

<b>Verification report for GS4GG project activity</b> <b>(Gold Standard for the Global Goals)</b>	
<b>BASIC INFORMATION</b>	
<b>Title of the GS4GG Project activity</b>	Solar water filtration units for rural areas in coastal Bangladesh
<b>Reference number of the project activity</b>	GS 11075
<b>Version number of the verification and certification report</b>	3.0
<b>Completion date of the verification and certification report</b>	05/06/2024
<b>Monitoring period number and duration of this monitoring period</b>	1 <sup>st</sup> Monitoring Period Duration: 09/11/2022 – 08/11/2023 (both days inclusive)
<b>Version number of the monitoring report to which this report applies</b>	3.0 Dated: 13/05/2024
<b>Crediting period of the project activity corresponding to this monitoring period</b>	1 <sup>st</sup> crediting period Duration: 09/11/2022 – 08/11/2027 (5 years, twice renewable)
<b>Project representative(s)</b>	Value Network Venture Advisory Services Pte. Ltd.
<b>Host Party</b>	Bangladesh
<b>Applied methodologies and standardized baselines</b>	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), Version 3.1- 25/08/2017
<b>Mandatory sectoral scopes</b>	Sectoral Scope 03: Energy demand
<b>Activity requirements applied</b>	<input checked="" type="checkbox"/> Community Services Activities <input type="checkbox"/> Renewable Energy Activities <input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
<b>Product requirements applied</b>	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A

Sustainable Development Goals Targeted	SDG Impact	Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period 09/11/2022 to 08/11/2023	Units/ Products
SDG 4 – Quality Education	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	281	number
SDG: 6 Clean and Water Sanitation	6.1.1 Proportion of population using safely managed drinking water services	100	percentage
SDG 8 (Decent Work and Economic Growth)	8.5.1 Average hourly earnings of female and male employees, by occupation, age, and persons with disabilities  8.6.1 Proportion of youth (aged 15-24 years) not in education, employment, or training	8.5.1 – 160 8.6.1 - 9	numbers
SDG 13 (Climate Action)	13.2.2 Total greenhouse gas emissions per year	2022:36,282 2023:211,279  Total:247,561	tCO2e
SDG 15 (Life on Land)	15.2.1 Progress towards sustainable forest management	1121.03	Tonnes of wood per annum per system
Name of the Gold Standard approved auditor (VVB)		Earthood Services Private Limited	

**Name, position and signature of the approver of the verification and certification report**



Dr. Kaviraj Singh  
Managing Director

**SECTION A. Executive summary**

The project activity titled “Solar water filtration units for rural areas in coastal Bangladesh” (GS11075) a large-scale project activity registered under Gold Standard for Global Goals.

The project activity aims at providing safe drinking water to the low-income groups or in rural/coastal areas in Bangladesh through installation of water purification devices at community level. The treatment measures deployed under this PA are a combination of low GHG emitting technologies thereby reducing greenhouse gas (GHG) emissions from the burning of non-renewable woody biomass for boiling water. The project technologies, designed to reduce GHG emission and supply safe water to households meet the technology and measure requirements of the applied methodology “Methodology for Technology Practices to Displace Decentralized Thermal Energy Consumption version 3.1/6/.

The Project activity is being implemented by Bangladesh Bondhu Foundation (BBF) which is also the project participant whereas the Project Developer is Value Network Ventures Advisory Services Pte. Ltd. A total of 123 WPPs have been included under the project activity until the end of the current MP.

The assessment team confirms that the total annual average emission reductions during this monitoring period, from 09/11/2022 to 08/11/2023 (inclusive of both dates), amounted to 247,561 tCO<sub>2</sub>e.

Sustainable Development Goals Targeted	SDG Impact	Amounts Achieved	Units/Products
<b>SDG:13 Climate Change</b>	Amount of GHGs emissions avoided or sequestered	247,561	tCO <sub>2</sub> e
<b>SDG 4 – Quality Education</b>	Number of employees trained per year	281	number
<b>SDG: 6 Clean Water and Sanitation</b>	Proportion of population using safely managed drinking water services	100	Percentage
<b>SDG 8 (Decent Work and Economic Growth)</b>	a. Number of jobs created (male/female) by project activity. b. Number of trainings provided (filtration plant maintenance)	a.160 b. 9	numbers

<b>SDG 15 (Life on Land)</b>	Total non-renewable fuelwood saved per year by the project	1121.03	Tonnes of wood per annum per system
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**Scope of verification**

This verification is an independent and objective review and ex-post determination of the monitored reductions in the GHG emissions and SDG outcomes by the VVB. The verification includes the implementation and operation of the PA and tests the data and assertions set out in the monitoring report prepared for this monitoring period, and it is based on review of the following:

- The registered GS PDD and monitoring plan/1/.
- The approved methodology TPDDTEC – “Technologies and Practices to Displace Decentralized Thermal Energy Consumptions, Version 3.1 /6/.
- UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords.
- GS4GG requirements.
- The GS Validation and Verification Standard (VVS) version 1.0/7/, the CDM Project Standard (PS) version 3.0/35/ and Site visit and Remote audit requirements and procedures version 2.0/8/.
- Relevant decisions, guidance, and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity’s reported emission reductions.

The verification has considered both quantitative and qualitative aspects on stated/reported SDG outcomes achieved as part of GS4GG. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC and GS4GG, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the PP/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

**Verification process**

The verification process is conducted as per internal GS4GG Requirements, which includes the following steps;

- a) Contract with the PD and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- b) Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and planning of on-site audit (including sampling approach (refer Section D.4 of this report to be applied)).
- c) On-site audit (refer Section D.2 of this report) by verification team consistent of Team Leader and all Technical Experts, as a minimum
- d) Follow up activities e.g., interviews (refer Section D.3 of this report)
- e) Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report).

- f) Independent technical review (refer Section D of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidence).
- g) Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section E and F of this report).
- h) Issuance of final verification report to contracted PD (or authorized representatives) and submission of request for issuance, as appropriate.

**Verification Conclusion**

Based on the outcome of the verification process of the GS PA “Solar water filtration units for rural areas in coastal Bangladesh” for the monitoring period 09/11/2022 – 08/11/2023 (including both dates), the VVB confirms that the implementation of referenced registered PA is complying with applicable CDM and GS4GG rules and regulations as stated in the Monitoring Report Version 3.0, dated 13/05/2024. The GHG emission reductions were calculated in line with the approved baseline and monitoring methodology, TPDDTEC – “Technologies and Practices to Displace Decentralized Thermal Energy Consumptions, Version 3.1/6/ and the monitoring plan contained in the registered PDD/1/.

Earthood Services Private Limited (hereafter referred as “Earthood”) is able to certify that the emission reductions from the registered PA (GS 11075) “Solar water filtration units for rural areas in coastal Bangladesh” for the monitoring period 09/11/2022 – 08/11/2023 (including both dates) amount to 247,561 tCO<sub>2</sub>e. Therefore, this is being submitted for request for issuance, as per GS4GG/7,10,11/ and UNFCCC procedures/13,35/.

**SECTION B. Verification team, technical reviewer and approver**

**B.1. Verification team members**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Validation findings
1.	Team Leader and Verifier (GS approved auditor)	IR	Chaudhary	Anjali	Central office	Y	Y	Y	Y
2.	TA Expert (TA 3.1)	IR	Guleria	Shifali	Central office	Y	Y	Y	Y
3.	Trainee Verifier	IR	Kaushik	Vardhan	Central office	Y	N	N	Y
4.	Local Expert	EI	Aki	Akkas	Central office	Y	Y	Y	Y

**B.2. Technical reviewer and approver of the verification and certification report**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	Mahala	Deepika	Central Office
2.	Technical Expert to TR (TA 3.1)	IR	Mahala	Deepika	Central Office
3.	Approver	IR	Singh	Kaviraj	Central office

**SECTION C. Application of materiality**

**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Observational error by monitoring survey staff of PP while recording the responses of users in relation to survey parameters	High	The survey is conducted for representative samples of population, which may impact the population significantly. Surveyors may be unsupervised at the site.	The verification team randomly selected the samples from the PP surveyed sampled WPS. The recorded survey forms by PP were checked by VVB during the onsite audit. The verification team also interviewed the monitoring staff and checked their training records/27/.
2.	Error in transferring the recorded data to ER sheet	Medium	The procedure for transferring the recorded survey information sheet readings to the spreadsheet may lead to erroneous entries affecting the accuracy of the data. The personnel and PD representatives employ implemented internal QC	The surveying and monitoring personnel assigned for PA implementation surveys have been trained. The interviews conducted during the site visit confirm the regular training is conducted as per the monitoring plan and implementation procedures to reduce the risk of oversight or data transfer. All the

			procedures to ensure prevention of any such potential error thus minimizing the chances of error significantly in the prepared ER calculation sheet /5/.	values in ER calculation sheet have been verified from supporting documents and survey data forms/18,31/. No discrepancies were reported due to data collection and recording.
3.	Calculation Errors	Medium	The process is manual and therefore there is potential risk of errors / omissions/misstatements.	All calculations were checked by verification team concerning applicable requirements under various documents viz., methodology/6/, PDD/1/

**C.2. Consideration of materiality in conducting the verification**

All errors were individual errors and no extrapolation of errors in the final calculation of ERs was required. The verification team confirms that the final ER sheet/5/ are free from material errors with a reasonable level of assurance.

