


<b>Verification report form for GS project activities</b>	
<b>VERIFICATION REPORT</b>	
<b>Title of the project activity</b>	Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia
<b>Reference number of the project activity</b>	GS1020 TN P-No. : 8003043623-22/023
<b>Version number of the Verification report</b>	3.0
<b>Completion date of the Verification report</b>	11/10/2022
<b>Monitoring period number and duration of this monitoring period</b>	CP2 MP 4 <sup>th</sup> 01/01/2021-31/12/2021 (Including both days)
<b>Version number of monitoring report to which this report applies</b>	5.0
<b>Crediting period of the project activity corresponding to this monitoring period</b>	2 <sup>nd</sup> crediting period 01/12/2017 to 30/11/2024
<b>Project Developer (s)</b>	Hydrologic Social Enterprise, Ltd.
<b>Host Party</b>	Kingdom of Cambodia
<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>Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)</b>	Scope: 3 / Technical area: 3.1 GS Methodology: "Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 3.0", July 2015
<b>Product Requirements applied</b>	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A
<b>SDG Contributions targeted (as per approved PDD)</b>	Goal 1: No Poverty Goal 3: Good Health and Well-Being Goal 5: Gender Equality Goal 6: Clean Water and Sanitation Goal 7: Affordable and Clean Energy Goal 8: Decent work and economic growth Goal 13: Climate Action Goal 15: Life on Land

<b>Estimated amount of annual average certified SDG impact (as per approved PDD)</b>	SDG1(a): 59,075 t biomass save/year SDG1(b): 853 t LPG save/year SDG1(c): 88.20% of household noted on money save SDG1(d): 89.60% of household noted on time save SDG3: 686,674 people noted less smoke in kitchen SDG5: 321,910 women and girls benefit from stop boiling water SDG6: 751,284 people access to safe drinking water SDG7: 926 TJ of energy save/year SDG8: 105 staff employed/year SDG13: 84,427 tCO <sub>2</sub> e/year SDG15: 364 ha of forest save/year
<b>Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period</b>	SDG1(a): 49,126 t biomass save/year SDG1(b): 621 t LPG save/year SDG1(c): 87.30% of household noted on money save SDG1(d): 91.77% of household noted on time save SDG3: 536,868 people noted less smoke in kitchen SDG5: 203,476 women and girls benefit from stop boiling water SDG6: 588,026 people access to safe drinking water SDG7: 766 TJ energy save/year SDG8: 82 staff employed/year SDG13: 84,820 tCO <sub>2</sub> e/year SDG15: 302 ha of forest save/year
<b>Name of VVB</b>	TÜV NORD CERT GmbH
<b>Name, position and signature of the approver of the Verification report</b>	Christina Stöhr  Final Approver

## SECTION A. Executive summary

Hydrologic Social Enterprise, Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the Gold Standard for the global goals (GS4GG) 4<sup>th</sup> periodic verification for 2<sup>nd</sup> crediting period of the project:

### **“Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia”**

with regard to the relevant Gold Standard for the global goals (GS4GG) requirements.

This verification covers the period from 01/01/2021 to 31/12/2021 (including both days).

Via checking the sales record<sup>/SR/</sup> and call interview with end users, it is confirmed that the project involves production and distribution of Ceramic water Purifiers (CWP) in Cambodia. Access to potable water in Cambodia (Host country) in villages is a common problem and people living in villages are boiling the available water (i.e. ponds, dug wells, bore wells) for drinking and cooking purpose (for safe consumption purpose). While boiling water, people use various fuels i.e. forest wood, LPG and coal which has been verified by call interview with CWP users. The objective of the project is to reduce / eliminate the water boiling practice and thereby reduce the CO<sub>2</sub> emissions due to usage of fossil fuel.

Ceramic filtration is the use of porous ceramic (fired clay) to filter microbes or other contaminants from drinking water. Pore size can be made small enough to remove up to 99.99% bacteria. Produced locally, the ceramic pot-style filters have the advantages of being lightweight, portable, relatively inexpensive, and chemical free, low-maintenance, effective, and easy to use.

Through the use of a clay and rice husk mixture combined with the application of silver nitrate, Hydrologic’s filters provide for removal of microorganisms from water by gravity filtration through porous ceramics, with typical flow rates of 2-4.5 liters per hour. CWPs cool the treated water through evapotranspiration and, used with a proper storage receptacle, as provided by Hydrologic safely stores water for use. The ceramic filter surface is regenerated through regular scrubbing to reduce surface deposits.

Hydrologic Enterprise Ltd. is producing a ceramic filter from the clay locally available to filter the water. This is the well-known ancient technology and is improvised by Hydrologic to enhance the filtration rate. Hydrologic has a full-fledged factory situated in Trapeang Samrong Village<sup>/BL/</sup>, where these filters are produced utilising local skilled and unskilled workers. By implementing the project Hydrologic has provided an opportunity for local community to generate steady and continual income for their livelihood.

Hydrologic has introduced three models (new one model added since this monitoring period) as given below along with the specifications<sup>/CWPS/</sup>. PP has provided detailed specifications along with pictures of CWP’s in the PDD section A.3. The actual production and dissemination is found in accordance with the specifications provided in the approved 2<sup>nd</sup> Crediting Period PDD. Verification team herewith confirms that the specifications of Ceramic water Purifiers (CWP) are the same as provided in the following table A-1. There is no deviation / change evidenced during this monitoring period.

Hydrologic Social Enterprise Ltd. has so far distributed total 490,896 units of ceramic filters in different provinces of host country cumulatively since the project start date (01/12/2010), and 38,645 units during this monitoring period from 01/01/2021 to 31/12/2021, which is verified by checking the sales record<sup>/SR/</sup> and project database<sup>/PD/</sup>. Furthermore, for the usage of the CWP status, PD has considered that usage rate calculation does not account the retired units i.e. units with age more than 5 years. Hence, VVB confirmed that the project technologies were working within their useful lifetime during the monitoring period and the technologies which were not within lifetime have been removed from the project ER calculation and no longer credited.

The emission reductions achieved during this monitoring period are **84,820 tCO<sub>2</sub>e<sup>/XLS/</sup>**.

The starting date of operation of the project activity was 01/12/2010, when production of CWPs for the crediting period began which has been confirmed in the PDD and validation report<sup>/VAL,/PDD/</sup>. The Ceramic Water Purifiers are sold throughout the Kingdom of Cambodia and are installed progressively during the crediting period, which has been confirmed in the approved 2<sup>nd</sup> Crediting Period Validation Report<sup>/VAL/</sup> and sales record<sup>/SR/</sup> and previous verification report<sup>/VER/</sup>.

As per the remote audit which was carried out as per the “GS4GG Site Visit and Remote Audit Requirements and Procedures” version 1.0<sup>/SVRARP/</sup> by checking the questionnaires filled by end users and by interview with PP and staffs in office, field and factories (refer to the filled “T-VVB\_V.1.0-Audit-Techniques”<sup>/AT/</sup> for detail techniques used), the Verification Team was able to confirm that the project implementation is in accordance with the project description contained in the approved 2<sup>nd</sup> crediting period PDD.

The project was registered as a GS-VER project on 08/08/2012 with the registration number of GS1020. According to the approved 2<sup>nd</sup> Crediting Period Validation Report report<sup>/VAL/</sup> and previous verification report<sup>/VER/</sup>, the project participant has adopted for the renewable crediting period of 21 years with the start date of 01/12/2010.

Details of the project location are given in table A-1 below:

**Table A-1: Project Location**

No.	Project Location
Host Country	Kingdom of Cambodia
CWP Distribution Region:	All the provinces in Cambodia
Factory address:	Trapeang Samrong Village, Sub-district of Longveak, District of Kompong Tralach, Province of Kompong Chnang
Latitude:	11.8504° N
Longitude:	104.7419° E

Basic technical details of the project are summarized in table A-2.

**Table - A-2: Technical data of the CWP**

Model	Tunsai CWP <sup>/CWPS/</sup>	Super Tunsai CWP <sup>/CWPS/</sup>	Tunsai Autofill CWP <sup>/CWPS/</sup>
Filter Element Type	Ceramic Clay Pot	Ceramic Clay Pot	Ceramic Clay Pot
Filter Capacity (Volume)	Approx. 10 L	Approx. 10 L	Approx. 10 L
Filter Capacity (flow)	Typically – 2-4.5 L/Hr Typically – 30L/Day	Typically – 2-4.5 L/Hr Typically – 30L/Day	Typically – 2-4.5 L/Hr Typically – 30 L/Day
Receptacle Type	Closed safe storage food grade plastic receptacle	Closed safe storage food grade plastic receptacle	Closed safe storage food grade plastic receptacle
Receptacle Storage Capacity (Volume)	Approx. 12 L	Approx. 14 L	Approx. 18 L
Spigot Type	Plastic	Plastic	Plastic
Plastic Type	Food Grade Polypropylene	Food Grade Polypropylene	Food Grade Polypropylene

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 and latest approved project design document.
- the monitoring plan is in accordance with the applied approved GS methodology, i.e., Technologies and Practices to Displace Decentralized Thermal Energy Consumption - version 3.0, July 2015.
- Installed equipments being essential for generating emission reduction run reliably and are calibrated appropriately.

- Installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring report is in accordance with the relevant GS4GG Principles&Requirements<sup>/GSPR/</sup>.
- The project contributes to sustainable development goals (SDG).
- The monitoring system is in place and functional.
- The project has generated GHG emission reductions.

As the result of the GS 4<sup>th</sup> periodic verification for 2<sup>nd</sup> crediting period (CPII), the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

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

### B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader (also verifier)	EI	ZHAO	Xuejiao (Fancy)	-	x		x	x
2.	Team Member (Local Expert)	EI	KHOUTH	Sochampawatd (Awatd)	-			x	

### B.2. Technical reviewer and approver of the Verification 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	EI	Lubanga	David	-
2.	Approver	IR	Stöhr	Christina	TÜV NORD CERT GmbH

## SECTION C. Application of materiality in conducting the verification

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

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	<i>Sample</i>	<i>Medium</i>	<i>Sample size is not suitable; or the surveyed end users in the</i>	<i>1. Cross-check the procedure to identify the sample size against the sample guideline and standard, and confirm the sample size is calculated correctly, and chose in a conservation</i>

			<i>project level are not random</i>	<i>approach, compared calculated result of sample size. Furthermore, the relative error of the sample results is lower and the statistical quality is sufficient.</i> 2. <i>Using a central online platform, the PP determined the end users to be included in the sampling using a simple random approach and submits the end users references to the local data collectors.</i> 3. <i>VVB conducted a random sample following the sample standard during interview call, interview 45 end users who are partial sourced from the sample survey conducted by PP. Based on the result of acceptance sampling, the monitoring records are deemed acceptable.</i>
2	<i>Data management and Human errors</i>	<i>Low</i>	<i>Typographic errors in the spreadsheets and Human error is likely to occur if the monitoring personnel are not trained well or inexperienced in data recording procedures while recording.</i>	4. <i>Require the PP to assess all the data again and confirm that no further errors are made.</i> 5. <i>All the staff are well trained and required to complete the simulated test and ensure each trainee are qualified to undertaken users' survey</i> 6. <i>The hand-written survey records are checked and the data are randomly compared with data in database for the consistency.</i> 7. <i>Data quality controlled by PP, there are certain steps to ensure the data quality and consistency.</i>

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

### Materiality Threshold

The verification is based on the materiality threshold identified in table below:

	<b>Threshold</b>	<b>Related to</b>
<input type="checkbox"/>	<b>0.5 %</b>	<b>Emission reductions or removals for registered GS project activities achieving a total emission reduction or removal equal to or more than 500,000 tonnes of carbon dioxide equivalent per year<sup>1</sup>;</b>
<input type="checkbox"/>	<b>1 %</b>	<b>Emission reductions or removals for registered GS project activities achieving a total emission reduction or removal of between 300,000 and 500,000 tonnes of carbon dioxide equivalent per year;</b>
<input checked="" type="checkbox"/>	<b>2 %<sup>2</sup></b>	<b>Emission reductions or removals for registered large-scale GS project activities achieving a total emission reduction or removal of 300,000 tonnes of carbon dioxide equivalent per year or less;</b>

<sup>1</sup> A year refers to a period of 12 consecutive months.

<sup>2</sup> The project is registered as small scale originally but in CP1-MP3, it have been upgraded to large-scale, so 2% is selected accordingly.

	Threshold	Related to
<input type="checkbox"/>	5 %	Emission reductions or removals for registered small-scale GS project activities other than registered GS project activities covered under next category below;
<input type="checkbox"/>	10 %	Emission reductions or removals for the type of registered GS project activities referred to as microscale project activities

The errors identified in the project is not related to the changed of the ER values provided in the original MR for VVB verification, thus it is confirmed that 0% is below the threshold limit of materiality 2% and hence not material. The GHG emission reductions are calculated without material misstatements.

## SECTION D. Means of verification

### D.1. Desk review

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

- the approved 2<sup>nd</sup> Crediting Period PDD including the monitoring plan<sup>/PDD/</sup>,
- the approved 2<sup>nd</sup> Crediting Period GS Passport<sup>/GSP/</sup>,
- the approved GS 2<sup>nd</sup> Crediting Period validation report<sup>/VAL/</sup>,
- The approved GS4GG Transition Annex<sup>/TA/</sup>,
- documentation of previous verifications<sup>/VER/</sup>,
- the monitoring report, including the claimed emission reductions for the project during this monitoring period<sup>/MR/</sup>,
- the emission reduction calculation spreadsheet for this monitoring period<sup>/XLS/</sup>.

All the other supporting documents as listed in Appendix 3 were also reviewed.

### D.2. On-site inspection

Duration of on-site inspection <sup>3</sup> :				
No.	Activity performed on-site	Site location	Date	Team member
1.	-Sent mail with questionnaire to local expert for call interview with randomly seleted CWP user samples	Remote	16/03/2022	Zhao Xuejiao (Fancy)
2.	Opening meeting call - interviewed representatives of PP -discussed the document evidence	Remote	30/03/2022	
3.	-Sent mails to seleted staffs in head office	Remote	31/03/2022	
4.	Interview with CWP user samples following the questionnaire	Remote	13/04/2022 17/04/2022 25/04/2022	KHOUTH Socham-pawatd (Awatd)
5.	Findings discussion	Remote	19/04/2022	Zhao Xuejiao (Fancy)
6.	Close Meeting	Remote	25/04/2022	

Accordng to the section 4.1.1 b of COVID 19: INTERIM MEASURES<sup>/COV/</sup> issued by GS, if a

<sup>3</sup> The verification team did not conducted the site visit as the explanation provided, but the related alternative methods have been used for remote audit which was carried out as per the "GS4GG Site Visit and Remote Audit Requirements and Procedures" version 1.0<sup>/SVRARP/</sup> which have been listed in this table. And refer to the submitted filled "T-VVB\_V.1.0-Audit-Techniques"<sup>/ATI/</sup> for detail techniques used.

site visit cannot be postponed due to significant impact of delaying the site visit on project developer due to commitment as per GS-VERs delivery agreement, so VVB can replace mandatory on-site visits with remote audits. And the monitoring period is only one year not exceeding the requirement in 4.3.1 of COVID 19: INTERIM MEASURES<sup>COV/</sup> that “The maximum monitoring period that VVB can verify based on remote audit is two years”.

Hence the site visit was not conducted by the verification team, and the below alternatives have been conducted by the verification team as remote audit in line with the requirements from COVID 19: INTERIM MEASURES<sup>COV/</sup>.

1. The team used video conference call conducting the opening meeting on 30/03/2022 and interviewed representatives of PP, PP introduced the implementation of the project during this monitoring period and VVB discussed the document evidence with the PP based on desk review results.
2. The team randomly selected staffs in head office of Hydrologic from the staff list<sup>SL/</sup> provided by PP and sent emails on 31/03/2022 with interview questionnaires to get the feedback from the related staffs. Refer to section D.3 for the details of the questionnaire.
3. During desk review, the team randomly selected CWP user samples from the samples list of the sampling survey conducted by Angkor research and Consulting Ltd. for this monitoring period and prepared the related questionnaires, sent the mail with questionnaire to local expert on 16/03/2022. Local expert<sup>4</sup> conducted phone interview with CWP user samples following the questionnaire provided by TUV NORD from 13/04/2022 to 25/04/2022. And scanned all the filled questionnaires to team leader. Refer to section D.3 for the details of the questionnaire.
4. During desk review, the team randomly selected factory staffs and prepared the related questionnaires, sent the mail with questionnaires to local expert on 16/03/2022. Local expert conducted phone interview with representatives of factory staff following the questionnaires provided by TUV NORD. And scanned all the filled questionnaires to team leader. Refer to section D.3 for the details of the questionnaires.
5. The team discussed findings via phone call with PP on 19/04/2022.
6. The team conducted close meeting via phone call with PP on 25/04/2022.

In conclusion, although the site visit was not conducted by the verification team, through interview call and questionnaires, the requested information for the verification is got by the verification successfully and can be assessed by the verification team to finish the verification.

