></p>		/MR/ /DB1/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p>	OK	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>		<p>/S1/</p> <p>/VPA/</p> <p>/TRAN/</p>	<p>The data was based on the Project survey results conducted. The data is derived from the monitoring survey</p> <p><i>Verifier's action:</i></p> <p>The database was verified and found correct.</p> <p><i>Conclusion:</i></p> <p>The data was verified and found correct.</p>		
<b>D.3.6. SDG 8</b>	<b>Decent Work and Economic Growth</b>		<b>QE IG<sub>Project</sub> - Quantitative Employment and income generation (Number of person (male and female) hired under project)</b>		
<p><b>a) Measurement / Determination method</b></p> <p><b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p>		<p>/MR/</p> <p>/DB1/</p> <p>/S1/</p> <p>/IM02/</p> <p>/VPA/</p> <p>/TRAN/</p>	<p>Description:</p> <p>The employment database was reviewed to cross-checked on the number of direct jobs created by the project activity Verifier's action:</p> <p>Verifier's action:</p> <p>The verification team has assessed the employment record.</p> <p>Conclusion:</p> <p>The monitoring of the indicator is consistent with the GS .</p>	OK	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i>					
<p><b>b) Correctness and Scoring</b></p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>		/MR/ /DB1/ /S1/  /VPA/ /TRAN/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) Description: The data is monitored with the employment record. Verifier’s action: The database was verified and found correct. Conclusion: The data was verified and found correct	OK	OK
<b>D.3.7. SDG 12</b>	<b>Responsible Consumption and Production</b>		<b>FC<sub>Project</sub> - Average fuel consumption per HH in Project</b>		
<p><b>a) Measurement / Determination method</b></p> <p><b>VVS, §§ 389, 393, GS Annex I, GS Annex AC, GS Annex G)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the registered VPA-DD and GS / VPA Transition Request</i></p>		/MR/ /DB1/ /S1/  /IM02/ /TRG/	Description: The parameter is monitored based on the monitoring survey. Verifier’s action: The VVB has verified the submitted survey records and confirms the reported value as accurate. Conclusion:	OK	OK

<b>Checklist Item</b> (incl. guidance for the verification team)	<b>Reference</b>	<b>Verification Team Comments</b> (Means and results of assessment)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>Documents and check what has been achieved relative to the baseline scenario.</i></p> <p><i>Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPA-DD and relevant GS Annexes. .</i></p>	/VPA/ /TRAN/	The monitoring of the indicator is consistent with the GS.		
<p><b>b) Correctness and Scoring</b></p> <p><i>Determine whether the monitoring method/value given in the sustainability monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered / VPA Transition Request Documents detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>Score in accordance to Toolkit Annex I</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /DB1/ /S1/  /TRG/ /VPA/ /TRAN/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p>Description: The VVB has verified the submitted survey records and confirms the reported value as accurate.</p> <p>Verifier's action: The database was verified and found data correct.</p> <p>Conclusion: The data was verified and found correct.</p>	OK	OK

**ANNEX 2: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL**



**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Prakash Kumar Mishra**


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2023-12-16
VCS / ISO 14064-2	Senior Assessor	2023-12-16

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand

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**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Kunal Rami**


SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2026-03-26
J1	Lead Assessor (Validation, Verification) Technical Reviewer	2026-03-26
VCS / ISO 14064-2	Lead Assessor (Validation, Verification) Technical Reviewer	2026-03-26

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewables	
2.1	Energy distribution	
3.1	Energy demand	
6.1	Construction	
7.1	Transport	
13.1	Solid waste and wastewater	
13.2	Manure	

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**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Stefan Winter**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2023-07-27
VCS / ISO14064-2	Senior Assessor (Validation, Verification) Technical Reviewer	2023-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Cement and lime production
4.2	Paper
5.2	Caprolactam, nitric and adipic acid
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
10.1	Fugitive emissions from oil and gas
13.1	Solid waste and wastewater
13.2	Manure

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