**SECTION D. Means of verification**

**D.1. Desk review**

The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols (checklists). The assessment team cross checks the information provided in the documents (MR)/4/ and information from sources other than those used, if available, and conducts independent background investigations. Earthood conducted a desk review as under;

- a) A review of the data and information presented to verify their completeness.
- b) A review of the monitoring plan (as described in PDD/1/) the monitoring methodology/6/ including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.
- c) A review of calculations and assumptions made in determining the SDG outcomes, GHG data and emission reductions/5/.
- d) An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of SDG outcomes and emission reductions.

The list of documents reviewed during verification is provided under Appendix 3 of this report.

### D.2. On-site inspection

As per GS Site Visit and Remote Audit Requirements and Procedures – V2.0 para 3.2.2 “A physical site visit by VVB is mandatory at the first verification of a project”/8/. The assessment involves first verification of the project activity therefore the assessment team conducted a physical site visit from 12/12/2023 to 14/12/2023. The assessment team conducted a physical site visit along with follow up interviews with the project representatives using online platforms like Microsoft team to reach a reasonable level of assurance on implementation status of the project activities.

Activity performed on-site	Site location	Date	Team member
<ol style="list-style-type: none"> <li>Opening Meeting: Introduction, scope and objective of work, roles and responsibilities of audit team.</li> <li>Project boundary and emission sources included in the project boundary.</li> <li>Project Activity (Technology, Location and Implementation)</li> <li>Monitoring plan (compliance of monitoring arrangements described in PDD, QA/QC procedures, responsibility of implementation of monitoring plan, data recording &amp; storage procedures)</li> <li>Operational lifetime of the project activity, Start date of the project activity, Crediting period.</li> <li>Ongoing grievance mechanism and feedback.</li> </ol>	Bangladesh	12/12/2023 - 14/12/2023	Shifali Guleria, Akkas Aki, Anjali Chaudhary

### D.3. Interviews

No	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
<b>Interview of the representatives of the PD</b>						
1.	Khaleq zaman	Uz Md.	Vice Chairman (BBF)	12/12/2023 - 14/12/2023	Aspects discussed: <ul style="list-style-type: none"> <li>Project Technology</li> <li>Project Location,</li> <li>Project Implementation</li> <li>Quality management system</li> </ul>	Shifali Guleria, Akkas Aki, Anjali Chaudhary
2.	Lohia	Rohit	CSIPL			
3.	Gupta	Rohit	VNV			

4.	Kumar	Ritesh	CSIPL	<ul style="list-style-type: none"> <li>Monitoring Plan and data management</li> <li>GHG emission reduction calculation</li> <li>Maintenance, Compliance to regulatory requirements</li> <li>Environmental and social issues</li> <li>Projects contribution to sustainable development.</li> </ul>
5.	Mridha	Ruman	BBF	
6.	Mozumdar	Swadesh	Zonal Manager(BBF)	

WPP survey					
S.No	Plant ID	Name of the operations engineer	Name of the caretaker	Location	Date
1.	DWS-BAG-CHI-HIZ-02	Osman Molla	Sabina Ysmin	Hizla, chitalmari, bagerhat	13/12/2023
2.	DWS-BAG-KOC-RAR-01	Osman Molla	Hasna Hena Begum	Rari Para, Kochua, Bagherhat	13/12/2023
3.	DWS-BAG-MON-SUN-02	Rakibul Islam	Tulu Mollik	Mollik Para, Madurpalta, Sundarban, Mongla, Bagerhat	14/12/2023
4.	DWS-BAG-MOR-BOL-01	Osman Molla	Kakuti Rani	North Para, Ambariya, Bolaibuniya, Bagherhat	13/12/2023
5.	DWS-BAG-MOR-JEW-01	Md. Imran	Beauty Rani Mondal	Lokkhi Khali, Jewdara, Morrelganj, Bagerhat	14/12/2023
6.	DWS-BAG-MOR-RAM-01	Osman Molla	Halena Akter	Kochubunia, Moroganj, Bagherhat	13/12/2023
7.	DWS-BAG-RAM-PER-03	Rakibul Islam	Kanka Das	Dawal, Danga Dokkhin Para, Perikhali, Bagerhat	14/12/2023
8.	DWS-KHU-DAC-LAW-03	Saiful Islam	Sriti Rani	Dacope, Lawdob, Khutakhali, Khulna	14/12/2023

Usage Survey					
S.No	Plant ID	Dispenser ID	Beneficiary ID	Name of the beneficiary	Date

				representative	
1.	DWS-BAG-CHI-HIZ-02	DWS-BAG-CHI-HIZ-02-D-11	DWS-BAG-CHI-HIZ-02-D-11-CON13	Himu Molla	13/12/2023
2.	DWS-BAG-KOC-RAR-01	DWS-BAG-KOC-RAR-01-D-03	DWS-BAG-KOC-RAR-01-D-03-CON4	Shohidul Hawlader	13/12/2023
3.	DWS-BAG-MON-SUN-02	DWS-BAG-MON-SUN-02-D-18	DWS-BAG-MON-SUN-02-D-18-CON15	Mostofa Sheik	14/12/2023
4.	DWS-BAG-MOR-BOL-01	DWS-BAG-MOR-BOL-01-D-14	DWS-BAG-MOR-BOL-01-D-14-CON1	Moloi Mondol	14/12/2023
5.	DWS-BAG-MOR-JEW-01	DWS-BAG-MOR-JEW-01-D-03	DWS-BAG-MOR-JEW-01-D-03-CON3	Sagor Sadce	14/12/2023
6.	DWS-BAG-MOR-RAM-01	DWS-BAG-MOR-RAM-01-D-17	DWS-BAG-MOR-RAM-01-D-17-CON2	Tushar	14/12/2023
7.	DWS-BAG-RAM-PER-03	DWS-BAG-RAM-PER-03-D-04	DWS-BAG-RAM-PER-03-D-04-CON5	Sahanara Begum	14/12/2023
8.	DWS-KHU-DAC-LAW-03	DWS-KHU-DAC-LAW-03-D-09	DWS-KHU-DAC-LAW-03-D-09-CON7	Lakkhan Ray	14/12/2023

WQT survey					
S.No	Plant ID	Dispenser ID	Beneficiary ID	Name of the WQT survey respondent	Date
1.	DWS-BAG-CHI-HIZ-02	DWS-BAG-CHI-HIZ-02-D-15	DWS-BAG-CHI-HIZ-02-D-15-CON5	Sohidul Molla	13/12/2023
2.	DWS-BAG-KOC-RAR-01	DWS-BAG-KOC-RAR-01-D-21	DWS-BAG-KOC-RAR-01-D-21-CON6	Mohid Sarder	13/12/2023
3.	DWS-BAG-MON-SUN-02	DWS-BAG-MON-SUN-02-D-21	DWS-BAG-MON-SUN-02-D-21-CON1	Monnaf	14/12/2023
4.	DWS-BAG-MOR-BOL-01	DWS-BAG-MOR-BOL-01-D-16	DWS-BAG-MOR-BOL-01-D-16-CON27	Khokon	13/12/2023
5.	DWS-BAG-MOR-JEW-01	DWS-BAG-MOR-JEW-01-D-11	DWS-BAG-MOR-JEW-01-D-11-CON12	Brihottom Baroi	14/12/2023
6.	DWS-BAG-MOR-RAM-	DWS-BAG-MOR-RAM-	DWS-BAG-MOR-RAM-01-D-21-	Bellal Hawladar	13/12/2023

	01	01-D-21	CON35		
7.	DWS-BAG-RAM-PER-03	DWS-BAG-RAM-PER-03-D-04	DWS-BAG-RAM-PER-03-D-04-CON20	Amit Rai	14/12/2023
8.	DWS-KHU-DAC-LAW-03	DWS-KHU-DAC-LAW-03-D-12	DWS-KHU-DAC-LAW-03-D-12-CON3	Nirapada Mondal	14/12/2023

The start date for the PA is 09/11/2022, and the date of physical site visit is from 12/12/2023 to 14/12/2023, which is well within the accepted range of 2 years as per APPLICABILITY OF MINIMUM SITE VISIT REQUIREMENTS BY VVB/8/. Therefore, this condition has been met.

**D.3.1. Type of questions asked to end-user by the Verification Team members**

Following questions are asked by the end-users for the verification of samples:

No.	Questions asked by Team member as part of usage survey	Nature of responses
1.	Is clean water available at the dispensing station	Positively responded
2.	Number of members in premise using purified water	Positively responded
3.	What is the primary source of water?	Positively responded
4.	How was water purified in baseline?	Positively responded
5.	Feasibility for using the WPP services.	Positively responded
6.	Do you use any other alternate water purification means?	Positively responded
7.	How do you store treated water?	Positively responded
8.	Hygiene indicators and details Hygiene awareness campaigns conducted?	Positively responded
9.	Incidence of Diarrhea/ other water borne diseases in last 6 months	Positively responded
10	Grievance Mechanism Awareness?	Positively responded
11	Was monitoring conducted at the premises?	Positively responded
12	WQT conducted at premise?	Positively responded
13	Plant maintenance plan?	Positively responded

All the end-users confirmed that they perceive an improvement in drinking water quality. All the end users also reported that they are aware of the grievance mechanism by BBF. While no adverse or negative responses were received regards the usage or accessibility/sufficiency related issues.