### D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Meng <sup>11/</sup>	Chanvibol	Nexus Carbon for Development /Technical services manager	30/03/2022, 19/04/2022, 25/04/2022	- General aspects of the project - Changes since validation / previous verifications	Fancy
2.	IM <sup>11/</sup>	Bora	Hydrologic Social Enterprise, Ltd./Carbon Project Manager	30/03/2022, 19/04/2022, 25/04/2022	- Calibration procedures - CWP distribution status - Project database - Sales record - Quality management	Fancy

<sup>4</sup> The local expert has conducted the last three MP verification together with the team leader and questionnaire is similar to the one used for 1<sup>st</sup> for CP2 periodic verification in 2019 by local expert and team leader for site interview with the users, hence local expert is familiar with the questionnaires and know how to ask the questions.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
					<ul style="list-style-type: none"> <li>system</li> <li>- Involved personnel and responsibilities</li> <li>- Training and practice of the operational personnel</li> <li>- Implementation of the monitoring plan</li> <li>- Sampling Plan</li> <li>- Sampling Method</li> <li>- Project survey</li> <li>- Baseline survey</li> <li>- Monitoring data management</li> <li>- Data uncertainty and residual risks</li> <li>- Procedural aspects of the verification</li> <li>- Environmental aspects</li> <li>- Job opportunities</li> <li>- Salary level</li> <li>- Water quality and quantity</li> <li>- Livelihood of the poor</li> <li>- Access to energy service</li> <li>- Monitoring plan</li> <li>- Monitoring training</li> <li>- Emission reduction calculation</li> </ul>	
3.	Tann <sup>/12/</sup>	Neang	Hydrologic Social Enterprise, Ltd./ Factory Staff, Provincial Delivery Coordinator	17/04/2022	<ul style="list-style-type: none"> <li>- CWP Production Process</li> <li>- Warranty Card</li> <li>- Environmental aspects</li> <li>- Salary level</li> <li>- Staff Management</li> </ul>	Awatd
4.	The Srey <sup>/12/</sup>	Len	Hydrologic Social Enterprise, Ltd./Factory Staff, Sale Admin	17/04/2022	<ul style="list-style-type: none"> <li>- Position</li> <li>- Job Description</li> <li>- Salary level</li> <li>- Labor contract</li> <li>- Welfare</li> </ul>	
5.	Tin <sup>/12/</sup>	Sinai	Hydrologic Social Enterprise, Ltd./ Factory Staff, Clean water Expert	17/04/2022	<ul style="list-style-type: none"> <li>- Food allowance</li> <li>- Safety training</li> </ul>	
6.	Ho <sup>/12/</sup>	Vanna	Hydrologic Social Enterprise, Ltd./Factory Staff, Smooth	17/04/2022		
7.	Khun <sup>/12/</sup>	Lorn	Hydrologic Social	17/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Enterprise, Ltd./Factory Staff, Rice Husk Hammermill			
8.	Haim <sup>/12/</sup>	Sok Teang	Hydrologic Social Enterprise, Ltd./ Corporate Sale and Store Manager	05/04/2022		Fancy
9.	Nel <sup>/12/</sup>	Kannetha	Hydrologic Social Enterprise, Ltd./ Receivable and Collection Coordinator	01/04/2022		
10.	Hory <sup>/12/</sup>	Tina	Hydrologic Social Enterprise, Ltd./ Operation Admin Manager	04/04/2022		
11.	Chheang <sup>/12/</sup>	Veasna	Hydrologic Social Enterprise, Ltd./ Customer Service Assistant	12/04/2022		
12.	Chhen <sup>/12/</sup>	Radan	Hydrologic Social Enterprise, Ltd./ Logistic	12/04/2022		
13.	Ky <sup>/13/</sup>	Manith	Tuol K village, Traeuy Commune, S'ang District, Kandal Province/User Unique No- Interview Key: 23-71-89-24	13/04/2022	<ul style="list-style-type: none"> <li>- CWP Style</li> <li>- Purchase price</li> <li>- Persion/HH</li> <li>- CWP issues for using</li> <li>- After sale service</li> <li>- Warranty card</li> <li>- Air quality change</li> <li>- Water quality</li> </ul>	Awatd
14.	Tin <sup>/13/</sup>	Korb	Ta Von village, Ponley Commune, Phnum District, Bantea Province/User Unique No- Interview Key: 21-32-41-64	13/04/2022	<ul style="list-style-type: none"> <li>- If stop boiling water</li> <li>- Water consumption per day</li> <li>- Wood, Charcoal, LPG consumption</li> <li>- Money Saving</li> <li>- Time Saving</li> <li>- Accessibility to Hydrologic</li> </ul>	
15.	Yeum <sup>/13/</sup>	Yorn	Ta Von village, Ponley Commune, Phnum district, Bantea Province/User Unique No- Interview Key: 19-74-32-66	17/04/2022	<ul style="list-style-type: none"> <li>- Any commnets</li> </ul>	

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
16.	Soun <sup>/13/</sup>	Vy	Preaek village, Preaek commune, Leuk D district, Kandal province/User Unique No-Interview Key: 24-96-08-12	17/04/2022		
17.	No <sup>/13/</sup>	Heng	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No-Interview Key: 25-94-82-74	17/04/2022		
18.	Chhum <sup>/13/</sup>	Seng	Ta Vong village, Ponley Commune, Phnum district, Banteay Meanchey Province/User Unique No-Interview Key: 65-67-25-14	13/04/2022		
19.	Mork <sup>/13/</sup>	Kim Soeun	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No-Interview Key: 87-61-97-76	13/04/2022		
20.	Thun <sup>/13/</sup>	Salim	Ta Von village, Ponley Commune, Phnum district, Bantea Province/User Unique No-Interview Key: 65-57-14-31	17/04/2022		
21.	Moern <sup>/13/</sup>	Sareth	Tuol K village, Traeuy Commune, S'ang District, Kandal Province/User Unique No-Interview Key: 29-60-88-71	13/04/2022		
22.	Voeng <sup>/13/</sup>	Sokly	Tuol K village, Traeuy Commune, S'ang District,	13/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Kandal Province/User User Unique No- Interview Key: 83-21-33-68			
23.	Pov <sup>/13/</sup>	Sith	Veal T village, Traeng commune, Phnum district, Kampon province/User Unique No- Interview Key: 18-69-63-58	17/04/2022		
24.	Song <sup>/13/</sup>	Seth	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No- Interview Key: 44-40-93-79	13/04/2022		
25.	Kim <sup>/13/</sup>	Say	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No- Interview Key: 32-03-01-44	17/04/2022		
26.	Pek <sup>/13/</sup>	Seurth	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No- Interview Key: 21-16-92-00	17/04/2022		
27.	Lun <sup>/13/</sup>	Thy	Ta Von village, Ponley Commune, Phnum district, Bantea Province/User Unique No- Interview Key: 84-13-17-08	17/04/2022		
28.	Ang <sup>/13/</sup>	Eury	Ta Von village, Ponley Commune, Phnum district, Bantea Province/User Unique No- Interview Key:	17/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			76-91-32-54			
29.	Mak <sup>/13/</sup>	Sochea	Stueng village, Samrao commune, Kien S district, Kandal province/User Unique No-Interview Key: 04-54-77-20	17/04/2022		
30.	Din <sup>/13/</sup>	Srey Mao	Kab Ch village, Sambou commune, Samrao district, Kampon province/User Unique No-Interview Key: 20-04-24-25	17/04/2022		
31.	En <sup>/13/</sup>	Leng	Tuol K village, Kokir Commune, Kien S District, Kandal Province/User Unique No-Interview Key: 14-22-38-53	17/04/2022		
32.	Bai <sup>/13/</sup>	Rachana	Lekh B village, Prasat commune, S'ang district, Kandal province/User Unique No-Interview Key: 45-93-19-72	17/04/2022		
33.	Deurk <sup>/13/</sup>	Vorn	Kang V village, Kampon commune, Serei district, Bantea province/User Unique No-Interview Key: 20-09-12-85	17/04/2022		
34.	Khom <sup>/13/</sup>	Visoth	Ta Von village, Ponley Commune, Phnum district, Bantea Province/User Unique No-Interview Key: 17-03-66-94	17/04/2022		
35.	Keo <sup>/13/</sup>	Sophan	Prey B village, Baek C commune, Angk S district, Kandal province/User Unique No-Interview Key:	17/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			97-96-98-95			
36.	Phounh <sup>/13/</sup>	Huy	Tuol K village, Kokir Commune, Kien S District, Kandal Province/User Unique No-Interview Key: 12-03-17-63	17/04/2022		
37.	Mork <sup>/13/</sup>	Orn	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No-Interview Key: 66-20-80-43	17/04/2022		
38.	Yon <sup>/13/</sup>	Chhem	Thmei village, Tang S Commune, Phnum district, Kampon Province/User Unique No-Interview Key: 51-32-16-47	17/04/2022		
39.	Horn <sup>/13/</sup>	Sambath	Tuol K village, Kokir Commune, Kien S District, Kandal Province/User Unique No-Interview Key: 12-58-46-10	17/04/2022		
40.	Heng <sup>/13/</sup>	Yon	Kampon village, Kampon Commune, Kampot district, Kampot Province/User Unique No-Interview Key: 19-72-39-21	17/04/2022		
41.	Khoun <sup>/13/</sup>	Mith	Kab Ch village, Sambou commune, Samrao district, Kampon province/User Unique No-Interview Key: 91-65-03-52	17/04/2022		
42.	Nha <sup>/13/</sup>	Leng	Lekh B village, Prasat commune, S'ang district, Kandal province/User	17/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Unique No-Interview Key: 03-10-11-52			
43.	Pink <sup>/13/</sup>	March	Thlok village, Bantea commune, Thma P district, Bantea province/User Unique No-Interview Key: 49-14-85-13	17/04/2022		
44.	Keb <sup>/13/</sup>	Srey Chen	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No-Interview Key: 14-72-13-39	17/04/2022		
45.	Keo <sup>/13/</sup>	Navy	Chrey village, Changh Commune, Ou Chr district, Bantea Province/User Unique No-Interview Key: 32-51-29-00	17/04/2022		
46.	Ren <sup>/13/</sup>	Roun	Thlok village, Bantea commune, Thma P district, Bantea province/User Unique No-Interview Key: 76-68-47-96	17/04/2022		
47.	Chab <sup>/13/</sup>	Se	Tuol K village, Traeuy Commune, S'ang District, Kandal Province/User Unique No-Interview Key: 23-47-08-89	17/04/2022		
48.	Meurn <sup>/13/</sup>	Yary	Stueng village, Samrao commune, Kien S district, Kandal province/User Unique No-Interview Key: 37-04-57-97	17/04/2022		
49.	Sim <sup>/13/</sup>	Samnang	Veal T village, Traeng commune, Phnum district,	17/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Kampon province/User Unique No-Interview Key: 16-93-81-18			
50.	Phov <sup>/13/</sup>	Pich	Char L village, Tuek C Commune, Preah District, Bantea province/User Unique No-Interview Key: 21-67-63-21	25/04/2022		
51.	Nak <sup>/13/</sup>	Pov	Ta Kok village, Tani commune, Angkor district, Kampot province/User Unique No-Interview Key: 43-68-05-62	25/04/2022		
52.	Hean <sup>/13/</sup>	Hong Ly	Leu village, Preaek commune, Mukh K district, Kandal province/User Unique No-Interview Key: 62-96-46-06	25/04/2022		
53.	Kong <sup>/13/</sup>	Chenda	Trapea village, Chres Commune, Chum K district, Kampot Province/User Unique No-Interview Key: 95-76-61-89	25/04/2022		
54.	Ok <sup>/13/</sup>	Sarmeurn	Tuol K village, Traeuy Commune, S'ang District, Kandal Province/User Unique No-Interview Key: 55-90-15-77	25/04/2022		
55.	Kru <sup>/13/</sup>	Chantha	Kang V village, Kampon commune, Serei district, Bantea province/User Unique No-Interview Key: 57-77-32-97	25/04/2022		
56.	Nai <sup>/13/</sup>	Nith	Chrey village, Changh	25/04/2022		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Commune, Ou Chr district, Bantea Province/User Unique No- Interview Key: 44-74-43-89			
57.	Chho /13/	Saroun	Tuol K village, Kokir Commune, Kien S District, Kandal Province/User Unique No- Interview Key: 20-79-32-76	25/04/2022		

The questions in the questionnaires asked were basically based on requirements of GS4GG/GSPR/. The main topics included, but not limited to, the followings:

For end users,

1. General information of CWP users
  - a. CWP serial No.
  - b. CWP style
  - c. Purchase cost
  - d. Household location
  - e. Interviewee Name
  - f. People No. in the Household
  - g. Use CWP every day or not
2. SD and co-benefits for the 4<sup>th</sup> monitoring period for CP2
  - a. If Air quality was better comparing with past after using CWP
  - b. If Water quality was good for drink after using CWP
  - c. If Money was saved after using CWP
  - d. If time was saved after using CWP, if yes, saving time for what purpose
3. Fuel using
  - a. Wood consumption before and after using CWP
  - b. Charcoal consumption before and after using CWP
  - c. LPG consumption before and after using CWP
4. After sale service
  - a. Warranty card used or not
  - b. CWP using issues, any replacement
  - c. Accessibility to Hydrologic
5. Have you already attended the survey in 2021 conducted by third party?
6. any comments?

For the staff,

- Job Description - Title, Rank, Department, Main function
- Salary - Salary level, Satisfied, Labor contract
- Welfare – Insurance, Retirement Package, Payment Leave, Sick pay, Food allowance, Safety training, Safety measurements, Phone card allowance, Fuel allowance

The feedback from Household interviewees are listed as below:

1. General information of CWP users

All the Household provided the general information of the CWP and family.  
The price for CWP is confirmed as same to the PP survey data,  
The average people No. in Household is 5.24 which is higher than the value in MR and confirmed as conservative,

- All the Household confirmed used CWP everyday except the replacement.
2. SD
 

All the Households used to boiling the water confirmed that the Air quality was better comparing with past after using CWP

All the Households confirmed that the water quality is good for healthy.

All the Households confirmed that the money was saved after using CWP.

All the Households confirmed that the time was saved after using CWP and all confirmed save time from boiling and collecting and purchasing fuel.
  3. Fuel saving
 

All the Households used to boiling the water confirmed that they consumed less fuel (wood, charcoal, LPG) than baseline.
  4. After sale
 

All the Household hold the warranty card, and 8 Households have replaced the tap/ceramic filter/pot with free of charge. The access to Hydrologic method, i.e. Hotline are listed in the warranty card.
  5. All the 45 HH confirmed that they attended the sampling survey conducted by Angkor research and Consulting Ltd. for this monitoring period.
  6. No more comments from Households.

The feedback from staff interviewees are listed as below:

All the staff gave their name, age, job title to verification team and all the staff satisfied with their salary and signed the labor contract voluntarily. And all the staff confirmed the welfare including Insurance, Retirement Package, Payment Leave, Sick pay, Food allowance, Safety training, Safety measurements, Phone card allowance, Fuel allowance are given by the company and the value is same to the MR.

Verification Team along with remote audit, objective evidence collections, data generation and recording analysis also considered the views obtained in these interviews while arriving at Verification Opinion.

#### D.4. Sampling approach

##### D.4.1. Sampling during monitoring

<input type="checkbox"/>	No sampling approach has been used by the PP to determine the monitored parameters				
<input checked="" type="checkbox"/>	A sampling approach has been taken for the following monitored parameter(s):				
	<b>Parameter</b>	<b>Sampling approach <sup>1)</sup></b>	<b>Sampling Type <sup>2)</sup></b>	<b>Population</b>	<b>Sample Size</b>
	$Q_{P,y}$	CS and SiRS	PS	113,609 <sup>5</sup>	140/SNC-MP3/
	$Q_{P,rawboil,y}$	CS and SiRS	PS	113,609	140/SNC-MP3/
	$Q_{P,cleanboil,y}$	CS and SiRS	PS	113,609	140/SNC-MP3/
	$WQ_{Passed,y}$	CS, MSS and SiRS	PS	104,661 <sup>6</sup>	45/WQTR/
	$U_{p,y}$	CS and SiRS	PS	104,661	182/SP/, /MSR/
	$N_{p,y}$	CS and SiRS	PS	113,609	140/SNC-MP3/
	$W_{b,y,LPG(large)}$	CS and SiRS	PS	126,823	140/SNC-MP1/
	$W_{p,y,LPG(large)}$	CS and SiRS	PS	126,823	140/SNC-MP1/

<sup>5</sup> 113,609 population is used but not the total end users number because PP can't collect the information from all the users and some users were excluding due to retirement age, this is cross-checked with the project database for last MP, this value is used for the last MP and results of MP3 can be applied for MP4 due to Water Consumption Field Test (WCFT) conducted in 2021 for previous monitoring period would be valid for 2 years.

<sup>6</sup> 104,661 population is used but not the total end users number because PP can't collect the information from all the users and some users were excluding due to retirement age, this is cross-checked with the project database for this MP.

$W_{b,y,WEIGHTED,LPG}$	CS and SiRS	PS	126,823	140/SNC-MP1/
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<sup>1)</sup> Sampling Approaches:

- SiRS: Simple Random Sampling
- StRS: Stratified Random Sampling
- SS: Systematic Sampling
- CS: Cluster Sampling
- MSS: Multi-stage Sampling

<sup>2)</sup> Sampling Types:

- PS: Parameter Sampling

### Sampling design

The sampling design carried out by the project is demonstrated as below:

In this monitoring period, for Water Consumption Field Test (WCFT), due to the latest WCFT was conducted in 2020 which used for previous monitoring period is valid for 2 years, no WCFT was conducted in this MP, which is verified as in line with the requirement in the PDD monitoring plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>. This means that four variables including  $Q_{p,y}$ ,  $Q_{p,rawboil,y}$ ,  $Q_{p,cleanboil,y}$  and  $N_{p,y}$  are same to the last monitoring period which has been verified in the last MP and no need to be re-assessed in this MP.