**D.4 Sampling approach**

**PD’s Sampling Approach:**

PD has applied sampling for conducting the usage survey and WQTs as per the Guideline: Sampling and surveys for CDM project activities and programmes of activities and Standard of Sampling and surveys for CDM project activities and applied methodology.

Usage survey: A total of 153 usage surveys (out of the total group size of 38,112) have been conducted to determine the usage rate, and quantity of safe water boiled in the project scenario at the beneficiary premise considering the 95/10 confidence/precision.

WQT: A total of 123 WQTs have been conducted to determine the quality of treated water considering the 90/10 confidence/precision for annual sampling for WQTs at beneficiary level.

This sampling approach undertaken by PD is described in detail under section D.4 of MR /4/, which has been assessed by the verification team and found to be correct and in line with the registered monitoring plan/1/.

### **VVB's Sampling Approach:**

In order to meet the requirements of Standard for Sampling and surveys for CDM project activities and programmes of activities version 9.0/13/, the verification team applied acceptance sampling in the verification (in accordance with para 28). The verification team selected random samples of PP's sampled records, checked the acceptability (or otherwise) of the data for each such record with PP's sample records, and then based on the number of records where there is agreement, determined if the PP's sample records meet the requirements.

As per para 39 of CDM project activities and programmes of activities version 9.0/13/, DOE may select a different sample size than the one indicated in paragraph 32, 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 the project activity or the PoA is located in a least developed country. Since Bangladesh is a LDC/36/ therefore the verification team has determined the sample size of 8 from each sampling frame for the monitored parameters. A total of 16 samples (8 each for both the sampling frames i.e. usage survey and WQTs) are drawn for acceptance sampling by evaluating the following for the randomly selected 8 WPPs, using its own professional judgement and guidance in the Standard 'Sampling and Surveys for CDM project activities and programme of Activities' version 9.0/13/:

- The proportion of discrepancies between the PP's data and verification team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 1.0 % was considered in this verification.
- The proportion of discrepancies between the PP's data and verification team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.
- The producer risk: 10% was considered.
- The consumer risk: 20% was considered.

The samples to be surveyed by assessment team were randomly selected from the list of monitored samples using the random sample generator on Microsoft excel.

As a result, the audit team physically inspected these selected 16 samples and cross-checked the PPs records with onsite observations/31/.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	-	-
Compliance of the project implementation and operation with the registered PDD	-	-	FAR 01* FAR 02* FAR 03*
Post-registration changes	-	-	-
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	-	-	FAR 04* FAR 05*
Compliance of monitoring activities with the registered monitoring plan	CL 01	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Implementation of Sampling Plan	-	-	-
Assessment of data and calculation of emission reduction or net removal	CL 02	-	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Safeguards Reporting	-	-	-
Compliance with other GHG emission trading programs	-	-	-
Others (Site visit, Cover page, etc.)	-	-	-
<b>Total</b>	<b>02</b>	<b>00</b>	<b>05*</b>

\*FARs raised during the validation assessment have been addressed during the current verification

**SECTION E. Verification findings**

**E.1. Compliance of the monitoring report with the monitoring report form**

<b>Means of verification</b>	VVB checked from the Gold Standard website that the prescribed form has been used for preparing the Monitoring Report/4/. The PD used the Gold Standards for Global Goals latest MR template version 1.1/3/ available on the GS webpage and all the details were filled as per the MR template filling guidelines/3/.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The verification team confirms the compliance of the monitoring report with the latest version of the GS monitoring report template and the instructions therein for filling out the form.

**E.2. Remaining forward action requests from validation and/or previous verifications**

Five FARs were issued during the design certification. These have been raised and resolved during the current verification. Please refer to FAR#01, FAR#02, FAR#03, FAR#04 and

FAR#05 in Appendix 4 of this report for details.

**E.3. Compliance of the project implementation and operation with the registered project design document**

<b>Means of verification</b>	<p>The project activity aims to provide safe drinking water to the low-income groups or in rural/coastal areas in Bangladesh. The project activity is developed by "Value Network Venture Advisory Services Pte. Ltd." and the project is implemented by "Bangladesh Bondhu Foundation" (BBF). The boundary of the project activity referred in this report is confined to the geographical boundary of Bangladesh, as a host country.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">GS ID of PA</td> <td style="padding: 2px;">GS 11075</td> </tr> <tr> <td style="padding: 2px;">Title of PA</td> <td style="padding: 2px;">Solar water filtration units for rural areas in coastal Bangladesh</td> </tr> <tr> <td style="padding: 2px;">Project Developer</td> <td style="padding: 2px;">Value Network Venture Advisory Services Pte. Ltd.</td> </tr> <tr> <td style="padding: 2px;">Project Owner</td> <td style="padding: 2px;">Bangladesh Bondhu Foundation</td> </tr> </table> <p><b>Location:</b></p> <p>The WPP plants included under the project activity is located within the geographical boundary of the host country Bangladesh and geocoordinates of the location lie between 20°34' to 26°38' north latitude and between 88°01' to 92°41' east longitude. The location of these WPPs and associated beneficiaries was verified during the on-site visit/31/ and it is confirmed that no discrepancy is observed from that recorded in the installation database/16/</p> <p><b>Technology:</b></p> <p>The project activity aims to provide safe drinking water through a combination of low GHG technologies, the technologies deployed are selected dependent on the quality of water available. The water can be purified by the using single/combination of the following methods:</p> <ol style="list-style-type: none"> <li>1. Pre-treatment section (multi-media filter, addition of alum, activated carbon filter).</li> <li>2. Chemical disinfection (chlorination)</li> </ol> <p>These WPP units run on solar energy, the functioning of the treatment plants was confirmed through on-site observations/31/ and interviews with the field engineering responsible for uninterrupted functioning of these units.</p> <p>The capacity of the water purification system is determined based on the type of technology employed (chlorine/filters) and can be replenished by resupplying/replacing as required. The capacity for each system is duly recorded in the installation database/16/ The systems will be able to operate if the required maintenance and replacement of the consumables (multi-media filter, activated carbon filter and chlorine) will be in place as per the maintenance plan as confirmed during onsite observation.</p> <p>The verification team was able to confirm that the specification and target group of the water purification plants is consistent with the</p>	GS ID of PA	GS 11075	Title of PA	Solar water filtration units for rural areas in coastal Bangladesh	Project Developer	Value Network Venture Advisory Services Pte. Ltd.	Project Owner	Bangladesh Bondhu Foundation
GS ID of PA	GS 11075								
Title of PA	Solar water filtration units for rural areas in coastal Bangladesh								
Project Developer	Value Network Venture Advisory Services Pte. Ltd.								
Project Owner	Bangladesh Bondhu Foundation								

PDD/1/. Further, based on the physical observations from on-site visit/31/ conducted during verification:

- The PA is implemented within the geographical boundary of Bangladesh.
- Project developer is same as that mentioned in the PDD/1/.
- The implementation and operation of the project activity has been conducted in accordance with the description contained in the PDD/1/.
- The project developer has operated the PA as mentioned in the PDD/1/.

The verification team has conducted surveys via on-site visits/31/to 8 WPPs to verify the results of WQTs and 8 end-user premises to verify the results obtained through usage surveys. It was observed that each WPP has unique identification number. The unique identification number on each WPP and their operation start date were cross checked with the database provided with the PD. The operation of the WPPs were confirmed through onsite observations and the resupply mechanism was confirmed through interviews with maintenance in charge for each WPP. The households were asked various questions to confirm identity of the end user, operational status of the WPPs, sufficiency and quality of water, presence, and usage of baseline technologies, among others.

**Ownership:**

The ownership of the VERs generated lies with Value Network Venture Advisory Services Pte. Ltd , the end-users cede the rights to Bangladesh Bondhu Foundation as verified through the carbon waiver agreements signed by the end-users/20/ which are rights are then contractually transferred to., Value Network Venture Advisory Services Pte. Ltd from BBF as confirmed through the MoU dated 01/01/2022//

**Implementation status:**

A total of 123 WPPs were installed until the end of this monitoring period, the project database consists of the commission date of all the WPPs/16/, PP has provided a declaration that all the WPPs were commissioned before 09/11/2022/21/ thus the same has been confirmed as the project activity start date.

The crediting cycle length of the proposed activity is 5 years, and the type of the crediting period is renewable twice in accordance with para 5.1.48 of Principles and Requirements v1.2/9/.

The emission reductions being claimed during this monitoring period are lesser than the estimated emission reductions in the respective PDD, as given in the table below for comparable estimated VERs in the PDD for the corresponding period:

Monitoring Period	Estimated ERs (tCO2)	Actual ERs (tCO2)
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	09/11/2022 – 08/11/2023	590,307	247,561
	<p>The verification team considers the project description as contained in the PDD/1/ complete and accurate. The PDD complies with the applied methodologies and tools. The monitoring report/4/ was compared and verified against the description provided in the PDD/1/ and found to be correct.</p> <p><b>Implementation and operation of the management system</b></p> <p>The project participant “BBF” is responsible for QA/QC of the data, analysis and reporting into the monitoring report. For survey data, a monitoring team has been organized by the PD consisting of trained monitoring staff, who conducted the surveys/18/and WQTs/19/. The BBF staff was interviewed, and training records/27/ were checked to confirm that they were trained for conducting the surveys/31/ and WQTs/19/.</p> <p><b>Grievance Mechanism</b></p> <p>The grievance mechanism includes grievance expression books located at each WPP, as verified by the VVB during the site visit. The end-users confirmed that they have contact information for the maintenance engineer/caretaker of the concerned plant and can reach out to them if required. No grievances were received during the current monitoring period.</p>		
<b>Findings</b>	No findings were raised.		
<b>Conclusion</b>	The verification team can confirm that all physical features (technology, project equipment, and monitoring equipment) of the PA was in place and that the PD operated the project activity in accordance with the registered PDD/1/ and Validation Report/2/ during the current monitoring period based on the information verified through the on-site audit and interviews/31/.		

**E.4. Post-registration change**

**E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents**

Not Applicable

**E.4.2. Corrections**

Not Applicable

**E.4.3. Changes to the start date of the crediting period**

Not Applicable

**E.4.4. Inclusion of monitoring plan**

Not Applicable

**E.4.5. Permanent changes from registered monitoring plan, monitoring methodology or standardized baselines**

Not Applicable

**E.4.6. Changes to the project design**

Not Applicable.

**E.4.7. Changes specific to afforestation and reforestation project activities**

Not Applicable.

**E.5. Compliance of the registered monitoring plan with the applied methodologies including applicable tool and standardized baseline**

<b>Means of verification</b>	<p>The monitoring plan as contained in the PDD/1/ was reviewed against the monitoring requirements of the applied methodology, Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) v3.1/6/ with reference to the technologies involved. Based on this review, it was found that monitoring plan contained in PDD/1/ includes all required parameters to be monitored in the context of the project design and allows for proper determination of emission reductions in accordance with the PDD/1/, and applied methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) v3.1/6/.</p> <p>The review of applied methodology and monitoring plan establishes that the monitoring plan is consistent with the applied methodology.</p>
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The monitoring plan is in line with the approved methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) v3.1/6/, that is included in the registered PDD/1/. The monitoring plan is in accordance with the applied methodology/6/ that is included in the PDD/1/.

**E.6. Compliance of monitoring activities with the registered monitoring plan**

**E.6.1. Data and parameters fixed ex ante or at renewal of crediting period**

Parameter	Value of the ex-ante parameter	Assessment

<p><b>W<sub>b,y</sub>/W<sub>p,y</sub>: Quantity of fuel to treat 1 litre of water</b></p>	<p>0.0004 Tonnes/litre for woody biomass</p>	<p>The default value applied for the parameter is sourced from to be the default from "Application of TPDDTEC methodology to safe water supply projects" Dated - 03/05/2021/6/. The value is confirmed from the PDD/1/ and is a consistently across the MR/4/ and ER sheet/5/. Hence, found acceptable.</p>
<p><b>EF<sub>b,wood,CO<sub>2</sub></sub> / EF<sub>p,wood,CO<sub>2</sub></sub> - CO<sub>2</sub> emission factor arising from use of fuels in baseline/project scenario</b></p>	<p>112 tCO<sub>2</sub>/TJ</p>	<p>The value of parameter has been sourced from IPCC 2006, Volume 2 (Energy), Chapter 2 (Stationary Combustion), Table 2.5/32/. The value is found to be in line with the PDD/1/. The parameter is consistent between the MR/4/ and ER calculation sheet/5/. Hence, found acceptable.</p>
<p><b>EF<sub>b,wood,nonCO<sub>2</sub></sub> / EF<sub>p,wood,nonCO<sub>2</sub></sub>- Non-CO<sub>2</sub> emission factor arising from use of fuels in baseline/project scenario</b></p>	<p>9.46 tCO<sub>2</sub>/TJ</p>	<p>The value of parameter has been sourced from IPCC 2006, Volume 2 (Energy), Chapter 2 (Stationary Combustion)/32/. The value is found to be in line with the PDD/1/. The parameter is consistent between the MR/4/ and ER calculation sheet/5/. Hence, found acceptable.</p>
<p><b>NCV<sub>b,wood</sub> / NCV<sub>p,wood</sub> Net calorific value of the fuels used in baseline/ project scenario</b></p>	<p>0.0156 TJ/ton</p>	<p>The value of parameter has been sourced from IPCC 2006, Volume 2 (Energy), Chapter 2 (Stationary Combustion)/32/. The value is found to be in line with the PDD/1/. The parameter is consistent between the MR/4/ and ER calculation sheet/5/. Hence, found acceptable.</p>
<p><b>f<sub>NRB,i,y</sub> Non-renewability of woody biomass fuel during year y</b></p>	<p>0.843</p>	<p>The Fraction of non-renewability has been fixed ex-ante for the entire crediting period. The value is found to be in line with the PDD/1/. The parameter is consistent between the MR/4/ and ER calculation sheet/5/. Hence, found acceptable</p>
<p><b>C<sub>j</sub> Portion of users of project technology who were already in baseline consuming safe water without boiling it</b></p>	<p>6.6%</p>	<p>The parameter has been sourced from Bangladesh Multiple Indicator Cluster Survey 2019/34/and fixed ex-ante for the entire crediting period. The value is found in line with the registered PDD and consistent between the MR/4/ and ER calculation sheet/5/. Hence, found acceptable</p>
<p><b>Q<sub>p,y,capped</sub></b></p>	<p>Full time premises: 7</p>	<p>The parameter is fixed ex-ante to determine the upper cap to the amount of</p>

<b>Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day</b>	Litres per person per day Half time premises: 5.5 Litres per person per day	water consumption/p/day. The values are confirmed from the registered PDD and are consistently applied in the ER sheet to calculate the quantity of water consumed in project scenario.
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**E.6.2. Data and parameters monitored**

SDG Targeted & Parameter	Value applied	Frequency of Monitoring	Means of verification
<p>SDG 13</p> <p>QPW<sub>y</sub></p> <p>litres of purified water supplied by the project activity in year y</p>	<p>2022: 59,930,826.03 L</p> <p>2023: 348,987,524.25 L</p> <p>Total: 389,154,120.38 L</p>	<p>Annual</p>	<p>The quantity of water supplied by each WPP is measured through a flow meter as confirmed through on-site observations/31/. The flow meter recording at the start and end of the MP are recorded in the installation tab/5/. The value is capped as per ex-ante as per</p> <ul style="list-style-type: none"> <li>fixed treatment capacity per day and number of persons served or</li> <li>the max treatment capacity of the WPP per day.</li> </ul> <p>The VVB reviewed the ER sheet "installation summary"/5/ and confirmed that the most conservative value obtained is determined as the quantity of purified water by each WPP. The WPP installations were verified on sampling basis and 08 WPS were physically inspected to cross-check the technological specifications and operational conditions and no discrepancy is observed. Thus, the value is found acceptable</p>
<p>SDG 13</p>	<p>2022: 9,544,569.35</p>	<p>Recorded at</p>	<p>The end-user</p>

<p><math>N_{p,y}</math></p> <p>Number of persons consuming water supplied by project scenario p through year y</p>	<p>2023: 55,206,452.40 Total: 64,751,021.75</p>	<p>the time of contract signing</p>	<p>agreement/20/ is signed with each beneficiary and the total number of people served by each WPS are recorded in the installation database, the VVB interviewed the end users on sampling basis and confirmed their associated with the WPS as per the installation database records/16/. The end users confirmed that they were consuming water supplied by project installations. Thus, this value was found acceptable</p>
<p>SDG 13</p> <p><math>U_{p,y}</math></p> <p>Usage rate in project scenario p during year y</p>	<p>100%</p>	<p>Annual</p>	<p>The usage rate is determined through usage survey conducted by the PP/18/. The results of the usage survey have been checked on a sampling basis. The VVB interviewed the end-users to confirm that they were consuming water from the project WPS, all the end-users responded positively. Thus, the value is found acceptable.</p>
<p>SDG 13</p> <p>Quality of treated water</p> <p>% Installations providing safe quality treated water</p>	<p>100%</p>	<p>Once before first verification</p>	<p>The VVB has checked the WQT reports /19/for all the 123 WPS and confirmed that the treatment plants were supplying safe drinking water. CL 01 was raised and resolved (please refer appendix 4) Thus this value was found acceptable</p>
<p>SDG 13</p> <p><math>LE_{p,y}</math></p> <p>Leakage in the project scenario p through year y</p>	<p>0.00</p>	<p>Every two years</p>	<p>Not applicable during the current MP, the leakage assessment was conducted during validation as confirmed through PDD/1/and is due until end of second year of crediting period i.e., 2024 and shall be</p>

			undertaken in the next verification.
<p>SDG 13</p> <p>Hygiene campaigns</p> <p>Hygiene campaigns carried out among project technology users</p>	1	Annual	<p>The VVB has reviewed the hygiene campaign report/33/ and confirmed the awareness campaigns have been conducted by the PD amongst the project beneficiaries. This was further cross-checked through interviews with beneficiaries who confirmed that they have been informed of the WASH practices and safe storage practices. Thus, this VVB confirms that annual hygiene campaign has been conducted.</p>
<p>SDG 13</p> <p>Treatment capacity</p> <p>Treatment capacity of the project system i/day</p>	-	-	<p>The capacity of each WPP is fixed at the time of commissioning based on the technology installed. The PD has shared the capacity declaration /23/ statement for each WPP and the same has been consistently reported in the installation database. This parameter is used as the upper limit cap for each WPP to determine the quantity of safe drinking water.</p>
<p>SDG 13</p> <p><math>Q_{p, \text{cleanboil}, y}</math></p> <p>Quantity of safe (treated, or from safe supply) water boiled in the project scenario p, after installation of project technology</p>	0.0	Annual	<p>The parameter is determined through annual survey usage survey, the VVB verified the same on sampling basis. All the 8 interviewed end-users confirmed/31/ that they are no longer boiling water sourced from the project treatment plants. Thus, this value is found acceptable.</p>
<p>SDG 6</p> <p>Clean Water and Sanitation</p> <p>Proportion of population using safely managed</p>	100%	Annual	<p>The assessment team has reviewed the WQT reports/19/ for the tests conducted at their levels i,e, beneficiary level, dispenser level/19//24/ and the treatment plant level and confirmed that</p>