For Baseline Water Boiling test (BWBT), via the conducted project survey result<sup>/MSR/</sup>, it is verified that there is no change for water boiling technologies from that of the baseline: wood and charcoal with traditional cookstove and or improved cookstove; and LPG with LPG stove. Thus, BWBT is not updated in this MP, which is confirmed as reasonable and line with the PDD monitoring plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>. This means that monitored parameters including  $W_{b,y,TRAD,wood}$ ,  $W_{p,y,TRAD,wood}$ ,  $W_{b,y,TRAD,charcoal}$ ,  $W_{p,y,TRAD,charcoal}$ ,  $W_{b,y,IMP,Wood}$ ,  $W_{p,y,IMP,Wood}$ ,  $W_{b,y,IMP,charcoal}$ ,  $W_{p,y,IMP,charcoal}$ ,  $W_{b,y,LPG(small)}$ ,  $W_{p,y,LPG(small)}$ ,  $W_{b,y,LPG(large)}$ ,  $W_{p,y,LPG(large)}$ ,  $W_{b,y,WEIGHTED,wood}$ ,  $W_{b,y,WEIGHTED,charcoal}$  and  $W_{b,y,WEIGHTED,LPG}$  are same to the last monitoring period which has been verified in the last MP and therefore no need to be re-assessed in this MP.

Hence during this MP, Angkor Research conducted the monitoring survey including usage survey and project survey in Dec. 2021 to accurately calculate the monitoring parameters outlined in the Project Design Document<sup>/PDD/</sup> and GS4GG transition Annex<sup>/TA/</sup> approved by GS on 30/10/2019<sup>/TRFA/</sup> besides the parameters derived from the WCFT and BWBT.

The monitoring flow<sup>/MF/</sup>, sampling protocol for this MP<sup>/SP/</sup> and monitoring survey report<sup>/MSR/</sup> are verified by the verification team, it is confirmed that the sample size determination for project survey and usage survey is in line with the methodology requirement<sup>/TPDDTEC/</sup>.

The Project Proponent has employed a cluster-based, random sample selection methodology to ensure the final sample selected for each study was representative while optimizing fieldwork efficiency. The sample was clustered at the provincial, village, and household level. Via checking the sampling method as stated in sampling protocol for this MP<sup>/SP/</sup> and monitoring survey report<sup>/MSR/</sup>, it is verified that the method is in line with the PDD sampling plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>.

#### C.4.2 Sampling approaches during verification

<input type="checkbox"/>	No sampling approach has been used by the VT to verify the monitored parameters			
<input checked="" type="checkbox"/>	A sampling approach has been applied by the VT for the following monitored parameter(s):			
Parameter	Sampling approach <sup>1)</sup>	Sampling Type <sup>2)</sup>	Population	Sample Size
$WQ_{Passed,y}$	-	COM	45 <sup>/WQTR/</sup>	all
$U_{p,y}$	SiRS	AS	182	45

$T_{p,y}$	SiRS	PS	38,645 <sup>7</sup>	60
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<sup>1)</sup> Sampling Approaches:

- SiRS: Simple Random Sampling
- StRS: Stratified Random Sampling
- SS: Systematic Sampling
- CS: Cluster Sampling
- MSS: Multi-stage Sampling

<sup>2)</sup> Sampling Types:

- AS: Acceptance Sampling
- PS: Parameter Sampling
- COM: Full data check at higher data aggregation levels and sampling at original data levels

### 1) Verifier's Action

Following "Sampling and Surveys for CDM Project Activities and Programme of Activities" version 09.0<sup>/SSS/</sup> and "Guideline of Sampling and surveys for CDM project activities and programmes of activities" version 04.0<sup>/SSG/</sup>, the verifier conducted the verification of sampling results with the following steps:

For parameter  $T_{p,y}$ , to verify the accuracy and correctness of monitored data, verification team has utilized sampling approach as per the "Guideline of Sampling and surveys for CDM project activities and programmes of activities" version 04.0<sup>/SSG/</sup>, this sampling approach found to be appropriate as the sales record and invoices are homogenous.

As per the paragraph 12 of 2.1.1 section of the guideline states that the Sample size calculation by Simple Random Sampling can be done using following formulae:

$$n \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$$

Where

- n Sample size
- N Total number of sales invoices
- P Our expected proportion
- 1.645 Represents the 90% confidence required
- 0.1 Represents the 10% relative precision ( $0.1 \times 0.5 = 0.05 = 5\%$  points either side of p)

N is 38,645 as determined in the sales record<sup>/SR/</sup>, P is determined as 90%, as per the level of confidence, VVB expects that 90% of the samples taken shall comply with the project requirements.

Hence the  $n$  is calculated as  $1.645^2 \times 38,645 \times 0.9 \times (1-0.9) / \{(38,645-1) \times 0.1^2 \times 0.9^2 + 1.645^2 \times 0.9 \times (1-0.9)\} = 31$ . Hence, the verification team randomly selected 60 (5 per month) invoice reference numbers from the sales record<sup>/SR/</sup> and checked related sales invoices<sup>/SICWP/</sup> which is more than 31 sample size requirement during this monitoring period, the invoices are cross checked with the sales record<sup>/SR/</sup>, it is verified that the sales record during this monitoring period is correct with the sales invoices sample. Hence, it is concluded that the  $T_{p,y}$  value during this monitoring period of 38,645 is correct and credible.

For parameter  $WQ_{Passed,y}$ , to verify the accuracy and correctness of monitored data, verification team has checked all the samples from PP original data, so 45 samples (greater than that of the minimum 30 of the methodology<sup>/MERSW/</sup><sup>/WQTR/</sup>) were checked by verification team and it is verified that all the 45 Water Quality test results are consistent with the PP data and final calculation result average percentage of 90% is verified as correct and credible based on the sample results conducted on annually base. For the sampling survey for parameter  $WQ_{Passed,y}$ ,

<sup>7</sup> This value is the sale CWP during this monitoring period. Based on the previous verification, it is confirmed that the previous sale data has been verified during the periodic verifications, so only the new data records need to be checked in this verification to confirm if 38,645 is correct.

it is verified that PP followed 90/10 precision rule which means the result of the test for samples is meeting this precision.

For the project and usage survey, the samples are selected based on the methodology request, sampling rules at least 100 sample for project/usage survey, and at least 30 sample per age group, and no precision on its result.

For parameter  $U_{p,y}$ , verification team made the sampling plan for visiting households during this verification using Simple random Sampling approach as specified in the “Sampling and Surveys for CDM Project Activities and Programme of Activities” version 09.0<sup>/SSS/</sup> with the following steps,

**(a) Take a random sample of the project’s sample records;**

In order to determine the size of the sample household for interview check, the acceptable quality level (AQL), i.e. the proportion discrepancies between the PP sample records and the VVB sample records that are acceptable is determined as 0.5% and the proportion of discrepancies between the PP sample records and VVB sample records that are unacceptable (UQL) is determined as 10% according to “Sampling and Surveys for CDM Project Activities and Programme of Activities” version 09.0<sup>/SSS/</sup>.

The maximum errors associated with the determination indicated above should remain at levels indicated below as per “Sampling and Surveys for CDM Project Activities and Programme of Activities”<sup>/SSS/</sup>:

- (1) A 10% chance that the VVB will wrongly reject the PPs records (producer’s risk);
- (2) A 10% chance that the VVB will wrongly accept the PPs records (consumer’s risk).

With the AQL of 0.5%, the UQL of 10%, the producer’s risk of 10% and the consumer’s risk of 10%, the size of the acceptance sampling is determined as 38 and the acceptance number is determined as 1 according to Table 1 of “Sampling and Surveys for CDM Project Activities and Programme of Activities”<sup>/SSS/</sup>. To be more conservative, verification team randomly selected 45 from the PP’s sample records<sup>/PD/</sup>.

Took a random sample selection of the PP’s sample records<sup>/MSR/</sup> using the excel function, and Local Expert conducted the interview call of the 45 CWP users sampled by the verifier by filling with the questionnaires.

**(b) Check the acceptability of the data for each record in the sample records based on the expertise;**

The sample records in the monitoring survey report<sup>/MSR/</sup> is found to be consistent with the 45 samples selected by verification team from the sampling conducted by the PP. Also, no discrepancy is found between the sample records<sup>/MSR/</sup> and the VVB sample records.

**(c) Based on the number of records where is agreement, determine if the sample records meet the requirements.**

As there are no discrepant records, i.e. the discrepant record is less than the acceptance number of 1, the sample records<sup>/MSR/</sup> is accepted as per “Sampling and Surveys for CDM Project Activities and Programme of Activities”<sup>/SSS/</sup>.

**D.5. Clarification requests, corrective action requests and forward action requests raised**

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General Description of Project (E.1)	-	-	-
Remaining forward action requests from validation and/or previous verification (E.2)	-	-	-
Compliance of the project implementation with the registered project design document (E.3)		CAR 01 CAR 02 CAR 03	-
Post-registration changes (E.4)	-	-	-
Compliance of the monitoring system applied by the project with the registered monitoring plan (E.5)	CL 01	CAR 04	-

Compliance of monitoring activities with the registered monitoring plan (E.6)	-		
SDG Data and parameters fixed ex ante or at renewal of crediting period (E.6.1)	CL 02 CL 03	CAR 05 CAR 06 CAR 07 CAR 08	-
SDG Data and parameters monitored (E.6.2)	CL 04	-	-
Comparison of monitored parameters with last monitoring period (E.6.3)	CL 05	-	-
Compliance of the sampling implementation with the registered sampling plan (E.6.4)	-	CAR 11	-
Compliance with the calibration frequency requirements for measuring instruments (E.7)	-	-	-
Assessment of data and calculation of SDG impacts (E.8)	-		
Calculation of baseline value or estimation of baseline situation of each SDG impact (E.8.1)	-	-	-
Calculation of project value or estimation of project situation of each SDG impact (E.8.2)	-	CAR 09	-
Calculation of leakage (E.8.3)	-	-	-
Calculation of net benefits or direct calculation for each SDG impact (E.8.4)	-	-	-
Comparison of actual value of outcomes with estimates in approved PDD (E.8.5)	-	-	-
Remarks on difference from estimated value in approved PDD (E.8.6)	CL 06	-	-
Stakeholder inputs and legal disputes (E.9)	-	CAR 10	-
Others (please specify)	-	-	-
<b>Total</b>	<b>6</b>	<b>11</b>	<b>-</b>

## SECTION E. Verification findings

### E.1. General Description of Project

<b>Means of verification</b>	<p>A draft monitoring report was submitted to the verification team by the project participants prior to the start of the verification activities.</p> <p>It is checked that the appropriate form has been used for compiling the MR as per the Gold Standard for Global Goals Monitoring report Template version 1.1 in October 2020<sup>/MRT/</sup>.</p> <p>Further every section has been checked against the GS4GG Principles &amp; Requirements<sup>/GSPR/</sup>.</p> <p>Via checking the sales record<sup>/SR/</sup> and call interview with end users, it is confirmed that the project involves production and distribution of Ceramic water Purifiers (CWP) in Cambodia. Access to potable water in Cambodia (Host country) in villages is a common problem and people living in villages are boiling the available water (i.e. ponds, dug wells, bore wells) for drinking and cooking purpose (for safe consumption purpose). While boiling water, people use various fuels i.e. forest wood, LPG and coal which has been verified by call interview with CWP users. The objective of the project is to reduce / eliminate the water boiling practice and thereby reduce the CO<sub>2</sub> emissions due to usage of fossil fuel.</p> <p>Hydrologic Enterprise Ltd. is producing a ceramic filter from the clay locally available to filter the water. This is the well-known ancient technology and is improvised by Hydrologic to enhance the filtration rate. Hydrologic has a full-fledged factory situated in Trapeang Samrong Village<sup>/BL/</sup>, where these filters are produced utilising local skilled and unskilled workers. By implementing the project Hydrologic has provided an opportunity for local community to generate steady and continual income for their livelihood.</p>
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	<p>The project is applicable to the applied methodology of "Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 3.0 - July 2015".</p> <p>The starting date of operation of the project activity was 01/12/2010, when production of CWP's for the crediting period began which has been confirmed in the PDD and validation report<sup>/VAL/,PDD/</sup>. The project was registered as a GS-VER project on 08/08/2012 with the registration number of GS1020. According to the approved 2<sup>nd</sup> Crediting Period Validation Report report<sup>/VAL/</sup> and previous verification report<sup>/VER/</sup>, the project participant has adopted for the renewable crediting period of 21 years with the start date of 2<sup>nd</sup> crediting period of 01/12/2017.</p> <p>As part of the remote audit, the Verification Team was able to confirm that the project description in MR is in accordance with the project description contained in the approved 2<sup>nd</sup> crediting period PDD.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /GSPR/</li> <li>• /MRT/</li> </ul>
<b>Findings</b>	<input type="checkbox"/> The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - N/A
<b>Conclusion</b>	<input checked="" type="checkbox"/> No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements. <input type="checkbox"/> The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4. A draft monitoring report was submitted to the verification team by the project participants. It can be confirmed that the Monitoring report is complete and transparent and in accordance with the approved 2 <sup>nd</sup> Crediting Period PDD and Global Goals Monitoring report Template version 1.1 in October 2020 <sup>/MRT/</sup> . Refer to the below sections for details.

## E.2. Remaining forward action requests from validation and/or previous verification

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. Likewise FARs might have been raised in the course of previous verifications.

In the course of this verification the approved 2<sup>nd</sup> Crediting Period PDD<sup>/PDD/</sup> and the previous verification report<sup>/VER/</sup>, where applicable, have been checked in order to identify any remaining forward action requests. For the current monitoring period the following applies:

### (i) Open issues from validation:

<input checked="" type="checkbox"/>	There were no open issues which have been addressed in the latest version of the validation report.
<input type="checkbox"/>	All open issues from the validation have been appropriately addressed in the context of previous verifications.
<input type="checkbox"/>	All issues related to the validation have been appropriately addressed in the course of the current monitoring period (for details please refer to Appendix 4)
<input type="checkbox"/>	The following issues related to the validation have <b>not</b> yet been appropriately addressed (for details please refer to Appendix 4): - N/A

### (ii) Open issues from previous verifications:

<input type="checkbox"/>	N/A – as this is the first monitoring period for this GS project activity.
<input checked="" type="checkbox"/>	There were no open issues which have been addressed in the previous verification report
<input type="checkbox"/>	All issues related to the previous verification have been appropriately addressed in the course of the current monitoring period (for details please refer to Appendix 4)
<input type="checkbox"/>	The following issues related to the previous verification have <b>not</b> yet been appropriately addressed (for details please refer to Appendix 4):
	- N/A

(iii) Open issues from GS:

<input type="checkbox"/>	There were no open issues in the GS review or GS prior approval for deviation which have been addressed				
<input checked="" type="checkbox"/>	There were open issues in the GS review or GS prior approval for deviation which have been addressed as follow,				
1.	<p><b>FAR #1</b> from GS issuance review for MP3<sup>/GSIR/</sup> According to the registered PDD “The ceramic filter element has an average lifespan of two years or more. Lifespan depends on the quality of the input water and the care taken to avoid breakage.” The PP is requested to provide details on number of ceramic filter element replaced (age group wise) in next monitoring period.</p> <p><b>VVB Assessment:</b> First, PP has tracked the replacement of ceramic filter element (age group wise) and has incorporated the details in a replacement report<sup>/CPRR/</sup> (age group wise) in this monitoring period. Via checking the replacement report<sup>/CPRR/</sup>, it is verified that the replacement was mainly carried out for Pots and for spigots (tap) during this MP. The replacement rate is calculated as 0.7% of the cumulative units credited as of 31/12/2021 which is verified as correct by checking the information in replacement report<sup>/CPRR/</sup>.</p>				
2.	<p><b>FAR #2</b> from GS issuance review for MP5<sup>/GSIR/</sup> The PP shall improve the sale data collection system to avoid any duplicate in next monitoring period. More trainings shall be provided to database implementer.</p> <p><b>VVB Assessment:</b> The correctness of formula established by PP for effectiveness in identifying the duplicate entry in the sales database has been verified by the verification team, it is found that a combine function of IF and COUNTIFS to check if there is any duplicated user, both the name and address of users are identified as conditions to find if name duplicated, only name and address are both same, it can be deemed as a duplication, otherwise, it is not. Hence, by checking the project database<sup>/PD/</sup>, it is confirmed that the correct formula in the Spreadsheet is providing correct outcome and hence it is possible to check if there is any duplicate entry in the data base. Furthermore, PP has invited a carbon consultant from Nexus to conduct a database refreshing training to their customer service team and database implementer in Oct. 2021, via checking the training records<sup>/TRA/</sup>, it is verified that the related training was provided during this MP. Via using the function by verification team, it is concluded that there is no any duplication entries in the project database<sup>/PD/</sup>.</p>				
3	<p><b>FAR #3</b> from last verification report<sup>/VER/</sup> Section G.2: It shall be clearly confirmed whether any mitigation measures have been agreed to be monitored for the next monitoring period.</p> <p><b>VVB Assessment:</b> The mitigation measures have been monitored during this monitoring period. For the stakeholder mitigations that were agreed to be monitored have been assessed as below,</p> <table border="1" data-bbox="279 1780 1388 2054"> <thead> <tr> <th>Sustainability indicators/Stakeholder mitigations</th> <th>Assessment</th> </tr> </thead> <tbody> <tr> <td>To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is no carbon finance</td> <td>The PP keeps track of the break-even price of CWPs to ensure that end users are buying a subsidized CWP compared to the real costs of the CWP as shown in the document “HSE-CP2MP4-Break Even Price_Jan-Dec 21<sup>/BEP/</sup>. This has been checked with report of “HSE Price of Water filters_Jan-Dec 21<sup>/PWF/</sup> and financial statements</td> </tr> </tbody> </table>	Sustainability indicators/Stakeholder mitigations	Assessment	To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is no carbon finance	The PP keeps track of the break-even price of CWPs to ensure that end users are buying a subsidized CWP compared to the real costs of the CWP as shown in the document “HSE-CP2MP4-Break Even Price_Jan-Dec 21 <sup>/BEP/</sup> . This has been checked with report of “HSE Price of Water filters_Jan-Dec 21 <sup>/PWF/</sup> and financial statements
Sustainability indicators/Stakeholder mitigations	Assessment				
To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is no carbon finance	The PP keeps track of the break-even price of CWPs to ensure that end users are buying a subsidized CWP compared to the real costs of the CWP as shown in the document “HSE-CP2MP4-Break Even Price_Jan-Dec 21 <sup>/BEP/</sup> . This has been checked with report of “HSE Price of Water filters_Jan-Dec 21 <sup>/PWF/</sup> and financial statements				