drinking water services			the water supplied by all the 123 plants meets the applicable WQT standards/25/. Thus, this value is found acceptable.
<p>SDG 8 Decent work and economic growth</p> <p>a. Number of employments provided</p> <p>b. Number of trainings provided (filtration plant maintenance)</p>	<p>a. 160</p> <p>b. 9</p>	Annual	<p>The assessment team has reviewed the PP's records and confirms that a total of 160 (130 females &amp; 30 males) people have been provided employment under this project activity. A declaration for the same is submitted by the PP/28/.</p> <p>The training records and attendance sheets have been reviewed by the VVB/27/, the training details were further confirmed during the onsite interviews with the field staff and the responses were found satisfactory.</p> <p>Thus, the value is found acceptable.</p>
<p>SDG 15</p> <p>Life on Land</p> <p>Total non-renewable fuelwood saved per year by the project</p>	1121.03 Tonnes of wood per annum per system	Annual	<p>Total non-renewable fuelwood saved per year by the project is calculated based on the end user's response to the parameter <math>Q_{p, \text{cleanboil}, y}</math> :</p> <p>usage of firewood to boil water during the project scenario, since no end-user reported that they were boiling water therefore the total quantity of safe water generated per WPP is used to calculate and equivalent amount of wood fuel saved. The calculations in the ER sheet have been reviewed by the VVB and are found correct.</p> <p>Thus, this value was found acceptable.</p>

**E.6.3. Implementation of sampling plan**

<b>Means of verification</b>	<p>The sampling plan was implemented by the PD in accordance with the CDM Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)/14/, Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities/13/ and the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption"- Version 3.1/6/. The surveys were conducted across the project boundary to ensure uniform distribution. The PD has opted for representative and random sampling due to the homogenous nature of the technologies deployed under the project activity. According to the pertinent sampling standards in the "Guidelines for sampling and surveys for CDM project activities and programme of activities," a statistically valid sample was utilized to calculate the parameter values. A simple random sampling approach has been applied to select the samples for survey as verified through supportive for random number generator/17/.</p> <p>The PD has conducted following kinds of surveys:</p> <ul style="list-style-type: none"> <li>• Project usage Survey- 153 samples have been covered and a minimum 95% confidence interval and 10% error margin have been attained.</li> <li>• Water Consumption Field Test- 123 samples have been covered at beneficiary level (and also at upstream dispenser and plant level) and a minimum 90% confidence interval and 10% error margin have been attained.</li> </ul> <p>The reliability levels have been duly met and the same is demonstrated under section D.4 of the MR. The samples size calculator/5.c/ has been reviewed and the assessment team confirms that the surveys have been conducted and found to be in line with the PDD/1/</p> <p><b>Monitoring survey (by PD) duration:</b></p> <p>The monitoring survey (field survey / tests) was carried out by PD representatives between the following duration for the current monitoring period. The survey dates were reviewed from the project survey sheet/18/ and WQT reports /19/</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #00A69A; color: white;"> <th style="text-align: left;">Type of Survey</th> <th style="text-align: left;">Survey dates</th> </tr> </thead> <tbody> <tr> <td>Project Survey</td> <td>Sept 2023</td> </tr> <tr> <td>WQT tests</td> <td>July – August 2023</td> </tr> </tbody> </table> <p>The assessment team has confirmed that the WQT protocols have been duly adhered to by the laboratory conducting the test. VVB has reviewed the test reports and confirms all the WPPs are supplying adequate safe water.</p> <p>The requirement to conduct the WQTs before first verification has been met as confirmed from the reports dated August 2023.</p> <p>CL 01 was raised on the frequency of WQT and the clarification provided has been confirmed from the Design Certification review feedback form/30/, since the same has been approved by GS no further justification was sought.</p>	Type of Survey	Survey dates	Project Survey	Sept 2023	WQT tests	July – August 2023
Type of Survey	Survey dates						
Project Survey	Sept 2023						
WQT tests	July – August 2023						
<b>Findings</b>	<p>CL 01 was raised and resolved.</p>						

<b>Conclusion</b>	The verification team confirmed that the sampling plan and the parameter values are in accordance with the monitoring plan provided in PDD/1/.
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**E.8. Assessment of data and calculation of SDG impacts**

**E.8.1. Calculation and assessment of SDG outcomes**

<b>Means of verification</b>	<p>a) <b>SDG-4: Quality Education:</b> - The PP has undertaken training programmes for engineers and caretakers of the plant, thereby skilling them, 281 people have been trained under this project activity as confirmed from the training records/27/ and interviews during the onsite visit.</p> <p>b) <b>SDG 6 – Clean Water and Sanitation:</b> - In the baseline situation, there existed a risk of waterborne diseases, as well as elevated smoke levels resulting from the combustion of fuelwood and charcoal, primarily through open fire practices. Through the implementation of the project activity, a significant number of individuals gained access to safe drinking water through low GHG emitting WPPs leading to emissions reductions when contrasted with the baseline use of fuelwood and charcoal for combustion. Clean drinking water, by default, is a vital nutrient for the human body, consequently promoting improved health outcomes in comparison to the baseline conditions.</p> <p>c) <b>SDG 8 – Decent Work and Economic Growth:</b> -. Job creation is a result of the implementation of the carbon project activity and a total of 160 people were employed during the current monitoring period as verified from the employment records and declaration on the same has been provided by the PP/28/. 9 training sessions have been conducted for plant maintenance trainings as well /27/</p> <p>d) <b>SDG 13 – Climate Action:</b> - The equations used were found consistent with the PDD/1/, MR/4/ and the applied methodology /6/</p> <p>For calculation of emission reduction, the following equation has been used:</p> $ER_y = (\sum BE_{b,y} - \sum PE_{p,y}) * U_{p,y} - \sum LE_{p,y}$ <p>Where the baseline emissions <math>BE_{b,y}</math> is given by:</p> $BE_{b,y} = B_{b,y} * ((f_{NRB,b,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,nonCO2}) * NCV_{b,fuel}$ <p>Where:</p> <p><math>BE_{b,y}</math> : Emissions for baseline scenario b during the year y in tCO<sub>2</sub>e</p> <p><math>B_{b,y}</math> : Quantity of fuel consumed in baseline scenario b during year y, in tons, as per by-default factors</p> <p><math>f_{NRB,y}</math> : Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass</p> <p><math>NCV_{b,fuel}</math> : Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156TJ/ton)</p> <p><math>EF_{b,fuel,CO2}</math> : CO<sub>2</sub> emissions factor of the fuel that it substituted or reduced. 112 tCO<sub>2</sub>/TJ for Wood/Wood</p>
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	<p><math>EF_{b,fuel,nonCO2}</math> : waste, or the IPCC default value of the relevant fuel : Non-<math>CO_2</math> emissions factor of the fuel that is substituted or reduced. 9.46 t<math>CO_2</math>/TJ for Wood/Wood waste, or the IPCC default value of the relevant fuel</p> <p><math>U_{p,y}</math> : Cumulative usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate.</p> <p><u>Baseline Scenario Fuel Consumption Calculations:</u></p> <p><math>B_{b,y}</math> = Number of person-days * Total Safe Water consumed in project scenario (L/p/d) * Baseline Fuel used to Treat Water (T/L)</p> <p><math>B_{b,y} = [(1-C_j) * QPW_y] * W_{b,y}</math></p> <p>Where:  <math>QPW_y</math> : Quantity of safe drinking water consumed in year y  <math>C_j</math> : Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it  <math>W_{b,y}</math> : Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test</p> <p>The following approach will be used for determining water consumption (<math>QPW_y</math>):</p> <p><math>QPW_y = \text{Minimum} \{ (\sum_{i=1}^n \text{Number of person serviced by system } i * Q_{p,y,capped} * 346.75^1),</math>  <math>(\sum_{i=1}^n \text{Total treatment capacity of system } i / \text{day} * 346.75),</math>  <math>(\sum_{i=1}^n \text{Monitored water supplied by project system } i ) \}</math></p> <p>Where,  <math>N_{p,y}</math> : Number of person-days consuming water supplied by project scenario p through year y (<math>\sum_{i=1}^n \text{Number of person serviced by system } i * 346.75</math>).  <math>Q_{p,y,capped}</math> : Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day (7 ltr/person/day cap from methodology).</p> <p>Project emissions <math>PE_{p,y}</math> is given by:  <math>PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}</math></p> <p><u>Project Scenario Fuel Consumption Calculation</u></p> <p><math>B_{p,y}</math> = Number of person-days * Total volume of water boiled in project scenario (L/p/d) * Project Fuel used to boil water (T/L)</p>
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<sup>1</sup> This is considering full year (with 5% discount for maintenance). In case of monitoring period shorter than an year, this shall be pro-rated.

	<p><math display="block">B_{p,y} = [ (1-C_j) * N_{p,y} * (Q_{p,cleanboil,y}) ] * W_{p,y}</math></p> <p>Where:</p> <p><math>B_{p,y}</math> : Quantity of fuel consumed in project scenario p during the year y in tons</p> <p><math>Q_{p,cleanboil,y}</math> : Quantity of safe water boiled in the project scenario p per person per day</p> <p><math>W_{p,y}</math> : Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water per day using technologies representative of the project scenario p during project year y</p> <p><b>e) SDG 15 – Life on Land:</b> - In the project scenario, the amount of fuelwood used to boil water been determined using usage surveys which was found to be 0 Tonnes of wood since people reported discontinuation of boiling practice, after the implementation of the project activity. The project activity leads to avoidance of wood fuel burning to boil water, which was a common practice in baseline scenario, during the current monitoring 1121.03 tonnes of wood is saved per system per annum, by the WPP supplying safe drinking water.</p> <p>The calculation provided as a sample in MR/4/ has been reviewed and is found consistent with actual calculations applied in ER calculation sheet/5/. The calculations presented in the Monitoring Report/4/ and the corresponding ER sheet/5/ were found appropriate and complying with provisions prescribed in the registered monitoring plan of the PDD/1/ and applied methodology/6/.</p>
<p><b>Findings</b></p>	<p>No findings were raised.</p>
<p><b>Conclusion</b></p>	<p>The verification team verified that:</p> <ul style="list-style-type: none"> <li>• A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.6.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet/5/ of final Monitoring Report/4/.</li> <li>• The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.2 of this report.</li> <li>• The calculations of baseline emissions as presented in the corresponding ER calculations sheet/5/ of final Monitoring Report/4/ were checked and found to be consistent with the formulae and methods described in the registered monitoring plan of the PDD/1/ and applied methodology/6/.</li> <li>• All assumptions used in the emission calculations were found appropriate and therefore justified.</li> <li>• Appropriate emission factors, IPCC default factors/32/ and other reference values have been correctly applied. This has also been elaborated under Section E.6.2 of this report.</li> </ul>

	<ul style="list-style-type: none"> <li>No standardized baseline was prescribed in the registered PDD/1/.</li> </ul>
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**E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removal by sinks.**

<b>Means of verification</b>	The GS PDD/1/, and applied monitoring methodology/6/ does not prescribe any project emissions to be considered. The on-site visit/31/ conducted, and project design also did not reveal any potential source to be considered in this regard.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	<p>The verification team verified that:</p> <p>a) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.6.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet/5/ of final Monitoring Report /4/.</p> <p>b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.2 of this report.</p>

**E.8.3. Calculation of leakage GHG emissions**

<b>Means of verification</b>	The GS PDD/1/, prescribes a leakage assessment every two years. The leakage assessment was conducted during validation as confirmed through PDD/1/and is due until end of second year of crediting period i.e., 2024 and shall be undertaken in the next verification. Thus, the assessment is not required during the current verification.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The verification team verified that the information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.2 of this report.

**E.8.4. Comparison of actual SDG impacts with estimates in approved PDD**

<b>Means of verification</b>	<p>The table below gives a comparison between the values estimated in the revised PDD/1/ and the values achieved during the current monitoring period in the MR/4/.</p>		
	<b>SDGs Target &amp; Impact</b>	<b>Values estimated in ex ante calculation of approved PoA-DD for this monitoring</b>	<b>Actual values achieved during this monitoring period</b>

		period	
	SDG 13 Climate Action	590,307 tCO2e	247,561 tCO2e
	SDG 4 – Quality Education	200 number	281 number
	SDG 6 Clean Water and Sanitation	100%	100%
	SDG 8 Decent Work and Economic Growth	8.5.1 - 300 peoples 8.6.1 – 20 training sessions	8.5.1 - 160 peoples 8.6.1 – 9 training sessions
	SDG 15 Life on Land	1230.78 Tonnes of wood per annum per system	1121.03 Tonnes of wood per annum per system
<p>As per registered PDD 590,307 tCO2e was expected to be reduced within the time frame of 09/11/2022 to 08/11/2023 (both days inclusive)/1/. However, based on monitoring data, actual emission reductions so far are only 247,561 tCO2e during this monitoring period.</p>			
		Monitoring period	Amount (Tco2e)
		09/11/2022 to 31/12/2022	36,282
		01/01/2023 to 08/11/2023	211,279
		<b>Total</b>	<b>247,561</b>
<p>The actual SDG targets against the anticipated values in the PDD is lower for all the SDGs as tabulated above.</p>			
<b>Findings</b>	No findings were raised.		
<b>Conclusion</b>	The actual emission reductions achieved in the current monitoring period for the PA is lower than the emission reductions as well as for other SDG targets stated in the PDD/1/. Therefore, it has been accepted by the verification team.		

**E.8.5. Calculation of net benefits or direct calculation for each SDG Impact**

Means of verification	SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
	SDG 13	GHG Emission Reduction	247,561 tCO2e	0 tCO2e	247,561 tCO2e
SDG 4	Quality Education	0	281	281	
SDG 6	Clean water and Sanitation	0	100 %	100 %	
SDG 8	Decent Work and Economic Growth	0	160	160	

		Unit: Number of people employed/year			
	SDG 8	Decent Work and Economic Growth Unit: Number of training sessions/year	0	9	9
	SDG 15	Percentage of users reported fuelwood eq savings in the project scenario	0%	100%	100%
<p>The calculation methods applied for all the SDG impacts were checked with PDD/1/ and MR/4/. The verification team confirms that the stated figures were checked and found acceptable.</p>					
<b>Findings</b>	No findings were raised.				
<b>Conclusion</b>	<p>The verification team confirms that:</p> <ul style="list-style-type: none"> <li>a) The complete data was available and is duly reported.</li> <li>b) As indicated above, the description with regard to cross-check of reported data is included under respective Parameter (refer - 'Data and Parameters monitored' section of this report);</li> <li>c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed.</li> <li>d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied.</li> <li>e) There is no pro-rata approach that was applied in the current monitoring period as the entire monitoring period falls into a period that is after the end of first commitment period of Kyoto Protocol. The total number of VERs achieved during the current monitoring period is 247,561 tCO<sub>2</sub>e.</li> </ul>				

**E.8.6. Remarks on difference from estimated value in registered PDD**

<b>Means of verification</b>	The Monitoring Report/4/ and corresponding ER calculations sheet/5/, show that the actual emission reductions achieved from the WPP during this monitoring period are less than the estimates provided in GS PDD/1/, thus no further justification was sought.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	No justification was sought from the PD because the achievement of emission reductions was lower than what had been estimated.

**E.9. Safeguards Reporting**

Not applicable

**SECTION F. Stakeholder Inputs and Legal Disputes**

**F.1.1. Assessment of all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.**

<b>Means of verification</b>	The PD has provision of grievance mechanism in place so as to capture the inputs or comments from the stakeholders as confirmed during the on-site audit/31/. A grievance expression process book/29/ has been placed at project location to allow the stakeholders to share their feedback. The end users have also been provided with the contact numbers of the project implementer of Bangladesh to submit their grievances. This is deemed appropriate and acceptable to the verification team.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	There were no grievances received and no negative feedback reported in the grievance logbook for the current monitoring period. Hence, the evidence was accepted by the verification team.

**F.1.2. Report on any stakeholder mitigations that were agreed to be monitored**

<b>Means of verification</b>	There were no stakeholder mitigations that were agreed to be monitored during the current monitoring period.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The assessment team concluded that no stakeholder mitigations were agreed by the PD to be monitored during the current monitoring period.

**F.1.3. Details of any legal contest that has arisen with the project during the monitoring period**

<b>Means of verification</b>	There were no legal disputes during the current monitoring period.
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The assessment team concluded that there were legal disputes during the current monitoring period.

**Section F. Internal quality control**

The draft verification report prepared by assessment team is reviewed by an independent Technical Review team (one or more members) to confirm if the internal procedures established and implemented by Earthood were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable GS4GG and CDM principles and requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

During the technical review process additional findings may be identified or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for

issuance is submitted to Gold Standard. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized on behalf of Earthood Services Private Limited.

**Section G. Verification opinion**

Earthood Services Private Limited (Earthood) has performed the independent verification of the emission reductions for the GS Project Activity (GS 11075) “Solar water filtration units for rural areas in coastal Bangladesh” for the monitoring period 09/11/2022 to 08/11/2023, as reported in the Monitoring Report, version 3.0, dated 13/05/2024. BBF is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. Earthood commenced the verification against the baseline and monitoring methodology, Technologies and Practices to Displace Decentralized Thermal Energy Consumption”- Version 3.1/6/, the monitoring plan contained in the registered PDD/1/, and Monitoring Report version 3.0/4/, dated 13/05/2024.

VVB’s verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The verification team confirms that:

- The PA was found completely implemented as per the description given in the registered PDD.
- The actual operation conforms to the description in the registered PDD.

**Section H. Certification statement**

Earthood’s verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that the reported GHG emission reductions are fairly stated.

In our opinion, the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report version 3.0, dated 13/05/2024 Earthood, based on outcome of verification activities, certifies in writing that, during the current monitoring period from 09/11/2022 to 08/11/2023, the registered GS Project Activity (GS 11075) “Solar water filtration units for rural areas in coastal Bangladesh” achieved the verified amount of 247,561 tCO2e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the PA.