	for the financial year ended 31/12/2021 “Carbon Expense-Up to Dec 21” <sup>CE/</sup> . The report of “HSE-CP2MP4-Break Even Price_Jan-Dec 21” <sup>BEP/</sup> states that the average price for Super Tunsai (\$36.48) is slightly higher than the break-even price +10% profit margin (\$35.65), and the average price for Tunsai Autofill (58.51\$) is higher than the break-even price +10% profit margin (\$43.45) but the average price for regular Tunsai (\$12.58) is much lower than the break-even price +10% profit margin (\$25.94). Thus, the weighted average price of \$31.61 for all type of the water filter sold in this MP was below its break-even price + 10% profit margin of \$34.61. The Average price of the Filter is confirmed by checking the monitoring survey report <sup>MSR/</sup> , which is in accordance with the project requirement and it also confirmed that the filter is reaching the end user at affordable cost.
To address the concern of the place where the clay is taken, Hydrologic will buy the clay only from the licensed brick manufacturing factory that authorized by the Ministry of Industry and Handicraft.	Via interview with staffs from factory, it is confirmed that PP has not purchased clay for this monitoring period because they have enough stock from its previous purchase in 2018 from a nearby licensed brick factory, and the factory has been checked during the previous site visit by VVB.
To address the concern of corruption, the field Surveys will monitor and ask how much are people paying for the water filters and assess that the prices are not unreasonable. If the prices are unreasonable, PP shall investigate the reason and take appropriate action. PP believes that this risk is low because there are so many sales people that competition will keep the price low	Via checking the monitoring survey report <sup>MSR/</sup> , it is confirmed that the mean purchase price for Tunsai and Super Tunsai is \$0.00 (donation from NGOs to users) and \$40.05, both of which are in line with current pricing as listed in the report of “HSE Price of Water filters_Jan-Dec 21” <sup>PWF/</sup> . No price for Tunsai Autofill was reported because the Tunsai Autofill is new product with small sale proportion compared to Tunsai and supper Tunsai and it was not selected under the randomly sampling process in this monitoring survey as confirmed by checking the report <sup>MSR/</sup> . Hence it is concluded that the prices are reasonable.
PP has established adequate arrangements for monitoring and measurement of the sustainability indicators. The Data collected through Surveys found properly analyzed to arrive at the conclusion. The claims made by the PP towards compliance of the Sustainability indicatory are correct.	

### E.3. Compliance of the project implementation with the registered project design document

<b>Means verification</b>	<b>of</b>	<p>By means of an in-depth review of the 2<sup>nd</sup> CP approved PDD in its latest version form – as downloaded from the GS project site - and the checks carried out during the remote audit an assessment has been carried out whether the project has been implemented and operated in line with the approved 2<sup>nd</sup> Crediting Period PDD and whether all physical features of the project are in place. The following has been checked: implemented technology, project equipment as well as monitoring equipment.</p> <p>The verification team leader has performed a conference call with PP and local expert conducted interview calls with end users and staffs, in addition by all the provided evidence, it is found that the project has been put into operation and Ceramic Water Purifiers (CWP) are being distributed and it is found that the implementation of the project activity is in accordance with the approved 2<sup>nd</sup> Crediting Period PDD. The changes in the factors and parameters used during this monitoring period to arrive at the emission reduction calculations are transparently described in the Monitoring Report. PP has provided justifications for the changes and these changes are</p>
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accounted correctly while calculating emission reductions<sup>/XLS/</sup>. Hydrologic Social Enterprise Ltd. has so far distributed 490,896 units of ceramic filters in different provinces of host country, and 38,645 units during this monitoring period from 01/01/2021 to 31/12/2021, which is verified by checking the sales record<sup>/SR/</sup> and project database<sup>/PD/</sup>. The emission reductions achieved during this monitoring period are 84,820 tCO<sub>2</sub>e<sup>/XLS/</sup>.

The details of verification against changes incorporated by PP during this monitoring period are provided in the respective sections and there is no significant change observed in the listed monitoring parameters since last verification.

Hydrologic has introduced two models till Mar. 2021, but since Apr. 2021, Hydrologic has introduced one more product based on the same principle with new design and look which named "Tunsai Autofill" which has been confirmed by checking the sales record<sup>/SR/</sup> and cross check with the related sales invoices<sup>/SICWP/</sup>. PP has provided detailed specifications along with picture of the new type of CWP in the MR section B.1. The technical parameter of the new type has been provided in above table in section A.

Via checking the specifications<sup>/CWPS/</sup> for all the three types especially the new type, verification team herewith confirms that the specifications of Ceramic water Purifiers (CWP) are the same as provided in the MR and specifications<sup>/CWPS/</sup>.

Furthermore, based on the project design in the PDD, it is verified that no classification for the two models ("Tunsai" and "Super Tunsai") is needed for emission reduction calculation, only one size of product is considered due to the two types having the same characteristic with the only difference being the size of the receptacle (upgrade from 12L to 14L) and the physical appearance which does not result in different performance, which has been confirmed by checking the CWP specifications for two models and previous on-site inspection of the CWP production plant.

For the new type "Tunsai Autofill", via checking the specification<sup>/CWPS/</sup>, it is confirmed that same to the comparison between "Tunsai" and "Super Tunsai", the new type has the same characteristic with the only difference being the size of the receptacle (upgrade from 14L to 18L) and the physical appearance which does not result in different performance, thus no classification for the three models is needed for emission reduction calculation.

This is the 4<sup>th</sup> monitoring period of 2<sup>nd</sup> crediting period and the verification team herewith confirms that the project implementation is consistent since the start date of 4<sup>th</sup> MP is continuous with the ending date of 3<sup>rd</sup> MP<sup>/VER/</sup>. There are no major obstructions or gaps noted during this monitoring period.

After 2<sup>nd</sup> verification of 1<sup>st</sup> crediting period<sup>/VER/</sup>, the project has undergone a design change and it is noted that the scale of project is shifted to Large scale since the project has crossed the threshold limit of energy saving per annum i.e. 180 GWh / Annum. PP has obtained an approval from gold standard.

As per the approved 2<sup>nd</sup> Crediting Period PDD, it is noted that the emission reductions are calculated on the basis of the sales of numbers of units of Ceramic Water Purifiers, hence it is considered as an important parameter for calculation of Emission reductions during particular monitoring period. PP has an effective system to keep a track of manufactured number of Ceramic Water filters through unique serial number<sup>/SNCWP/</sup> and sales records<sup>/SR/</sup>. PP has established adequate QA/QC methods and reporting structure to capture relevant information in transparent manner. The data collected and processed is found auditable.

The actual production and dissemination method is found in accordance with the descriptions provided in the Approved 2<sup>nd</sup> Crediting Period PDD. There is no deviation / change evidenced during this monitoring period.

The following sources of information have been used in this context:

- /PDD/
- /PD/

	<ul style="list-style-type: none"> <li>• /MR/</li> <li>• /GSPR/</li> <li>• /XLS/</li> <li>• /SNCWP/</li> <li>• /SR/</li> <li>• /VER/</li> </ul>	
<b>Findings</b>	<input type="checkbox"/>	The project has been implemented as described in the latest version of the PDD as well as in section 2 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	<input type="checkbox"/>	The following deviations from the registered / approved project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section D.4): - N/A
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs have been raised: - CAR 01, CAR 02, CAR 03
<b>Conclusion</b>	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		During the verification a site physical visit was not conducted. On the basis of conference call and call interview and reviewed project documentation, it can be confirmed that w.r.t. the realized technology, the project CWP, as well as the monitoring equipment, the project has been implemented and operated as described in the approved 2 <sup>nd</sup> Crediting Period PDD.

#### E.4. Post-registration changes

##### E.4.1. Temporary deviations from Certified Key Project Information, Project Design Document, Monitoring & Reporting Plan, applied methodology or applied standardized baseline

It has been checked whether any temporary deviations have been applied during this monitoring period. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No temporary deviations have been submitted to the GS-TAC prior to the current monitoring period.	
<input type="checkbox"/>	The following temporary deviations have been approved or are under approval by the GS-TAC	
	1	Title
		Status <input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.: )
		Appr.date
	Ref. No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a temporary deviation has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA	
<input type="checkbox"/>	If identified, provide a description of the deviation(s). Include the reasons for the deviation(s), how it deviates from the monitoring plan, applied methodology(ies) and/or applied approaches, the duration for which the deviation(s) is(are) applicable and justification on the conservativeness of the approach. Also indicate if prior approval from GS-TAC have been sought on the deviation.	
	1	Issue:
	2	Issue:

**E.4.2. Corrections**

It has been checked whether any corrections to project information or parameters fixed at validation have been applied during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<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:	
	The PDD has been revised accordingly: (New) version No.: Revision date:                   XX/XX/XXXX	
	It is confirmed that the updated / 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.	
	<input type="checkbox"/> A related post registration change has been submitted prior to the issuance request. The approval has been received on XX/XX/XXXX <input type="checkbox"/> A related post registration change is submitted along with this issuance request. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.	

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

It has been checked whether any changes to the start date of the crediting period have been approved by Gold Standard that is relevant for this monitoring period

<input checked="" type="checkbox"/>	N/A - as this is not the first verification within the crediting period
<input type="checkbox"/>	The PPs do not intend to change the start date of the crediting period.
<input type="checkbox"/>	The PPs intend to change the start date of the crediting period.
<input type="checkbox"/>	The approval to change the start date of the crediting period has been approved by Gold Standard.

**E.4.4. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline**

It has been checked whether any permanent changes from the registered monitoring plan (PCfrMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No PCfrMP, PCfMM or PCfSB have been submitted to GS-TAC prior to the current monitoring period	
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB have been approved or are under approval by GS-TAC	
1	Title	Revised Monitoring Plan
	Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
	Appr.date	
	Ref. No.	N/A

<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA	
<input type="checkbox"/>	An approval of the following PCfrMP, PCfMM or PCfSB is to be requested from the GS-TAC for the current MP	
	1	Issue:
	2	Issue:

#### E.4.5. Changes to project design of approved project

It has been checked whether any changes to the project design (CoPD) have been approved by GS-TAC prior or during this monitoring period. The result is summarized in the table below.

<input type="checkbox"/>	No CoPD has been submitted to the GS prior to the current monitoring period	
<input checked="" type="checkbox"/>	The following CoPD have been approved or are under approval by GS-TAC	
	1	<p>Title</p> <p>After 2<sup>nd</sup> verification of 1<sup>st</sup> crediting period, the project has undergone a design change and it is noted that the scale of project is shifted to Large scale since the project has crossed the threshold limit of energy saving per annum i.e. 180 GWh / Annum. PP has obtained an approval from gold standard<sup>DCR/</sup>.</p> <p>Status</p> <p><input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved</p> <p>Appr.date</p> <p>27/03/2014<sup>DCR/</sup></p> <p>Ref. No.</p> <p>N/A</p>
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the project activity	
<input type="checkbox"/>	An approval of the following CoPD is to be requested from GS-TAC for the current MP	
	1	Issue:
	2	Issue:

#### E.5. Compliance of the monitoring system applied by the project with the registered monitoring plan

<b>Means of verification</b>	<p>By means of comparison of the MR with</p> <p>(i) the applied GS methodology and</p> <p>(ii) all applicable GS guidelines</p> <p>the verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology.</p> <p>The monitoring system applied by the project compliance with the registered monitoring plan is demonstrated as below:</p> <p><b>Project Surveys (PS)</b></p> <p>The safe water project survey is conducted with end-users representative of the project scenario target population and currently using the safe water project technology. The project survey was carried out using representative and random sampling following the GS guidelines for minimum sample size 100 due to the number of units sold was greater than 1,000. End users for the project survey was selected using representative sampling techniques to ensure adequate representation of users with technologies of different ages. Common sampling approaches such as clustered random sampling was used. End users can be surveyed at any time(s) throughout the year with care taken to collect information pertaining to seasonal variations in technology and fuel use patterns. Via checking the sampling protocol, it is confirmed that the</p>
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sample size for project survey was determined as 126 which is higher than 100.

The project survey was conducted in December 2021 together with usage survey to the participants that are currently using the project technology between 01/07/2016 and 30/06/2021.

### **Water Consumption Field Test (WCFT)**

In this monitoring period, for Water Consumption Field Test (WCFT), due to the latest WCFT was conducted in 2020 which used for previous monitoring period is valid for 2 years, no WCFT was conducted in this MP, which is verified as in line with the requirement in the PDD sampling plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>. This means that four variables including  $Q_{P,y}$ ,  $Q_{P,rawboil,y}$ ,  $Q_{P,leanboil,y}$  and  $N_{p,y}$  are same to the last monitoring period which has been verified in the last MP and no need to be re-assessed in this MP.

### **Baseline Water Boiling test (BWBT)**

In this monitoring period, for Baseline Water Boiling test (BWBT), via checking the conducted project survey result<sup>/MSR/</sup>, it is verified that there is no change for water boiling technologies from that of the baseline: wood and charcoal with traditional cookstove and or improved cookstove; and LPG with LPG stove. Thus, BWBT is not updated in this MP, which is confirmed as reasonable and in line with the PDD sampling plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>. This means that monitored parameters including  $W_{b,y}$  and  $W_{p,y}$  are same to the 2<sup>nd</sup> monitoring period in CP2 which has been verified in the 2<sup>nd</sup> monitoring period in CP2 and no need to be re-assessed in this MP.

### **Ongoing Monitoring Studies: Usage rates, leakage, water quality and Hygiene survey**

#### **i. Usage rates**

During this MP, Angkor Research conducted the monitoring survey including usage survey and project survey in December 2021 to accurately calculate the monitoring parameters outlined in the Project Design Document<sup>/PDD/</sup> and GS4GG transition Annex<sup>/TA/</sup> approved by GS on 30/10/2019<sup>/TRFA/</sup> besides the parameters derived from the WCFT and BWBT.

The sampling protocol for this MP<sup>/SP/</sup> and monitoring survey report<sup>/MSR/</sup> are verified by the verification team, it is confirmed that the sample size determination for usage survey (total 182 and each age is more than 30) is in line with the methodology requirement that “the minimum total sample size is 100, with at least 30 samples for project technologies of each age being credited”<sup>/TPDDTEC/</sup>.

PP has employed a cluster-based, random sample selection methodology to ensure the final sample selected for each study was representative while optimizing fieldwork efficiency. The sample was clustered at the provincial, village, and household level. Via checking the sampling method as stated in sampling protocol for this MP<sup>/SP/</sup> and monitoring survey report<sup>/MSR/</sup>, it is verified that the method is in line with the PDD sampling plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>.

The usage survey was conducted in December 2021 together with project survey to the participants that are currently using the project technology between 01/07/2016 and 30/06/2021.

#### **ii. Leakage**

As per the Gold Standard Methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption – version 3.0, July 2015”, it is required to account the leakage emissions, in case project activity is using any fossil fuel during the Project Scenario.

In accordance with this requirement PP has accounted consumption of fire wood and diesel and gasoline. The input for calculating Leakage emissions are taken from the wood&diesel&gasoline purchase records<sup>WDP/</sup> and it is found in accordance with the Monitoring plan.

### **iii. Water quality testing**

Via checking the updated rule of “Application of TPDDTEC Methodology to safe water supply projects” issued on 03/05/2021<sup>AMSW/</sup>, it is confirmed that according to the section 2.2.2: “The project, PoA and VPAs applying Annex 3 of TPDDTEC may opt for “Water quality testing” requirements outlined for parameter SDWS 18 in Methodology for emission reductions from safe drinking water supply v.1.0 - annual water quality testing. If this option has been opted, the activity shall follow all requirements and limitations outlined for parameter SWDS 18”, PP has opted for “Water quality testing” requirements as annual water quality testing. Hence, the requirements outlined for parameter SDWS 18 in Methodology for emission reductions from safe drinking water supply v.1.0<sup>MERSW/</sup> has been followed for conduct the monitoring of Water quality testing.

PP conducted the water quality test annually in March 2021 for this monitoring period in line with the monitoring frequency of annual water quality testing.

PP took a sample number 45 (greater than that of the minimum 30 of the methodology<sup>MERSW/</sup>/<sup>WQTR/</sup> for water quality test which is in line with the 90/10 rule as defined in the water quality protocol<sup>WQTP/</sup>. The sampling ensures at least a 90% confidence level and a 10% margin of error ( $\pm 10\%$ ) in the results.

Via checking the sampling method as stated in the water quality test protocol<sup>WQTP/</sup>, it is verified that the method is in line with the “Application of TPDDTEC Methodology to safe water supply projects” issued on 03/05/2021<sup>AMSW/</sup> and parameter SDWS 18 requirement in Methodology for emission reductions from safe drinking water supply v.1.0<sup>MERSW/</sup>.

### **iv. Hygiene campaign and survey**

PP conducted general hygiene campaign by attaching it to the sale meeting. PP also conducted hygiene survey in addition to project and usage survey. Via checking the Hygiene Campaign Attendant list 2021<sup>HCAL/</sup>, it is verified that 52,907 people joined the hygiene campaign in this MP and the hygiene survey was confirmed as conducted together with project and usage survey which is verified by checking the monitoring survey report<sup>MSR/</sup>, it showed that all the respondents have the awareness that handwashing before eating/drinking is somewhat or very important and the results is confirmed reasonable and credible.