The verified amount of emission reductions is stated below as per implemented PA and as per commitment period:

Monitoring period	Amount (Tco2e)
09/11/2022 to 31/12/2022	36,282
01/01/2023 to 08/11/2023	211,279
<b>Total</b>	<b>247,561</b>

## Appendix-1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Level
CAR	Corrective Action Request
CDM PCP	Clean Development mechanism Project Cycle Procedure
CDM PS	Clean Development mechanism Project Standard
CDM VVS	Clean Development mechanism Validation and Verification Standard
CER	Certified Emission Reduction
CH4	Methane
CL	Clarification Request
PD	Coordinating and Managing Entity
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CO2	Carbon dioxide
CPA	Component Project Activity
CP	Crediting period
DNA	Designated National Authority
EB	Executive Board
ER	Emission Reductions
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG	Gold Standard for Global Goals
GPS	Geographical Positioning System
IR	Internal Resource
IPCC	Intergovernmental Panel on Climate Change
Kg	kilogram
KPT	Kitchen Performance Test
MR	Monitoring Report
NCV	Net Calorific Value
PDD	Project Design Document
PD	Project Developer
QA/QC	Quality Assurance/ Quality Control
TA	Technical Area (with in Sectoral Scope)
TR	Technical Review/er
TJ	Terra Joule
VCR	Verification and Certification report
VER	Verified Emission Reduction
VVS	Validation and Verification Standard
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
VVB	Validation and Verification Body
UNFCCC	United Nation Framework convention on Climate change
WPS	Water Purification System
WPP	Water Purification Plant

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

Competence Statement	
Name	Anjali Chaudhary

<b>Education</b>	Bachelor of technology in Civil Engineering		
<b>Experience</b>	8 months		
<b>Field</b>	Civil Engineering		
<b>Approved Roles</b>			
<b>Team Leader</b>	No		
<b>Validator</b>	Yes		
<b>Verifier</b>	Yes		
<b>Methodology Expert</b>	No		
<b>Local expert</b>	No		
<b>Financial Expert</b>	No		
<b>Technical Reviewer</b>	No		
<b>TA Expert (X.X)</b>	No		
<b>Reviewed by</b>	Shifali Guleria (Quality Manager)	<b>Date</b>	09/01/2023
<b>Approved by</b>	Deepika Mahala (Technical Manager)	<b>Date</b>	09/01/2023

<b>Competence Statement</b>			
<b>Name</b>	Shifali Guleria		
<b>Education</b>	M.Sc. (Environmental Studies and Resource Management), TERI University		
<b>Experience</b>	3+ year		
<b>Field</b>	Climate Change		
<b>Approved Roles</b>			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)		
<b>Local expert</b>	YES		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (1.2, 3.1)		
<b>Reviewed by</b>	Deepika Mahala	<b>Date</b>	18/02/2022
<b>Approved by</b>	Ashok Gautam	<b>Date</b>	18/02/2022

<b>Competence Statement</b>			
<b>Name</b>	Vardhan Kaushik		
<b>Education</b>	Master of Chemical Engineering B.Tech. in Chemical Engineering		
<b>Experience</b>	1 year and 9 months		
<b>Field</b>	Consultation – Energy, Carbon Calculation, Process Integration, Heat Integration, Heat and mass balance		
<b>Approved Roles</b>			
<b>Team Leader</b>	NO		
<b>Validator</b>	NO		

<b>Verifier</b>	NO		
<b>Methodology Expert</b>	NO		
<b>Local expert</b>	NO		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	NO		
<b>TA Expert (X.X)</b>	NO		
<b>Trainee</b>	YES		
<b>Reviewed by</b>	Shifali Guleria (Quality Manager)	<b>Date</b>	23/02/2024
<b>Approved by</b>	Deepika Mahala (Technical Manager)	<b>Date</b>	23/02/2024

<b>Competence Statement</b>			
<b>Name</b>	Deepika Mahala		
<b>Country</b>	India		
<b>Education</b>	M. Sc. (Environment Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU		
<b>Experience</b>	7 Years +		
<b>Field</b>	Climate Change		
<b>Approved Roles</b>			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G, AMS-II.C		
<b>Local expert</b>	YES (India, Bangladesh)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (TA 1.2 & TA 3.1)		
<b>Reviewed by</b>	Shifali Guleria (QM)	<b>Date</b>	28/04/2022
<b>Approved by</b>	Kaviraj Singh (MD)	<b>Date</b>	28/04/2022

### Appendix 3. Documents reviewed or referenced

No	Title	References to the document	Provider
1.	PDD	Version 6.0 Dated 23/01/2023	PD
2.	Validation Report	Version 3.0 Dated 01/02/2023	PD
3.	Monitoring report and template Guide	Version 1.1, published on 14/10/2020	Others
4.	Monitoring report	Version 3.0 Dated 13/05/2024	PD
5.	ER calculation sheet consisting of a) Installation Database b) Monitoring survey c) Sample size calculator d) WQT results e) Beneficiary database	Version 4.0 Dated:03/06/2024	PD
6.	GS Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption	Version 3.1 Dated 25/08/2017	Others
7.	GS4GG Validation and Verification Standard	Version 1.0	Others
8.	Site visit and Remote audit requirements and procedures	Version 2.0	Others
9.	Principles and requirements	Version 1.2	Others
10.	GS4GG Community Services Activity Requirements	Version 1.2	Others
11.	GS4GG GHG Emission Reductions and Sequestration Product Requirements	Version 2.1	Others
12.	Stakeholder consultation and engagement requirements	Version 2.1 Dated 14/06/2022	Others
13.	Standard for Sampling and Surveys for CDM project activities and programmes of activities	Version 9.0	Others
14.	Guidelines for sampling and survey for project activity and Programme of activities and programmes of activities	Version 4.0	Others
15.	Plant Maintenance Plan	-	PD
16.	Installation Database sheet	-	PD
17.	Random sample generation records	-	PD
18.	Monitoring survey record forms	Sept 2023	PD
19.	WQT reports a) Beneficiary report b) Dispenser report c) Plant report	July – August 2023	PD
20.	End-user agreement samples	Various	PD
21.	Start date declaration	27/01/2023	PD
22.	No calibration requirement confirmation for flow meters by Rural sun power for	14/09/2022	PD

	a) model 2022-07 of brand M.B water meter b) model 21V of brand Amico Meter		
23.	Capacity declaration for 123 WPP by BBF	20/12/2023	PD
24.	Water Quality Testing Protocol 2015 by WaterAid Bangladesh	January 2015	PD
25.	Water quality parameters: allowable limits by Department of Public Health Engineering, Dhaka	-	PD
26.	Academic calendars	2022 & 2023	PD
27.	Training records and attendance sheets for engineers and caretakers	Various	PD
28.	Employment declaration for 160 people under GS11075 by BBF	08/11/2023	PD
29.	Grievance Expression Process book	-	PD
30.	Design review feedback form	-	PD
31.	On-site audit records	13/12/2023 to 14/12/2023	VVB
32.	2006 IPCC Guidelines for National Greenhouse gas Inventories 2.1 <a href="https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf</a>	Volume 2	Others
33.	Hygiene Awareness Campaign Report	-	PD
34.	Multiple indicator cluster survey 2019 <a href="https://www.unicef.org/bangladesh/media/3281/file/Bangladesh%202019%20MICS%20Report_English.pdf">https://www.unicef.org/bangladesh/media/3281/file/Bangladesh%202019%20MICS%20Report_English.pdf</a>	-	Others
35.	CDM project standard for project activities	Version 3.0	Others
36.	List of least developed countries by UNFCCC <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>	-	Others
37.	Sample receipts	Various	PD
38.	MoU between BBF and Value Network Venture Advisory Services Pte. Ltd for carbon rights transfer.	01/01/2022	PD
39.	MoU was signed between following: a. Sustainable and Renewable Energy Development Authority (SREDA) under Ministry of Power Bangladesh; b. Department of Public Health Engineering (DPHE) under Ministry of Local Government, Rural Development and Cooperatives; and c. Bangladesh Bondhu Foundation (BBF)	14/02/2022	PD

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

**Table 1. Remaining FAR from validation**

<b>FAR ID</b>	01	<b>Section no.</b>	E.3	<b>Date :</b> 05/01/2024
<b>Description of FAR</b>				
The project ownership rights, and carbon credit ownership rights shall be cross checked during first verification of the project activity which shall be also checked to all parties involves such as O&M party, technology supplier, end users etc.				
<b>Project participant response</b>				<b>Date :</b> 24/01/2024
The VERs generated in this project are transferred directly to BBF (PP) by the project beneficiaries via an end user agreement. Refer to the sample end user agreement, clause #7, which confirms the same. The plant operators and engineers are directly employed by BBF and are not external, eliminating the need for additional ownership waivers.				
<b>Documentation provided by project participant</b>				
Sample end user agreement				
<b>VVB assessment</b>				<b>Date:</b> 22/02/2024
VVB has reviewed the sample end-user agreements shared by the CME and confirms that the beneficiaries have signed the carbon waiver agreement in favor of BBF which establishes clear ownership of BBF over the VERs generated by the project activity. These rights are further transferred to Value Network Venture Advisory Services Pte. Ltd by BBF and a MoU is in place between the two parties. Thereby confirming that the final ownership lies with Value Network Venture Advisory Services Pte. Ltd. Thus, the finding is closed				
<b>FAR ID</b>	02	<b>Section no.</b>	E.3	<b>Date :</b> 05/01/2024
<b>Description of FAR</b>				
The technology of the project as discussed in the PDD shall be cross checked during first verification of the project activity				
<b>Project participant response</b>				<b>Date :</b> 24/01/2024
The project technology implemented is as described in the registered PDD. During the first verification, the VVB made physical site visits to project plants and confirmed via visual inspection, interviews with plant operators and document review that the project technology matches the technology description in the registered PDD.				
<b>Documentation provided by project participant</b>				
NA				
<b>VVB assessment</b>				<b>Date:</b> 22/02/2024
The technology installed has been described under section B.1 of the monitoring report in line with the registered PDD. The assessment team physically inspected the treatment plants on sampling basis and confirmed that the technology installed is in line with that described in the PDD and MR. Interviews with caretakers and beneficiaries were conducted to confirm the operating procedures of the plant and no discrepancy was observed. Thus, the finding is closed				
<b>FAR ID</b>	03	<b>Section no.</b>	E.3	<b>Date :</b> 05/01/2024
<b>Description of FAR</b>				
The start date of the project activity shall be cross checked by the verification team during first verification of the project activity.				
<b>Project participant response</b>				<b>Date :</b> 24/01/2024