### **Sales Record and Project Database**

PP has created and maintained the sales record along with the CWP sold/distributed. The related information of CWP is included in the database which has been confirmed by checking the sales record<sup>SR/</sup>.

Also the PP has created and maintained the project database along with the end-user warranty card distributed. The contact detail of end users are recorded in the project database which has been confirmed by checking the project database<sup>PD/</sup>. It is verified that **104,661** end user’s information is recorded and complete for the end user pool to which random sampling can be applied.

### **Quality Assurance and Quality Control**

The related QA/QC procedure has been conducted by PP for the monitoring process including accurate and transparent record keeping, cross-check, monitoring and evaluation which has been verified by checking the related protocols and survey reports.

It is confirmed that the QA/QC procedure has been implemented by PP properly during this monitoring period and the data management is confirmed as effective.

#### **Double counting assessment**

The VVB has checked for double counting by reviewing all relevant registries including CDM<sup>/unfccc/</sup>, VCS<sup>/vcs/</sup> and other GHGs programs such as EU ETS, IREC or subnational, various regional schemes such as the Canadian and American provincial/state-based schemes. It is confirmed that there is no potential exists for Double Counting of emissions reductions due to issuance of Gold Standard VERs/CO<sub>2</sub>-certificates from the considered project activity.

Furthermore, for the project users and stove number sold management, to avoid the double counting, PP has implemented the related actions as following,

- i. Hydrologic has added a serial number to all water filters produced and kept the numbers in a database;  
Verifier checked the database of Serial number 2021<sup>/SNCWP/</sup> comparing with all the serial numbers with previous MP database and found no duplication of the serial number to all water filters. Furthermore, through previous on-site investigation, verification team found that all sampled water filters have a unique serial number attached to the devices.
- ii. The design of the water filters from Hydrologic look physically different from other water filters in the market, making it easy to recognize them; and  
Through previous on-site observation and checking the photos of the Hydrologic CWP, it is found that the water filters from Hydrologic have their unique brand attached to the devices so that to be easily recognized comparing with others.
- iii. Hydrologic will only account for the water filters coming out of their factory, thus removing the risk that other water filters may be double counted.  
Via checking the sales records<sup>/SR/</sup> against the ER calculation sheet<sup>/XLS/</sup>, it is confirmed that only water filters from Hydrologic factory are accounted, no risk of counting other brand into the ER sheet.

Therefore, in conclusion, the risk of double counting is unlikely to happen.

In conclusion, the MP is completely in accordance with the approved methodology applied by the GS project and PDD for 2<sup>nd</sup> CP.

The following sources of information have been used in this context:

- /MR/
- /TPDDTEC/
- /AMSW/
- /MERSW/
- /PDD/
- /XLS/
- /TA/
- /TRFA/
- /SP/
- /MSR/
- /WDP/
- /WQTR/
- /WQTP/
- /HCAL/
- /SR/
- /SNCWP/
- /PD/

	<ul style="list-style-type: none"> <li>• /gs/</li> <li>• /unfccc/</li> <li>• /vcs/</li> </ul>
<b>Findings</b>	<input type="checkbox"/> The MP is completely in accordance with the approved methodology applied by the GS project (last registered/approved version of the PDD)
	<input checked="" type="checkbox"/> In this context the following CARs, CLs, FARs have been raised: - CAR 04, CL 01
<b>Conclusion</b>	<input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The monitoring plan complies with the applied methodology and the monitoring system and all applied procedures are completely in compliance to the latest approved monitoring plan and the methodology.

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

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

<b>Means of verification</b>	By means of comparison of the MR and the ER calculation with the approved 2 <sup>nd</sup> Crediting Period PDD <sup>/PDD/</sup> and Transition Annex <sup>TA/</sup> , the verification team has checked whether all parameters fixed ex-ante have been applied correctly. The parameters that are fixed ex ante are following:			
	<b>Parameters</b>	<b>Source of data</b>	<b>Values applied</b>	<b>Demonstration by Verification team</b>
	$f_{NRB,y}$ - Non-renewable biomass ratio	Biomass Non-Renewability Assessment Cambodia <i>/NRBC/</i>	95.01%	PP has applied value of 95.01% for this monitoring period, this value is a calculated value based on the Biomass Non-Renewability Assessment Cambodia <sup>/NRBC/</sup> . Via checking the applied methodology, TPDDTEC V3.0, it is confirmed that the $f_{NRB}$ is fixed by baseline study for a given crediting period, and can be updated if necessary. The original value of $f_{NRB}$ is 77% which is a default value from UNFCCC, but via checking the UNFCCC website, it is verified that this value is valid until February 2019. But due to limit data has prevented this update after February 2019, thus PP has opted to use the old figure which is conservative compared to this latest figure in the last monitoring periods. For this MP, PP reviewed the available data for updating $f_{NRB}$ which is confirmed in line with the requirement of the applied methodology. Via checking the $f_{NRB}$ calculation sheet "Biomass Non-Renewability Assessment Cambodia" <sup>/NRBC/</sup> , it is confirmed that the value is assessed by

			employing the guidance provided in the methodological Tool 30 “Calculation of the fraction of non-renewable biomass”, version 02.0 <sup>TNRB/</sup> Furthermore, via checking the case of GS751 <sup>751/</sup> , it is confirmed that the latest f <sub>NRB</sub> 's figure of 95.01% in Cambodia has been approved by GS under its CP3-MP2 verification work. Hence this value is confirmed as applicable to this monitoring period.
$f_{ff,b,y}$ – Fraction of non-renewable fuel for fossil fuels (LPG)	AMS-III.AV Version 5 <sup>AMS-III.AV/</sup>	100%	Fraction of non-renewable fuel for fossil fuels (LPG) of 100% derived is from AMS-III.AV, Version 5
$NCV_{b,wood}$ / $NCV_{p,wood}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD and IPCC	0.015 TJ/ton	PP has applied a default value of 0.015 for this monitoring period, and the value is obtained from IPCC <sup>IPCC/</sup> Guidelines for National Greenhouse Gas Inventories”, Volume 2, Energy, Chapter 1, Introduction, Table 1.2, p1.19.” – This value is found correct and acceptable.
$NCV_{b,LPG}$ / $NCV_{p,LPG}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD and IPCC	0.047 TJ/ton	PP has applied a default value of 0.047 for this monitoring period, and the value is obtained from IPCC <sup>IPCC/</sup> (2006) “IPCC Guidelines for National Greenhouse Gas Inventories”, Volume 2, Energy, Chapter 1, Introduction, Table 1.2, p 1.18. This value is found correct and acceptable.
Wood to charcoal conversion factor	AMS-II.G. <sup>AMS-II.G./</sup>	6	Default value in AMS-II.G. “Energy efficiency measures in thermal applications of non-renewable biomass”. <sup>AMS-II.G./</sup>
$EF_{b,wood,CO2}$ / $EF_{p,wood,CO2}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD and IPCC <sup>IPCC/</sup>	112.00 tCO <sub>2</sub> /TJ	PP has applied a default value of 112.00 for this monitoring period, and the value is obtained from IPCC <sup>IPCC/</sup> Guidelines for National Greenhouse Gas Inventories”, Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 – This value is found correct and acceptable.
$EF_{b,wood,nonCO2}$ / $EF_{p,wood,nonCO2}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD, IPCC <sup>IPCC/</sup> and AR5 <sup>AR5/</sup>	9.46 tCO <sub>2</sub> /TJ ((CH <sub>4</sub> = 0.3* GWP 28) + (N <sub>2</sub> O=0.0	PP has applied a value of 9.46 for this monitoring period, and the value is obtained from IPCC <sup>IPCC/</sup> Guidelines IPCC Guidelines for National Greenhouse Gas Inventories”, Volume 2, Energy, Chapter 2,

		04 * GWP 265))	Stationary Combustion, Table 2.5 For GWP: RULE UPDATE dated on 03/06/2021: Applicability of global warming potential for gold standard for the global goals project based on AR5/AR5/. This value is found correct and acceptable.
$EF_{b,LPG,CO2}$ / $EF_{p,LPG,CO2}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD and IPCC/IPCC/	63.1 tCO <sub>2</sub> /TJ	PP has applied a default value of 63.1 for this monitoring period, and the value is obtained from IPCC/IPCC/ Guidelines for National Greenhouse Gas Inventories”, Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 – This value is found correct and acceptable.
$EF_{b,LPG,non-CO2}$ / $EF_{p,LPG,non-CO2}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD, IPCC/IPCC/ and AR5/AR5/	0.1665 tCO <sub>2</sub> /TJ ((CH <sub>4</sub> =0.0 05*GWP 28) + (N <sub>2</sub> O=0.0 001*GWP 265))	PP has applied a value of 0.1665 for this monitoring period, and the value is obtained from IPCC/IPCC/ Guidelines IPCC Guidelines for National Greenhouse Gas Inventories”, Volume 2, Energy, Chapter 2, Stationary Combustion, Table 2.5 For GWP: RULE UPDATE dated on 03/06/2021: Applicability of global warming potential for gold standard for the global goals project based on AR5/AR5/. This value is found correct and acceptable. However, it is checked that this value is minimal comparing with the value of $EF_{b,LPG,CO2}/EF_{p,LPG,CO2}$ which is deemed negligible in the ER calculation. As a result, it is set to zero in the ER calculation for simplicity.
$X_{boil}$	Data from approved 2 <sup>nd</sup> Crediting Period PDD, Baseline Report <sup>BSR/</sup> and C <sub>j</sub> & X <sub>boil</sub> calculation sheet <sup>CJX/</sup>	5.8%	PP has applied a value of 5.8% as a percentage of premises that in the absence of the project activity would have used non-GHG emitting technologies like chlorine treatment techniques (if available) in the project boundary – This value is sourced from the Baseline report <sup>BSR/</sup> carried out in 2017 and C <sub>j</sub> & X <sub>boil</sub> calculation sheet <sup>CJX/</sup> . The executive summary of this report summarizes this value based on findings of the survey. The value applied found conservative and

			found valid.
<b>C<sub>j</sub></b>	Data from approved 2 <sup>nd</sup> Crediting Period PDD, Baseline Report <sup>/BSR/</sup> and C <sub>j</sub> & X <sub>boil</sub> calculation sheet <sup>/CJX/</sup>	25.97%	PP has applied a value of 25.97% as a fraction / portion of users of the project technology who were in baseline scenario already using safe drinking water without boiling it – This value is sourced from the Baseline report <sup>/BSR/</sup> carried out in 2017 and C <sub>j</sub> & X <sub>boil</sub> calculation sheet <sup>/CJX/</sup> . The executive summary of this report summarizes this value based on findings of the survey. The value applied is found conservative, correct and valid.
<b>W<sub>b,y,TRAD,wood</sub></b> <b>W<sub>p,y,TRAD,wood</sub></b>	Default value based on Rule Update - Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <i>/AMSW/</i>	-400.00 grams /liter -400.00 grams /liter	PP has applied a default value of 400 g/l for this monitoring period. This is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> . Hence it is verified that the updated value for this monitoring period is correct.
<b>W<sub>b,y,TRAD,charcoal</sub></b> <b>W<sub>p,y,TRAD,charcoal</sub></b>	Default value based on Rule Update - Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <i>/AMSW/</i>	-100.00 grams /liter -100.00 grams /liter	PP has applied a default value of 100 g/l for this monitoring period. This is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> . Hence it is verified that the updated value for this monitoring period is correct.
<b>W<sub>b,y,IMP,wood</sub></b> <b>W<sub>p,y,IMP,wood</sub></b>	Default value based on Rule Update - Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <i>/AMSW/</i>	-400.00 grams /liter -400.00 grams /liter	PP has applied a default value of 400 g/l for this monitoring period. This is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> . Hence it is verified that the updated value for this monitoring period is correct.
<b>W<sub>b,y,IMP,charcoal</sub></b> <b>W<sub>p,y,IMP,charcoal</sub></b>	Default value based on Rule Update - Application of TPDDTEC methodology to SAFE Water Supply projects dated	-100.00 grams /liter -100.00 grams /liter	PP has applied a default value of 100 g/l for this monitoring period. This is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> . Hence it is verified that the updated value

	on 03/05/2021 /AMSW/		for this monitoring period is correct.
$W_{b,y,LPG(small)}$ ) $W_{p,y,LPG(small)}$ )	Exchange email with GS "GS_Default_LPG" <sup>/RDV/</sup>	-24.00 grams /liter -24.00 grams /liter	PP has applied a value of 24 g/l for this monitoring period. This is based on the Recommended default value from GS provided in the exchange email with GS "GS Default LPG" <sup>/RDV/</sup> .
$W_{b,y,LPG(large)}$ $W_{p,y,LPG(large)}$	Calculation	-15.11 grams /liter -15.11 grams /liter	PP has applied a value of 15.11 grams/liter for this monitoring period. This parameter is not monitored by BWBT protocol due to the safety reason. So PP calculated this value by theoretical formula, The quantity of LPG (in tonnes) required to treat one litre of water = = SEC/[NCV_LPG*Conversion factor (TJ to kJ)] Where SEC is calculated according to CDM methodology AMS-III.AV Version 5, $SEC = [WH \times (T_f - T_i) + 0.01 \times WHE] / n_{wb}$ SEC =[4.186*(100 – 20)+ 0.01*2260]/0.5 = 714.96 kJ/L Hence, The quantity of LPG (in tonnes) required to treat one litre of water = 714.96/(0.047*10 <sup>9</sup> )= 0.00001511 tonnes = 15.11 grams The value applied by the PP is found correct and conservative hence accepted.
$W_{b,y,WEIGHTE D,wood}$	Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 /AMSW/ and Baseline Survey <sup>/BSR/</sup>	0.000273 t	PP has applied a value of 0.000273 t for this monitoring period. The formula used to reach this figure is: $W_{Wood \text{ required to boil 1 litre of water with traditional.stove}} * \%_{stove \text{ usage in baseline scenario}} + W_{Wood \text{ required to boil 1 litre of water with improved.stove}} * \%_{stove \text{ usage in baseline scenario}} = W_{b,y,WEIGHTED,wood}$ W is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> and percentage of stove usage in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> .
% of Traditional Stove Users with wood in the baseline	Baseline Survey <sup>/BSR/</sup>	56.93%	Percentage of traditional stove users with wood in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> conducted in 2017 which has been verified during the validation process.

	% of Improved Stove Users with wood in the baseline	Baseline Survey <sup>/BSR/</sup>	11.26%	Percentage of improved stove users with wood in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> conducted in 2017 which has been verified during the validation process.
	<b>W<sub>b,y,WEIGHTED,Charcoal</sub></b>	Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> and Baseline Survey <sup>/BSR/</sup>	0.000006 t	PP has applied a value of 0.000006 t for this monitoring period. The formula used to reach this figure is: $W_{Charcoal \text{ required to boil 1 litre of water with traditional.stove}} * \%_{stove \text{ usage in baseline scenario}} + W_{Charcoal \text{ required to boil 1 litre of water with improved.stove}} * \%_{stove \text{ usage in baseline scenario}} = W_{b,y,WEIGHTED,charcoal}$ W is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 <sup>/AMSW/</sup> and percentage of stove usage in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> .
	% of Traditional Stove Users with charcoal in the baseline	Baseline Survey <sup>/BSR/</sup>	5.19%	Percentage of traditional stove users with charcoal in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> conducted in 2017 which has been verified during the validation process.
	% of Improved Stove Users with charcoal in the baseline	Baseline Survey <sup>/BSR/</sup>	0.87%	Percentage of improved stove users with charcoal in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> conducted in 2017 which has been verified during the validation process.
	<b>W<sub>b,y,WEIGHTED,LPG</sub></b>	Exchange email with GS "GS_Default_LPG" <sup>/RDV/</sup> , Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final <sup>/MSR2019/</sup> and Baseline Survey <sup>/BSR/</sup>	0.0000038 t	PP has applied a value of 0.0000038 t for this monitoring period. The formula used to reach this figure is: $[W_{LPG \text{ required to boil 1 litre of water with Small LPG stove}} * \% \text{ of small LPG stove usage in project scenario}} + W_{LPG \text{ required to boil 1 litre of water with Large LPG stove}} * \% \text{ of Large LPG stove usage in project scenario}] * \% \text{ of LPG stove in the baseline survey} = W_{b,y,LPG}$ $W_{LPG \text{ required to boil 1 litre of water with Small LPG stove}}$ is derived from Exchange email with GS "GS_Default_LPG" <sup>/RDV/</sup> $W_{LPG \text{ required to boil 1 litre of water with Large LPG stove}}$ is based on the results of Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final <sup>/MSR2019/</sup> and percentage of LPG stove in the baseline

			survey is taken from the baseline survey <sup>/BSR/</sup> .
% of LPG stove in the baseline scenario	Baseline Survey <sup>/BSR/</sup>	19.91%	Percentage of LPG stove in the baseline scenario is taken from the baseline survey <sup>/BSR/</sup> conducted in 2017 which has been verified during the validation process.
% of small LPG <sub>stove</sub> usage in baseline scenario	Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final <sup>/MSR2019/</sup>	44%	The result is derived from Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final <sup>/MSR2019/</sup> .
% of large LPG <sub>stove</sub> usage in baseline scenario	Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final <sup>/MSR2019/</sup>	56%	The result is derived from Baseline Water Boiling Test in HSE(2019)_MonitoringSurvey_V6Final <sup>/MSR2019/</sup> .
Growth stock in forest in Cambodia	Global Forest Resources Assessment 2015 <sup>/GFRA/</sup> and IPCC 2006 <sup>/IPCC/</sup> , Transition Annex <sup>/TA/</sup>	162.15 t/ha	The value is calculated by Cambodia growth stock in forest (m <sup>3</sup> /ha) * Converting factor from m <sup>3</sup> of wood to t of wood = 94 m <sup>3</sup> /ha*1.725 t/m <sup>3</sup> =162.15 t/ha Cambodia growing stock (94m <sup>3</sup> /ha) is derived from Global Forest Resources Assessment 2015, Page 79, Table 13 Growing stock in forest and other wooded land 2015; Converting factor from m <sup>3</sup> of wood to t (1.725 t/m <sup>3</sup> is derived from Chapter 3: LUCF sector Good Practice Guidance IPCC 2006, page 12. This value is also approved during the transition which listed in the Transition Annex <sup>/TA/</sup> . Hence, the value applied by the PP is found correct and reasonable and hence accepted.

The following sources of information have been used in this context:

- /MR/
- /XLS/
- /PDD/
- /NRBC/
- /AMS-III.AV/
- /IFNRB/
- /CJX/
- /GFRA/
- /BSR/
- /MSR/
- /IPCC/
- /TA/

	<ul style="list-style-type: none"> <li>• /AR5/</li> <li>• /AMSW/</li> <li>• /RDV/</li> <li>• /NRBC/</li> <li>• /751/</li> </ul>
<b>Findings</b>	<input checked="" type="checkbox"/> The MR and the ER calculation have considered the parameters fixed ex-ante or at the renewal of the crediting period correctly, no deviations have been observed.
	<input type="checkbox"/> The following deviations from the parameters fixed ex-ante or at renewal of crediting period have been identified in the course of this verification: - N/A
	<input checked="" type="checkbox"/> In this context the following CARs, CLs, FARs have been raised: - CL 02, CL 03, CAR 05, CAR 06, CAR 07, CAR 08
<b>Conclusion</b>	<input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The parameters fixed ex ante have been indicated in the revised approved GS PDD for 2 <sup>nd</sup> CP. And the MR is checked as in line with the PDD. The values are applied consistent.

### E.6.2. SDG Data and parameters monitored

<b>Means of verification</b>	<p>During the verification all relevant monitoring parameters (as listed in C.1 of Transition Annex) have been verified with regard to the</p> <ul style="list-style-type: none"> <li>(i) appropriateness of the applied measurement / determination method,</li> <li>(ii) the correctness of the values applied for ER calculation,</li> <li>(iii) the accuracy, and applied QA/QC measures.</li> </ul> <p>The results as well as the verification procedure are described parameter-wise in the project specific verification checklist (Appendix 5).</p>
<b>Findings</b>	CL 04
<b>Conclusion</b>	<input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	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.

### E.6.3. Comparison of monitored parameters with last monitoring period

<b>Means of verification</b>	This is the 4 <sup>th</sup> monitoring period. PP has provided the values from 4 <sup>th</sup> monitoring period and values from 3 <sup>rd</sup> monitoring period for each monitoring parameters for comparison as below table.			
	Data/Parameter	Unit	Value obtained in this MP	Value obtained last MP
	T <sub>p,y</sub>	CWP	38,645.00	33,746.00
	U <sub>p,y</sub>	%	67.34	83.18
	WQ <sub>Passed,y</sub>	%	93.30	90.00
	Hygiene Campaigns	People	52,907.00	113,246.00
	N <sub>p,y</sub>	Persons.day s	1,908.95	1,914.18
	Q <sub>p,y</sub>	l/person/day	1.19	1.19
	Q <sub>p,rawboil,y</sub>	l/person/day	0.55	0.55
	Q <sub>p,cleanboil,y</sub>	l/person/day	0.03	0.03
	Women%_HH	%	55.51	56.25
	Women%	%	84.21	81.65
	N <sub>Less_smoke,y</sub>	%	91.30	75.90
	Percentage of Traditional	%	42.25	44.10

Stove Users with wood in the project scenario			
Percentage of Improved Stove Users with wood in the project scenario	%	14.04	13.10
Percentage of Traditional Stove Users with charcoal in the project scenario	%	8.77	0.00
Percentage of Improved Stove Users with charcoal in the project scenario	%	10.53	1.20
Percentage of LPG stove usage in the project scenario	%	21.05	26.20
Percentage of small LPG stove usage in the project scenario	%	41.66	9.10
Percentage of large LPG stove usage in the project scenario	%	58.34	90.90
LE <sub>p,y</sub>	tCO <sub>2</sub> per unit per year	0.014	0.012
Total amount of biomass fuel saves	t	49,126.00	65,540.00
Total amount of LPG saves	t	621.00	956.00
Percentage of household noted on money save after using the project technology	%	87.30	82.10
Percentage of household noted on time save after using the project technology	%	91.77	91.20
Number of people using CWP and note that their kitchen is less smoke	People	536,868.00	566,366.63
The number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel	People	203,476.00	253,712.78
Number of people with access to safe drinking water	People	588,026.00	746,201.09
Amount of energy saved from avoiding boiling water	TJ	766.00	1,028.00
Number of new job created by the project with safe and healthy work environment	Staff	82.00	85.00
Amount of ER	tCO <sub>2</sub> e	84,820.00	93,878.00
Area of forest save	ha	302.00	404.00

Via checking the verification report of 3<sup>rd</sup> monitoring period<sup>VER/</sup>, it is confirmed that the values are correct and based on the comparison, it is verified that the values for all the monitoring parameters are not changed significantly comparing with the 3<sup>rd</sup> monitoring period<sup>VER/</sup>, except the Number of people attending hygiene meeting, usage rate U<sub>p,y</sub> and ER value.

For the Number of people attending hygiene meeting, less people attended than last MP due to the hygiene meeting were conducted in 2021 under Covid-19 epidemic which is verified as reasonable.

For U<sub>p,y</sub>, the value in this MP is drastically lower than that of the previous MP, via interview with PP, it is confirmed that the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces due to Covid-19 Pandemic in 2021, and this may lead to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot which is verified as reasonable confirmed

	<p>by local expert.</p> <p>For ER value, it is lower than last MP due to different and lower value of parameters applied as described above, especially number of person.days consuming water supplied by project scenario p through year y and the lower usage rate which has been analyzed in the Appendix 5 for each parameter.</p> <p>The reason for change has been added in the table for each parameter which is verified as correct and reasonable.</p> <p>Hence, based on above assessment, it is concluded that the values for this monitoring period is verified as reasonable.</p>
<b>Findings</b>	CL 05
<b>Conclusion</b>	<input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<p>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.</p>

#### E.6.4. Compliance of the sampling implementation with the registered sampling plan

<b>Means of verification</b>	<p>The verification team has been checked whether the PP have applied a sampling approach to determine the monitored values.</p> <p>Further it has been checked whether the PP have correctly applied the implemented sampling plan including</p> <ul style="list-style-type: none"> <li>(i) description of the implemented sampling design</li> <li>(ii) collected data</li> <li>(iii) analysis of collected data</li> <li>(iv) demonstration on whether the required confidence/precision has been met.</li> </ul> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /XLS/</li> <li>• /PDD/</li> <li>• /MSR/</li> <li>• /TPDDTEC/</li> <li>• /GST/</li> <li>• /WQTP/</li> <li>• /WQTR/</li> <li>• /VER/</li> </ul>			
<b>Findings</b>	<input type="checkbox"/>	The PPs have not applied sampling approaches for the parameters monitored.		
	<input checked="" type="checkbox"/>	The PPs have applied sampling approaches for the following parameters monitored		
		1	Parameter:	$Q_{P,y}$
			Name:	Quantity of purified water consumed in the project scenario p per person per day
			Description on how the sampling efforts and survey comply with the validated sampling plan:	As verified in the last periodic verification, Refer to the verification report for MP3CP2 <sup>VER/</sup> .
	2	Parameter:	$Q_{p,rawboil,y}$	
		Name:	The raw or unsafe water that is still boiled after installation of the CWP	
		Description on how the sampling efforts and survey comply with the validated sampling plan:	As verified in the last periodic verification, Refer to the verification report for MP3CP2 <sup>VER/</sup> .	

	3	Parameter:	$Q_{p, \text{cleanboil}, y}$
		Name:	Quantity of safe water (treated or from safe supply) boiled in the project scenario p, after installation of the CWP
		Description on how the sampling efforts and survey comply with the validated sampling plan:	As verified in the last periodic verification, Refer to the verification report for MP3CP2 <sup>/VER/</sup> .
	4	Parameter:	$WQ_{\text{Passed}, y}$
		Name:	Performance of the CWP
		Description on how the sampling efforts and survey comply with the validated sampling plan:	PP took a sample number 45 (greater than that of the minimum 30 of the methodology <sup>/MERSW/</sup> / <sup>/WQTR/</sup> for water quality test which is in line with the 90/10 rule as defined in the water quality protocol <sup>/WQTP/</sup> . The sampling ensures at least a 90% confidence level and a 10% margin of error ( $\pm 10\%$ ) in the results.  Via checking the sampling method as stated in the water quality test protocol <sup>/WQTP/</sup> , it is verified that the method is in line with the "Application of TPDDTEC Methodology to safe water supply projects" issued on 03/05/2021 <sup>/AMSW/</sup> and parameter SDWS 18 requirement in Methodology for emission reductions from safe drinking water supply v.1.0 <sup>/MERSW/</sup> .
	5	Parameter:	$U_{p, y}$
		Name:	Weighted average usage rate
		Description on how the sampling efforts and survey comply with the validated sampling plan:	PP took a sample number of 182 for usage survey which is in line with the methodology requirement as defined in the sampling protocol <sup>/SP/</sup> . It is verified that the sample number is above the minimum number requested in the applied methodology of 150.  Via checking the sampling method as stated in the monitoring survey report <sup>/MSR/</sup> , it is verified that the method is in line with the PDD sampling plan <sup>/PDD/</sup> , methodology requirement <sup>/TPDDTEC/</sup> and GS rules <sup>/GST/</sup> .  The following is checked by the verification team to confirm the compliance with the applied methodology requirement "To ensure conservativeness, participants in a usage survey with technologies in the first year of use (age 0-1) must have technologies that have been in use on average longer than 0.5 years. For technologies in the second year of use (age 1-2), the usage survey must be conducted with technologies that have been in use on average at least 1.5 years, and so on."  The conservativeness of each age group has been taken into consideration in the sampling selection,

			"ARC_HSE_CP2_MP4_2022_Report_Final_v6" is checked and confirmed.
6	Parameter:	$N_{p,y}$	
	Name:		Number of persons consuming water supplied by project scenario p through year y
	Description on how the sampling efforts and survey comply with the validated sampling plan:		As verified in the last periodic verification, Refer to the verification report for MP3CP2 <sup>VER/</sup> .
7	Parameter:	$W_{b,y,LPG(large)}$	
	Name:		LPG required to treat 1 litre of water using LPG stove (large) in baseline scenario
	Description on how the sampling efforts and survey comply with the validated sampling plan:		As verified in the 1 <sup>st</sup> periodic verification, Refer to the verification report for MP1CP2 <sup>VER/</sup> . The value of this parameter should be updated if ongoing monitoring survey show that baseline water boiling change over time. Based on the monitoring survey report <sup>MSR/</sup> , there is no change for water boiling technologies from that of the baseline: wood and charcoal with traditional cookstove and or improved cookstove; and LPG with LPG stove. Thus, BWBT is not updated.
8	Parameter:	$W_{p,y,LPG(large)}$	
	Name:		LPG required to treat 1 litre of water using LPG stove (large) in project scenario
	Description on how the sampling efforts and survey comply with the validated sampling plan:		As verified in the 1 <sup>st</sup> periodic verification, Refer to the verification report for MP1CP2 <sup>VER/</sup> . The value of this parameter should be updated if ongoing monitoring survey show that baseline water boiling change over time. Based on the monitoring survey report <sup>MSR/</sup> , there is no change for water boiling technologies from that of the baseline: wood and charcoal with traditional cookstove and or improved cookstove; and LPG with LPG stove. Thus, BWBT is not updated.
9	Parameter:	$W_{b,y,WEIGHTED,LPG}$	
	Name:		Average weighted quantity of LPG required to treat 1 litre of water using technologies representative of baseline scenario b during project year y
	Description on how the sampling efforts and survey comply with the validated sampling plan:		As verified in the 1 <sup>st</sup> periodic verification, Refer to the verification report for MP1CP2 <sup>VER/</sup> . The value of this parameter should be updated if ongoing monitoring survey show that baseline water boiling change over time. Based on the monitoring survey report <sup>MSR/</sup> , there is no change for water boiling technologies from that of the baseline: wood and charcoal with

			traditional cookstove and or improved cookstove; and LPG with LPG stove. Thus, BWBT is not updated.
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: - CAR 11	
<b>Conclusion</b>	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
		According to latest version of Guidelines: "Sampling and surveys for CDM project activities and programmes of activities" <sup>/SSG/</sup> and Standard: "Standard for sampling and surveys for CDM project activities and Programme of Activities" <sup>/SSS/</sup> , and based on the verification team's local and sectorial knowledge, the verification team confirms that the sampling approach applied by the PP is in accordance with the approved 2 <sup>nd</sup> Crediting Period PDD and applied methodology.	

### E.7. Compliance with the calibration frequency requirements for measuring instruments

<b>Means of verification</b>		<p>During the verification the relevant monitoring equipment has been checked whether the calibration requirements have been met; especially if the calibration frequency is in line with the requirements of the validated PDD and/or the applicable calibration standards.</p> <p>In this monitoring period, for Water Consumption Field Test (WCFT), due to the latest WCFT was conducted in 2020 which used for previous monitoring period is valid for 2 years, no WCFT was conducted in this MP, which is verified as in line with the requirement in the PDD sampling plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>. This means that four variables including <math>Q_{P,y}</math>, <math>Q_{P,rawboil,y}</math>, <math>Q_{P,leanboil,y}</math> and <math>N_{p,y}</math> are same to the last monitoring period which has been verified in the last MP and no need to be re-assessed in this MP.</p> <p>Via checking the verification report and MR for the last monitoring period<sup>/VER/</sup>, it is confirmed that the calibration test was conducted and the related calibration evidence is checked and verified.</p> <p>For Baseline Water Boiling test (BWBT), via the conducted project survey result, it is verified that there is no change for water boiling technologies from that of the baseline: wood and charcoal with traditional cookstove and or improved cookstove; and LPG with LPG stove. Thus, BWBT is not updated in this MP, which is confirmed as reasonable and line with the PDD sampling plan<sup>/PDD/</sup> and methodology requirement<sup>/TPDDTEC/</sup>.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /XLS/</li> <li>• /VER/</li> <li>• /TPDDTEC/</li> </ul>
<b>Findings</b>	<input checked="" type="checkbox"/>	Based on the details listed above the verification team can confirm that all installed monitoring equipment has been duly calibrated for this entire monitoring period.
	<input type="checkbox"/>	Based on the assessment and information as above calibration have been identified. The PP has applied the maximum permissible error of the instrument to the measured values taken during the period between the scheduled date of calibration and the actual date of calibration. From the related calibration certificates and emission reduction calculation the verification team confirms that the maximum permissible error has been applied in a conservative manner so that the adjusted measured values due to the delayed calibration result in fewer claimed emission reductions.
		In this context the following CARs, CLs, FARs have been raised:

	<input type="checkbox"/>	- N/A
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	During this MP, no monitoring equipment was used for measuring the above parameters as per the PDD and transition annex. Hence, verification team concluded that no records of calibration produced during this monitoring period.	

## E.8. Assessment of data and calculation of SDG impacts

### E.8.1. Calculation of baseline value or estimation of baseline situation of each SDG impact

<b>Means of verification</b>	<p>During the verification the calculation of baseline situation of each SDG impact has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> <li>• <i>Transparency</i>: It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae.</li> <li>• <i>Parameter consistency</i>: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet.</li> <li>• <i>Correctness</i>: It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology.</li> <li>• <i>Completeness</i>: It has been checked whether all calculations are complete and without omissions.</li> </ul> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /XLS/</li> <li>• /TPDDTEC/</li> <li>• /MSR/</li> <li>• /MSR-MP3/</li> <li>• /SR/</li> </ul> <p>Furthermore, the critical parameter used for the determination of each SDG impact is the total number of units of CWP's sold which is derived from the sales record<sup>/SR/</sup>. Other parameters are derived from the monitoring surveys done during the monitoring period. Important surveys carried out in this monitoring period which are critical to arrive at the emission reductions are as listed below.</p> <ul style="list-style-type: none"> <li>• Project Survey<sup>/MSR/</sup></li> <li>• Usage Survey<sup>/MSR/</sup></li> </ul> <p>The data obtained through above survey and monitoring methods is maintained in the form of relevant records. All the data are in compliance with that stated in the MR.</p> <p><b>SDG 1 Baseline Impact:</b></p> <p>Via checking the MR and through interview with users, it is confirmed that the project helps users to save time spending on fuel collection/ purchase and boiling water, and save money on fuel purchase and expenditure on medicine by reducing the rate of having waterborne disease.</p> <p>Hence, in compliance with the UN's SDG indicator "1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)", the indicators of SDG1 are defined as <b>the amount fuel saves; the percentage of household noted on</b></p>
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**money save after using the project technology and the percentage of time save after using the project technology.**

Then the estimated Baseline Impact is calculated for different categories in SDG 1.

In the baseline situation, as per the interview with users<sup>/13/</sup>, it is verified no percentage of household noted on fuel, money save and no percentage of household noted on time save after using the project technology. Therefore, the two Baseline Impact benefits are zero.