The 123 Water Purification Plants (WPP) under the aforesaid project were restored and/or retrofitted and were rendered operational before 09/11/2022. Subsequently, rigorous test-runs were conducted to ensure delivery of water at each dispensing point and confirm if the pumps provide adequate pressure to ensure fast movement and no queueing at the dispensing points. After these test runs, all the systems were deemed fit for water supply to the beneficiaries with the first water delivery to project beneficiary commencing on 09/11/2022. Thus, the official start date of the project has been considered as 09/11/2022 for all purposes.  
The declaration by the PP in this regard is being submitted for the VVB’s perusal.

**Documentation provided by project participant**

Start Date Declaration by PP

**VVB assessment** **Date:** 22/02/2024

The PP has provided a declaration to confirm that the start date of project activity is 09/11/2022, this is the date when all the units included under the project activity were functional. The installation database consistently records 09/11/2022 as the start date. The VVB confirmed through interview with the beneficiaries and caretakers that the sampled WPP was operational by 09/11/2022 and recorded a positive response. Thus, the finding is closed

<b>FAR ID</b>	04	<b>Section no.</b>	E.5	<b>Date :</b> 05/01/2024
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**Description of FAR**

1. The implementation framework of the project specially the roles and responsibilities of agencies involved need to be verified during first verification of the project in line with the descriptions provided in the PDD.
2. The project involves pumping of saline water for purification. The verifier shall cross check adequate licenses obtained by project developer to extract or pump water for purification under the project activity

**Project participant response** **Date :** 24/01/2024

1. As defined in the registered PDD in section A.3, the management committee has been duly formed including BBF representatives, Union Parishad representatives etc. the MC along with BBF have appointed engineers and operators to maintain the project systems. During the on-site audit, the VVB team interviews the representatives of BBF and representatives of Union Parishad, as well as interviewed the engineers and plant operators to confirm that the implementation framework of the project is as described in the registered PDD.
2. The project involves pumping of intake waters from nearby surface ponds that primarily contain rainwater. No specific pumping license is needed to pump water from backyard surface water bodies to the project treatment plants and its subsequent distribution to beneficiaries.

**Documentation provided by project participant**

NA

**VVB assessment** **Date:** 22/02/2024

1. The assessment team interviewed the PP representatives to confirm the roles and responsibility of the involved parties and confirmed that the BBF is responsible for the implementation of the project activity and is also the owner of VERs generated, this is in line with the description in PDD.
2. The assessment team consisting of Local expert confirmed that no such license requirement is in place in the host country. The onsite observations and interviews confirmed that the WPPs are treating water from nearby sources and no objects have been raised by any authorities on the usage of the same.  
Thus, the findings are closed.

<b>FAR ID</b>	05	<b>Section no.</b>	E.5	<b>Date :</b> 05/01/2024
<b>Description of FAR</b>				
A maintenance plan and technical documents of water system components for each water treatment system to be in place once a plant is put in operation and to be followed to ensure the continuation of the plant in the project.				
<b>Project participant response</b>				<b>Date :</b> 24/01/2024
The maintenance plan is publicly displayed at each of the project power plants. The same was verified by the VVB during the physical on-site audit of the project plants during verification. Also, the VVB team conducted interviews with the plant engineers and operators to confirm that they have the adequate skill and knowledge to operate the plant. Additionally, the project records (plant logs, metering records etc.) provided enough objective evidence to the VVB team against the continuity of project plant operations.				
<b>Documentation provided by project participant</b>				
Maintenance plan of the plant				
<b>VVB assessment</b>				<b>Date:</b> 22/02/2024
The assessment team has verified the flow meter records to ensure the continuous operation of the plant, interviews with beneficiaries and caretakers (who are from local community as well) were conducted to verify if the plant was out of order during the current MP and such breakdowns were reported. The plant maintenance plan was available on site and the same has been provided by the PP. Thus, the finding is closed.				

**Table 2. CL from this verification**

<b>CL ID</b>	01	<b>Section no.</b>	E.6.2.1	<b>Date :</b> 05/01/2024
<b>Description of CL</b>				
The monitoring frequency for the parameter "Quality of treated water" is mentioned as at least once before first verification in the MR, however the water quality testing requirement as per the applied methodology states that: "Water quality testing: Water quality must be tested every quarter, with the first test within 6 months of the stated project start date. In addition, PPs shall ensure that water quality is tested at least once during seasons where there is a high chance of contamination, for example, the rainy season. Local non-accredited laboratories can do the quarterly water quality testing. However, at least once every two years, accredited laboratories must perform the water quality testing." <ul style="list-style-type: none"> <li>a) PP shall clarify how the applicable requirements of frequency of monitoring of the parameter are met and mention the same.</li> <li>b) Please clarify the accreditation status of the testing laboratory, if local labs is conducting the testing, the testing protocol should be provided to the VVB</li> </ul>				
<b>Project participant response</b>				<b>Date :</b> 24/01/2024

Due to retroactivity of project design certification, it was not possible to have the water quality test (WQT) done within 6 months of project start date. This point was specifically discussed during the design certification review of the project (refer Comment Request #5; Point#12 of the final design review feedback form). According to the same, the project’s approach of conducting the WQT at least once before 1<sup>st</sup> verification and thereafter quarterly has been reviewed and approved by Gold Standard. In the Project, the WQTs for all the sampled households/dispenser/plant were completed by 18/08/2023, before the 1<sup>st</sup> verification site visit in Dec 2023, as per the registered monitoring plan.

As a conservative measure, the PP conducted the WQTs in the month of July – August 2023 which falls in the rainy season in Bangladesh. Moving forward, the PP will conduct WQTs every quarter starting from 09/11/2023 by local laboratories and at least once by the nationally accredited laboratory by 08/11/2025 (refer Comment Request #5; Point#12 of the final design review feedback form). The local labs employed for water quality testing were properly equipped with the testing personnel holding required competencies. This was verified by the VVB during the on-site visit to the local laboratory and interviews of the laboratory personnel e.g. tester, sample collector etc. at the time of the audit.

The testing protocols are being submitted.

**Documentation provided by project participant**

Testing protocols for conducting the WQTs

**VVB assessment**

**Date:** 22/02/2024

The assessment team has confirmed that the WQT protocols have been duly adhered to by the third-party laboratory conducting the test. VVB has reviewed the test reports and confirms all the WPPs are supplying adequate safe water. The requirement to conduct the WQTs before first verification has been met as confirmed from the reports dated August 2023. The clarification provided on the frequency of the WQT has been confirmed from the preliminary review feedback form, since the same has been approved by GS no further justification was sought. Thus, the finding is closed.

<b>CL ID</b>	02	<b>Section no.</b>	E.5	<b>Date :</b> 05/01/2024
<b>Description of CL</b>				
The installation database as well as the Monitoring survey sheet does not consist of GPS coordinates. PP is requested to share the KML file.				
<b>Project participant response</b>				<b>Date :</b> 24/01/2024
There is no specific requirement to capture / report the GPS coordinates of the project plants as per the registered monitoring plan.				
<b>Documentation provided by project participant</b>				
NA				
<b>VVB assessment</b>				<b>Date:</b> 22/02/2024
The VVB has reviewed the WPS location details on sampling basis during onsite visit and confirms that no discrepancy was observed from the records, and the WPS are installed within the project boundary. Thus, the finding is closed.				

**Table 3. CAR from this verification**

<b>CAR ID</b>	NA	<b>Section no.</b>		<b>Date :</b> DD/MM/YYYY
<b>Description of CAR</b>				
NA				
<b>Project participant response</b>				<b>Date :</b> DD/MM/YYYY

<b>Documentation provided by project participant</b>	
<b>VVB assessment</b>	<b>Date:</b> DD/MM/YYYY

**Table 4. FAR from this verification**

<b>FAR ID</b>	<b>NA</b>	<b>Section No.</b>	<b>Date : DD/MM/YYYY</b>
<b>Description of FAR</b>			
NA			
<b>Project participant response</b>			<b>Date : DD/MM/YYYY</b>
NA			
<b>Documentation provided by project participant</b>			
NA			
<b>VVB assessment</b>			<b>Date:</b> DD/MM/YYYY
NA			