Based on the equations listed in MR and monitoring survey data which has been verified in Appendix 5, it is confirmed that the Baseline Impacts was estimated as following:

Indicator	Unit	Baseline situation
<b>SDG1 (a) Biomass use</b>	t	80,548
<b>SDG1 (b) LPG use</b>	t	986
<b>SDG1 © % of HH noted on money save</b>		0%
<b>SDG1 (d) of % of HH noted on time save</b>		0%

***SDG 3 Baseline Impact:***

Via checking the MR and through interview with users, it is confirmed that the project helps users to reducing smoke and dust coming from boiling water with solid biomass.

Hence, in compliance with the UN's SDG indicator "3.9.1 Mortality rate attributed to household and ambient air pollution", the indicators of SDG3 are defined as ***the number of people who notice less smoke in kitchen after having water filter.***

In the baseline situation, as per the interview with users<sup>/13/</sup>, it is verified that no change in smoke level from boiling water. Therefore, Baseline Impact benefit is zero.

***SDG 5 Baseline Impact:***

Via checking the MR and through interview with woman and girl users, it is confirmed that the project helps users to reducing the work load on women and girls who are responsible for boiling water and collecting/purchasing cooking fuel.

Hence, in compliance with the UN's SDG indicator "5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location", the indicators of SDG5 are defined as ***the number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel.***

In the baseline situation, as per the interview with female users<sup>/13/</sup>, it is verified that no distribution of project technology. Therefore, Baseline Impact benefit is zero.

***SDG 6 Baseline Impact:***

Via checking the MR and through interview with users, it is confirmed that the project provides a clean water supply to the users.

Hence, in compliance with the UN's SDG indicator "6.1.1 Proportion of population using safely managed drinking water services", the indicators of SDG6 are defined as ***the number of people served with satisfactory level of safe/potable water.***

In the baseline situation, as per the interview with female users<sup>/13/</sup>, it is verified that no distribution of project technology. Therefore, Baseline Impact benefit is zero.

***SDG 7 Baseline Impact:***

Via checking the MR and through interview with users, it is confirmed that the project promotes access to affordable and clean energy services.

Hence, in compliance with the UN's SDG indicator "7.1.2 Proportion of population with primary reliance on clean fuels and technology", the indicators of SDG7 are defined as **the amount of energy save from avoiding boiling water for drinking**.

In the baseline situation, as per the interview with users<sup>/13/</sup>, it is verified that no distribution of project technology. Therefore, Baseline Impact benefit is zero.

**SDG 8 Baseline Impact:**

Via checking the MR and through interview with representative of staffs, it is confirmed that the project create jobs with safe and healthy work environment.

Hence, in compliance with the UN's SDG indicator "8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities", the indicators of SDG8 are defined as **the number of new job created by the project with safe and healthy work environment**.

In the baseline situation, as per checking the Health and Safety Precautions<sup>/HSP/</sup> and interview with representative of staffs<sup>/12/,14/</sup>, it is verified that no new job created with safe and healthy work environment by this project. Therefore, Baseline Impact benefit is zero.

**SDG 13 Baseline Impact:**

**Baseline Emissions BE<sub>b,y</sub> Calculation Assessment:**

The formula used for the determination of baseline emissions which is consistent with the approved 2<sup>nd</sup> Crediting Period PDD and the applied methodology:

$$BE_{b,y} = B_{b,wood,y} * ((f_{NRB,b,y} * EF_{b,wood,CO2}) + EF_{b,wood,nonCO2}) * NCV_{b,wood} + B_{b,charcoal,y} * \text{Wood to charcoal factor} * ((f_{NRB,b,y} * EF_{b,wood,CO2}) + EF_{b,wood,nonCO2}) * NCV_{b,wood} + B_{b,LPG,y} * ((f_{ff,b,y} * EF_{b,LPG,CO2}) + EF_{b,LPG,nonCO2}) * NCV_{b,LPG}$$

Where:

Parameters	Description
BE <sub>b,y</sub>	Emissions for baseline scenario b during the year y in tCO <sub>2</sub> e
B <sub>b,wood,y</sub>	Quantity of fuel (wood) consumed in baseline scenario b during year y, in t
B <sub>b,charcoal,y</sub>	Quantity of fuel (charcoal) consumed in baseline scenario b during year y, in t
B <sub>b,y,LPG</sub>	Quantity of fuel (LPG) consumed in baseline scenario b during year y, in t
f <sub>NRB,y</sub>	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
f <sub>ff,b,y</sub>	Fraction of non renewable fuel for fossil fuels (LPG)
NCV <sub>b,wood</sub>	Net calorific value of wood that is substituted or reduced
NCV <sub>b,LPG</sub>	Net calorific value of LPG that is substituted or reduced
Wood to charcoal conversion factor	Wood to charcoal conversion factor
EF <sub>b,wood,CO2</sub>	CO <sub>2</sub> emissions factor of the fuel (wood) that it substituted or reduced
EF <sub>b,LPG,CO2</sub>	CO <sub>2</sub> emissions factor of the fuel (LPG) that it substituted or reduced
EF <sub>b,wood,nonCO2</sub>	Non-CO <sub>2</sub> emissions factor of the fuel (wood) that is substituted or reduced

	<p><math>EF_{b,LPG,nonCO2}</math> Non-CO<sub>2</sub> emissions factor of the fuel (LPG) that is substituted or reduced</p> <p>- <b>Calculate <math>EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2}</math></b></p> $EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2} = [\text{Wood Emission CH}_4 \text{ Conversion Factor} * \text{Direct Global Warming Potential Equivalency (CH}_4 \text{ to CO}_2)] + [\text{Wood Emission N}_2\text{O Conversion Factor} * \text{Direct Global Warming Potential Equivalency (N}_2\text{O to CO}_2)]$ <p>Where:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><math>EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2}</math></td> <td>Non-CO<sub>2</sub> emissions factor of wood that is substituted or reduced</td> </tr> <tr> <td>Wood Emission CH<sub>4</sub> Conversion Factor</td> <td>N/A</td> </tr> <tr> <td>Direct Global Warming Potential Equivalency (CH<sub>4</sub> to CO<sub>2</sub>)</td> <td>N/A</td> </tr> <tr> <td>Wood Emission N<sub>2</sub>O Conversion Factor</td> <td>N/A</td> </tr> <tr> <td>Direct Global Warming Potential Equivalency (N<sub>2</sub>O to CO<sub>2</sub>)</td> <td>N/A</td> </tr> </tbody> </table> <p>- <b>Calculate <math>B_{b,y,wood}</math></b></p> $B_{b,y,wood} = (1-X_{boil}) * (1 - C_j) * N_{p,y} * (W_{b,y,WEIGHTED,wood}) * (Q_{p,y} + Q_{p,rawboil,y})$ <p>Where:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><math>B_{b,y,wood}</math></td> <td>Quantity of wood consumed in baseline scenario p during the year y (t)</td> </tr> <tr> <td><math>X_{boil}</math></td> <td>Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of project activities.</td> </tr> <tr> <td><math>N_{p,y}</math></td> <td>Number of person.days consuming water supplied by project scenario p through year y</td> </tr> <tr> <td><math>C_j</math></td> <td>Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it</td> </tr> <tr> <td><math>W_{b,y,WEIGHTED,wood}</math></td> <td>Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test</td> </tr> <tr> <td><math>Q_{p,y}</math></td> <td>Quantity of purified water consumed in the project scenario p per person per day</td> </tr> <tr> <td><math>Q_{p,rawboil,y}</math></td> <td>Quantity of raw or unsafe water boiled in the baseline scenario b per person per day</td> </tr> </tbody> </table> <p>- <b>Calculate <math>W_{b,y,WEIGHTED,wood}</math></b></p> $W_{b,y,WEIGHTED,wood} = (W_{b,y,TRAD,wood} * \% \text{ of Traditional Stove Users with wood in the baseline}) + (W_{b,y,IMP,wood} * \% \text{ of Improved Stove Users with wood in the baseline})$ <p>Where:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><math>W_{b,y,WEIGHTED,wood}</math></td> <td>Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative</td> </tr> </tbody> </table>	Parameters	Description	$EF_{b,wood,nonCO2} / EF_{p,wood,nonCO2}$	Non-CO <sub>2</sub> emissions factor of wood that is substituted or reduced	Wood Emission CH <sub>4</sub> Conversion Factor	N/A	Direct Global Warming Potential Equivalency (CH <sub>4</sub> to CO <sub>2</sub> )	N/A	Wood Emission N <sub>2</sub> O Conversion Factor	N/A	Direct Global Warming Potential Equivalency (N <sub>2</sub> O to CO <sub>2</sub> )	N/A	Parameters	Description	$B_{b,y,wood}$	Quantity of wood consumed in baseline scenario p during the year y (t)	$X_{boil}$	Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of project activities.	$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y	$C_j$	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it	$W_{b,y,WEIGHTED,wood}$	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test	$Q_{p,y}$	Quantity of purified water consumed in the project scenario p per person per day	$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the baseline scenario b per person per day	Parameters	Description	$W_{b,y,WEIGHTED,wood}$	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative
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$$B_{b,y,LPG} = (1 - X_{boil}) * (1 - C_j) * N_{p,y} * (W_{b,y,WEIGHTED,LPG}) * (Q_{p,y} + Q_{p,rawboil,y})$$

Where:

Parameters	Description
$B_{b,y,LPG}$	Quantity of LPG consumed in baseline scenario p during the year y (t)
$X_{boil}$	Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of project activities.
$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y
$C_j$	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
$W_{b,y,WEIGHTED,LPG}$	Average Weighted of LPG quantity in t required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test
$Q_{p,y}$	Quantity of purified water consumed in the project scenario p per person per day
$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the baseline scenario b per person per day

- Calculate  $W_{b,y,WEIGHTED,LPG}$

$$W_{b,y,WEIGHTED,LPG} = (W_{b,y,LPG(small)} * \% \text{ of Small LPG stove usage in baseline scenario}) + (W_{b,y,LPG(large)} * \% \text{ of Large LPG stove usage in baseline scenario})$$

Where:

Parameters	Description
$W_{b,y,WEIGHTED,LPG}$	Weighted Average of LPG quantity in t required to treat 1 litre of water using technologies representative of baseline scenario b during project year y
$W_{b,y,LPG(small)}$	Quantity of LPG in t required to treat 1 litre of water using LPG small stove in baseline scenario
$W_{b,y,LPG(large)}$	Quantity of LPG in t required to treat 1 litre of water using LPG large stove in baseline scenario
-	% of Small LPG stove usage in baseline scenario
-	% of Large LPG stove usage in baseline scenario
-	% of LPG stove usage in the baseline scenario

The input to calculate baseline emissions are taken from the related monitoring surveys<sup>/MSR/</sup> done during monitoring period including Project Survey and Usage survey, and the Water consumption Field Test done during last monitoring period<sup>/MSR-MP3/</sup>, Baseline Water Boiling test done in CP2MP1<sup>/VER/</sup>.

The values monitored and recorded during these surveys are summarized and compared against previous monitoring period. The values monitored during such surveys are transparently shown in the Monitoring Report Section D.1 and D.2. During remote audit, the verification team crosschecked these values in detail using various supporting records and documents. Refer to the section D.6.1 and D.6.2, Appendix 5 of this report for parameters assessment.

The **SDG 13 Baseline Impact** (Baseline emission calculation) is provided in the Emission reduction calculation spreadsheet<sup>t/XLS/</sup> in a transparent manner and the calculation found correct. There is no material error noted in the accounting and application of various data against monitored parameters.

The Baseline Impact for SDG 13 during this monitoring period are calculated as:  $BE_{b,y} = 142,943 \text{ tCO}_2\text{e}$



Furthermore, the critical parameter used for the determination of each SDG impact is the total number of units of CWP's sold which is derived from the sales record<sup>/SR/</sup>. Other parameters are derived from the monitoring surveys done during the monitoring period. Important surveys carried out in this monitoring period which are critical to arrive at the emission reductions are as listed below.

- Project Survey<sup>/MSR/</sup>
- Usage Survey<sup>/MSR/</sup>

The data obtained through above survey and monitoring methods is maintained in the form of relevant records. All the data are in compliance with that stated in the MR.

**SDG 1 Project impact:**

Via checking the MR and through interview with users, it is confirmed that the project helps users to save time spending on fuel collection/ purchase and boiling water, and save money on fuel purchase and expenditure on medicine by reducing the rate of having waterborne disease.

Then the estimated Project impact is calculated for different categories in SDG 1.

In the project situation, as per checking the monitoring survey data<sup>/MSR/</sup> the interview with users<sup>/I3/</sup>, it is verified that percentage of household noted on fuel, money save and percentage of household noted on time save after using the project technology.

Based on the equations listed in MR and monitoring survey data which has been verified in Appendix 5, it is confirmed that the Project impacts of SDG1 was estimated as following:

Indicator	Unit	Project Estimation
<b>SDG1 (a) Biomass use</b>	t	31,422
<b>SDG1 (b) LPG use</b>	t	365
<b>SDG1 © % of HH noted on money save</b>	%	87.30
<b>SDG1 (d) of % of HH noted on time save</b>	%	91.77

**SDG 3 Project impact:**

Via checking the MR and through interview with users, it is confirmed that the project helps users to reducing smoke and dust coming from boiling water with solid biomass.

In project situation, the number of people using CWP and note that their kitchen is less smoke could be calculated below:

$$SDG3 \text{ contribution (number of people)} = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * N_{Less\_smoke,y}$$

Where:

Parameters	Description
Project impact of SDG3	Number of people using CWP and note that their kitchen is less smoke
$T_{p,y}$	Cumulative number of sold project technologies (CWP)
$N_{p,y}$	The average population serviced by water purification system
$U_{p,y}$	Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate
$WQ_{Passed,y}$	Water Quality passing rate of water quality standard (WHO standard)
$N_{Less\_smoke,y}$	% of households notice that their kitchen is less smoke

In the project situation, as per the above calculation equation and checking the ER calculation spreadsheet<sup>/XLS/</sup>, it is verified that Project impacts of SDG3,

i.e. the number of people who notice less smoke in kitchen after having water filter was 536,868 people during this monitoring period.

**SDG 5 Project impact:**

Via checking the MR and through interview with woman and girl users, it is confirmed that the project helps users to reducing the work load on women and girls who are responsible for boiling water and collecting/purchasing cooking fuel.

In project situation, the number of women and girls benefiting could be calculated below:

$$SDG5 \text{ contribution (number of people)} = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * (1 - C_j) * Women\%_{HH} * Women\%_{cooking}$$

Where:

Parameters	Description
Project impact of SDG5	Number of women and girls benefiting from stop/reducing boiling water and collecting/purchasing cooking fuel
$T_{p,y}$	Cumulative number of sold project technologies (CWP)
$N_{p,y}$	The average population serviced by water purification system
$U_{p,y}$	Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate
$WQ_{Passed,y}$	Water Quality passing rate of water quality standard (WHO standard)
$C_j$	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
$Women\%_{HH}$	Average percentage of women and girls per household
$Women\%_{cooking}$	Average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWPs.

In the project situation, as per the above calculation equation and checking the ER calculation spreadsheet<sup>/XLS/</sup>, it is verified that Project impacts of SDG5, i.e. the number of women and girls benefiting from stop/reducing boiling water and collecting/purchasing cooking fuel was 203,476 people during this monitoring period.

**SDG 6 Project impact:**

Via checking the MR and through interview with users, it is confirmed that the project provides a clean water supply to the users.

In project situation, the number of people with access to safe drinking water could be calculated below:

$$Project \text{ impact of SDG6} = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y}$$

Where:

Parameters	Description
Project impact of SDG6	Number of people with access to safe drinking water
$T_{p,y}$	Cumulative number of sold project technologies (CWP)
$N_{p,y}$	The average population serviced by water purification system
$U_{p,y}$	Usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate
$WQ_{Passed,y}$	Water Quality passing rate of water quality standard

(WHO standard)

In the project situation, as per the above calculation equation and checking the ER calculation spreadsheet<sup>/XLS/</sup>, it is verified that Project impacts of SDG6, i.e. the number of people with access to safe drinking water was 588,026 people during this monitoring period.

**SDG 7 Project impact:**

Via checking the MR and through interview with users, it is confirmed that the project promotes access to affordable and clean energy services. In project situation, the amount of energy saves from avoiding boiling water could be calculated below:

$$\text{SDG7 contribution} = (\text{Amount of biomass use in baseline scenario} - \text{Amount of biomass use in project scenario}) * \text{NCV}_{b,\text{wood}} + (\text{amount of LPG use in baseline} - \text{LPG use in project}) * \text{NCV}_{b,\text{LPG}}$$

Where:

Parameters	Description
Amount of biomass use in baseline scenario	Amount of biomass use in baseline (t)
Amount of biomass use in project scenario	Amount of biomass use in project (tonne)
NCV <sub>b,wood</sub>	Net calorific value of wood that is substituted or reduced
Amount of LPG use in Baseline	Amount of LPG use in baseline (t)
Amount of LPG use in project	Amount of LPG use in project (t)
NCV <sub>b,LPG</sub>	Net calorific value of LPG that is substituted or reduced

In the project situation, as per the above calculation equation and checking the ER calculation spreadsheet<sup>/XLS/</sup>, it is verified that Project impacts of SDG7, i.e. the amount of energy saved from avoiding boiling water was 766 TJ during this monitoring period.

**SDG 8 Project impact:**

Via checking the MR and through interview with representative of staffs, it is confirmed that the project create jobs with safe and healthy work environment. In project situation, the number of created jobs with safe and healthy work environment could be determined as below:

$$\text{Project impact of SDG8} = \text{Number of created jobs with safe and healthy work environment} * \% \text{ of worker with salaries paid are at par with wage laws in the host country}$$

In the project situation, as per the above calculation equation and checking the HSE\_CP2-MP4\_Em&Inc2021<sup>/ERIG/</sup>, also cross-checked by latest staff list<sup>/SL/</sup>, labor contracts<sup>/LC/</sup> and monthly payroll<sup>/PAY/</sup> in 2021, it is verified that Number of created jobs with safe and healthy work environment is 82 and all the workers are paid salaries in accordance with the wage laws in the host country, in conclusion, the Project impacts of SDG8, i.e. the number of created jobs with safe and healthy work environment was 82 people and 100% of them were paid with salaries at par with wage laws during this monitoring period which is confirmed as correct by checking the monthly payroll<sup>/PAY/</sup> in 2021 and interview with the staff representatives.

**SDG 13 Project impact:**

**Project emissions PE<sub>b,y</sub> Calculation Assessment:**

The formula used for the determination of project emissions which is consistent with the approved 2<sup>nd</sup> Crediting Period PDD and the applied methodology:

$$PE_{b,y} = B_{p,y,wood} * ((\int_{NRB,p,y} * EF_{p,wood,CO2}) + EF_{p,wood,nonCO2}) * NCV_{p,wood} + B_{p,y,charcoal} * \text{Wood to charcoal factor} ((\int_{NRB,p,y} * EF_{p,wood,CO2}) + EF_{p,wood,nonCO2}) * NCV_{p,wood} + B_{p,y,LPG} * ((\int_{ff,p,y} * EF_{p,LPG,CO2}) + EF_{p,LPG,nonCO2}) * NCV_{p,LPG}$$

Where:

Parameters	Description
PE <sub>p,y</sub>	Emissions for project scenario p during the year y in tCO <sub>2</sub> e
B <sub>p,y,wood</sub>	Quantity of fuel (wood) consumed in project scenario p during year y, in t
B <sub>p,y,charcoal</sub>	Quantity of fuel (charcoal) consumed in project scenario p during year y, in t
B <sub>p,y,LPG</sub>	Quantity of fuel (LPG) consumed in project scenario p during year y, in t
Wood to charcoal conversion factor	Wood to charcoal conversion factor
$\int_{NRB,y}$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
EF <sub>p,wood,CO2</sub>	CO <sub>2</sub> emissions factor of the project fuel (wood) This is equal to the baseline fuel EF in projects which use the same fuel,
EF <sub>p,charcoal,CO2</sub>	CO <sub>2</sub> emissions factor of the project fuel (charcoal) This is equal to the baseline fuel EF in projects which use the same fuel,
EF <sub>p,LPG,CO2</sub>	CO <sub>2</sub> emissions factor of the project fuel (LPG) This is equal to the baseline fuel EF in projects which use the same fuel,
EF <sub>p,wood,nonCO2</sub>	Non-CO <sub>2</sub> emissions factor of the project fuel (wood) This is equal to the baseline wood EF in projects which use the same fuel.
EF <sub>p,LPG,nonCO2</sub>	Non-CO <sub>2</sub> emissions factor of the project fuel (LPG) This is equal to the baseline wood EF in projects which use the same fuel.
NCV <sub>p,wood</sub>	Net calorific value of the project wood
NCV <sub>p,LPG</sub>	Net calorific value of the project LPG

- Calculate B<sub>p,y,wood</sub>

$$B_{p,y,wood} = (1 - C_j) * N_{p,y} * (W_{p,y,WEIGHTED,wood}) * (Q_{p,rawboil,y} + Q_{p,rawboil,y})$$

Where:

Parameters	Description
B <sub>p,y,wood</sub>	Quantity of fuel consumed in project scenario p during the year y (t)
N <sub>p,y</sub>	Portion(%) of users of the project technology j who in the baseline were already consuming safe water without boiling it
C <sub>j</sub>	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of project scenario p during project year y
W <sub>p,y,WEIGHTED,wood</sub>	Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of project scenario p during project year y

	<p><math>Q_{p,rawboil,y}</math> Quantity of raw or unsafe water boiled in the project scenario p per person per day</p> <p><math>Q_{p,cleanboil,y}</math> Quantity of safe water boiled in the project scenario p per person per day</p> <p>- <b>Calculate <math>W_{p,y,WEIGHTED,wood}</math></b></p> <p><math>W_{p,y,WEIGHTED,wood} = (W_{p,y,TRAD,wood} * \% \text{ of Traditional Stove Users with wood in the project}) + (W_{p,y,IMP,wood} * \% \text{ of Improved Stove Users with wood in the project})</math></p> <p>Where:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><math>W_{p,y,WEIGHTED,wood}</math></td> <td>Weighted Average of wood quantity in kg required to treat 1 litre of water using technologies representative of project scenario p during project year y, as per Baseline Water Boiling Test</td> </tr> <tr> <td><math>W_{p,y,TRAD,wood}</math></td> <td>Quantity of wood in kg required to treat 1 litre of water using Traditional cookstove in project scenario p during project year y</td> </tr> <tr> <td><math>W_{p,y,IMP,wood}</math></td> <td>Quantity of wood in kg required to treat 1 litre of water using Improve cookstove in project scenario p during project year y</td> </tr> <tr> <td></td> <td>% of Traditional Stove Users with wood in the project scenario</td> </tr> <tr> <td></td> <td>% of Improved Stove Users with wood in the project scenario</td> </tr> </tbody> </table> <p>- <b>Calculate <math>B_{p,y,charcoal}</math></b></p> <p><math>B_{p,y,charcoal} = (1 - 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	<p>survey, and the Water consumption Field Test done during last monitoring period<sup>/MSR-MP3/</sup>, Baseline Water Boiling test done in CP2MP1<sup>/VER/</sup>.</p> <p>The values monitored and recorded during these surveys are summarized and compared against previous monitoring period. The values monitored during such surveys are transparently shown in the Monitoring Report Section D.1 and D.2. During remote audit, the verification team crosschecked these values in detail using various supporting records and documents. Refer to the section D.6.1 and D.6.2, Appendix 5 of this report for parameters assessment.</p> <p>The <b>SDG 13 Project impact</b> (Project emission calculation) is provided in the Emission reduction calculation spreadsheet<sup>/XLS/</sup> in a transparent manner and the calculation found correct. There is no material error noted in the accounting and application of various data against monitored parameters.</p> <p>The project emission during this monitoring period are calculated as: PE<sub>b,y</sub>= 55,702 tCO<sub>2</sub>e.</p> <p><b>SDG 15 Project impact:</b></p> <p>Via checking the MR and through interview with users, it is confirmed that the project reduce amount of fuel collected or purchased especially biomass save which contribute to the area of forest save.</p> <p>In project situation, the amount of area of forest save could be calculated below:</p> <p><b>Project impact of SDG15 = (Amount of biomass use in baseline scenario – Amount of biomass use in project scenario) * f<sub>NRBy</sub> /Growth stock in forest</b></p> <p>Where:</p> <table border="1" data-bbox="478 985 1388 1276"> <thead> <tr> <th>Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Amount of biomass use in baseline scenario</td> <td>Amount of biomass use in baseline per year [t]</td> </tr> <tr> <td>Amount of biomass use in project scenario</td> <td>Amount of biomass use in project per year [t]</td> </tr> <tr> <td>f<sub>NRBy</sub></td> <td>Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable</td> </tr> <tr> <td>Growth stock in forest</td> <td>Growth stock in forest in Cambodia</td> </tr> </tbody> </table> <p>In the project situation, as per the above calculation equation and checking the ER calculation spreadsheet<sup>/XLS/</sup>, it is verified that Project impacts of SDG15, i.e. the area of forest saved in project scenario was estimated to be 302 ha during this monitoring period.</p>	Parameters	Description	Amount of biomass use in baseline scenario	Amount of biomass use in baseline per year [t]	Amount of biomass use in project scenario	Amount of biomass use in project per year [t]	f <sub>NRBy</sub>	Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable	Growth stock in forest	Growth stock in forest in Cambodia
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	It can be confirmed that the Project impact calculation is overall correct.
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**E.8.3. Calculation of leakage**

<p><b>Means of verification</b></p>	<p>As per the Gold Standard Methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption – version 3.0, July 2015”, it is required to account the leakage emissions, in case project activity is using any fossil fuel during the Project Scenario.</p> <p>In accordance with this requirement PP has accounted consumption of fire wood and diesel and gasoline. The input for calculating Leakage emissions are taken from the wood&amp;diesel&amp;gasoline purchase records<sup>/WDP/</sup> and it is found in accordance with the Monitoring plan.</p> <p>In project situation, the amount of leakage could be calculated below:  <b>Project leakage = Leakage per Unit * Total distributed water purifier units</b></p> <p>And          Leakage per unit = Weight of wood per m<sup>3</sup> * Quantity of wood purchased for factory * Carbon content in wood* f<sub>NRB</sub> * (molecular weight of CO<sub>2</sub>/molecular weight of Carbon) / conversion from kg to t / number of units sold in this monitoring period</p> <p>Based on above formula, PP has calculated the value of 0.014 tCO<sub>2</sub>e per water filter per year.</p> <p>This is a calculated value and the important inputs to arrive at this factor is consumption of Wood in Factory for firing of Pots (Baking Process). PP has used Specific formula provided in the approved 2<sup>nd</sup> Crediting Period PDD. The Application of Formula found correct and the input values are taken from Wood purchase records. The evidence of “HSE_CP2_MP4_Wood&amp;Diesel_Purchase”<sup>/WDP/</sup> is checked and the value is verified as correct. Also the Wood purchase invoices<sup>/WPI/</sup> during this MP is cross checked with the record, and is verified that the value used in the MR is correct.</p> <p>During the monitoring period totally 1,036 m<sup>3</sup> wood was purchased and this value is transparently used to arrive at the final value of <b>0.014</b> tCO<sub>2</sub>e for further calculations.</p> <p>During remote audit it was confirmed that the usage of Diesel&amp;Gasoline for power generation at factory is negligible and is found to be less than 0.1% of total emissions and hence it is excluded from the leakage emissions.</p> <p>PP has provided a transparent calculation process in the Monitoring report, for the exclusion of emissions on account of consumption of diesel for power generation at Hydrologic Factory. Verification Team verified Diesel&amp;Gasoline purchase records “HSE_CP2_MP4_Wood&amp;Diesel_Purchase”<sup>/WDP/</sup> and confirmed that totally 10,800 liters of Diesel and 0 liters of Gasoline were purchased and consumed during Monitoring period. Also the Diesel&amp;Gasoline purchase invoices<sup>/DGPI/</sup> during this MP is cross checked with the record, and is verified that the value used in the MR is correct. The calculation done is found conservative and PP has used IPCC default value for diesel emission factor<sup>/IPCC/</sup>.</p> <p>PP has only used the Fire wood consumption for calculating Leakages due to implementation of Project, based on the value of 0.014 tCO<sub>2</sub>e per water filter per year, the total leakage during this monitoring period is calculated as 2,421 tCO<sub>2</sub>e.</p> <p>PP has not considered the leakages due to elimination of lower carbon emission method of Water treatment. PP has provided a justification for excluding this emission. The justification found correct as there is no water treatment in use which has a lower emissions – this decision is taken based on the results of project survey done by the PP. The exclusion is found correct and hence acceptable.</p>
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<b>Findings</b>	<input checked="" type="checkbox"/>	The calculation of the leakage was found to be fully compliant with the above stated principles. The calculations of leakage have been carried out in accordance with the formulae and methods described in the registered PDD, Transition Annex and the applied methodology. Any assumptions used in leakage calculations have been justified. Appropriate emission factors, IPCC default values and other reference values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information has been identified.
	<input type="checkbox"/>	The verification team has identified mistakes in the leakage value result or the underlying calculation approaches.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:
		- N/A
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		It can be confirmed that the leakage calculation is overall correct.

#### E.8.4. Calculation of net benefits or direct calculation for each SDG impact

<b>Means of verification</b>	<p>Calculation of net benefits as difference of baseline and project values or direct calculation for each SDG impact is as following,</p> <p><b>Goal 1 Net Benefits</b>  Net benefit (a) of SDG1 = Baseline Impact (a) of SDG1 – Project impact (a) of SDG1  Net benefit (b) of SDG1 = Baseline Impact (b) of SDG1 – Project impact (b) of SDG1  Net benefit © of SDG1 = Project impact © of SDG1 – Baseline Impact © of SDG1  Net benefit (d) of SDG1 = Project impact (d) of SDG1 – Baseline Impact (d) of SDG1</p> <table border="1"> <thead> <tr> <th>Indicator</th> <th>Unit</th> <th>Baseline Impact</th> <th>Project impact</th> <th>Net benefits</th> </tr> </thead> <tbody> <tr> <td><b>SDG1 (a) Biomass use</b></td> <td>t</td> <td>80,548</td> <td>31,422</td> <td>49,126</td> </tr> <tr> <td><b>SDG1 (b) LPG use</b></td> <td>t</td> <td>986</td> <td>365</td> <td>621</td> </tr> <tr> <td><b>SDG1 © % of HH noted on money save</b></td> <td>%</td> <td>0</td> <td>87.30</td> <td>87.30</td> </tr> <tr> <td><b>SDG1 (d) of % of HH noted on time save</b></td> <td>%</td> <td>0</td> <td>91.77</td> <td>91.77</td> </tr> </tbody> </table> <p><b>Goal 3 Net Benefits</b>  Net benefit of SDG3 = Project impact of SDG3 (536,868 ) – Baseline Impact of SDG3 (0)  = 536,868 people</p> <p><b>Goal 5 Net Benefits</b>  Net benefit of SDG 5 = Project impact of SDG5 (203,476) – Baseline Impact of SDG5 (0)  =203,476 people</p> <p><b>Goal 6 Net Benefits</b>  Net benefit of SDG 6 = Project impact of SDG5 (588,026) – Baseline Impact of SDG6 (0)  =588,026 people</p> <p><b>Goal 7 Net Benefits</b>  Net benefit of SDG 7 = Project impact of SDG7 (766) – Baseline Impact of SDG7 (0)</p>	Indicator	Unit	Baseline Impact	Project impact	Net benefits	<b>SDG1 (a) Biomass use</b>	t	80,548	31,422	49,126	<b>SDG1 (b) LPG use</b>	t	986	365	621	<b>SDG1 © % of HH noted on money save</b>	%	0	87.30	87.30	<b>SDG1 (d) of % of HH noted on time save</b>	%	0	91.77	91.77
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<b>SDG1 (d) of % of HH noted on time save</b>	%	0	91.77	91.77																						

=766 TJ

**Goal 8 Net Benefits**

Net benefit of SDG 8 = Project impact of SDG8 (85) – Baseline Impact of SDG8 (0)

=82 people

**Goal 13 Net Benefits**

In accordance with applied methodology, registered PDD and validation report,

Net benefit of SDG 13 = baseline emission – project emission – leakage emission

= 142,943 tCO<sub>2</sub>e – 55,702 tCO<sub>2</sub>e -2,421 tCO<sub>2</sub>e

= 84,820 tCO<sub>2</sub>e

**Emission Reductions Calculation**

Parameters Period	Baseline Emissions <i>BE<sub>y</sub></i>	Project Emissions <i>PE<sub>y</sub></i>	Leakage Emissions <i>LE<sub>y</sub></i>	Emission Reductions <i>ER<sub>y</sub></i>
	(tCO <sub>2</sub> e)	(tCO <sub>2</sub> e)	(tCO <sub>2</sub> e)	(tCO <sub>2</sub> e)
01/01/2021-31/12/2021	142,943	55,702	2,421	84,820
<b>Total</b>	<b>142,943</b>	<b>55,702</b>	<b>2,421</b>	<b>84,820</b>

**Goal 15 Net Benefits**

Net benefit of SDG 15 = Project impact of SDG15 (302) – Baseline Impact of SDG15 (0)

=302 ha

All the figures as per the monitoring report were cross-checked by the verification team against basic monitored data. Refer to Appendix 5 for details.

The following sources of information have been used in this context:

- /MR/
- /PDD/
- /TPDDTEC/
- /XLS/

**Findings**

- The calculation of the net benefits or direct calculation for each SDG impact was found to be fully compliant with the above calculation. The calculations of net benefits or direct calculation for each SDG impact have been carried out in accordance with the formulae and methods described in the Transition Annex. No errors, miscalculations, omissions, misstatements or incomplete information has been identified.
- The verification team has identified mistakes in the net benefits or direct calculation for each SDG impact or the underlying calculation approaches.
- In this context the following CARs, CLs, FARs have been raised:  
- N/A

**Conclusion**

- No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
  - The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
- It can be confirmed that the net outcome calculation is overall correct.

### E.8.5. Comparison of actual value of outcomes with estimates in approved PDD

<b>Means of verification</b>	The verification team has checked if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered PDD for each SDG. Conclusion is as below table			
	Item	Indicator	ex ante values estimated	Actual values achieved during MP
	<b>SDG 1 (a)</b>	Amount of biomass save (t)	59,075	49,126
	<b>SDG 1 (b)</b>	Amount of LPG save (t)	853	621
	<b>SDG 1 (c)</b>	Percentage of household noted on money save after using the project technology	88.20%	87.30%
	<b>SDG 1 (d)</b>	Percentage of household noted on time save after using the project technology	89.60%	91.77%
	<b>SDG 3</b>	Number of people who notice less smoke in kitchen after having water filter	686,674	536,868
	<b>SDG 5</b>	Number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel	321,910	203,476
	<b>SDG 6</b>	Number of people with access to safe drinking water	751,284	588,026
	<b>SDG7</b>	Amount of energy saves from avoiding boiling water in the project activity	926	766
	<b>SDG 8</b>	The number of new job created by the project with safe and healthy work environment	105	85
	<b>SDG 13</b>	Total emission reduction (VERs)	84,427	84,820
	<b>SDG15</b>	The areas of forest save (ha)	364	302
	It has further checked which of the below listed cases is applicable for the calculated GS VER of the current monitoring period.			
<b>Findings</b>	<input type="checkbox"/>	SDG1d, SDG13 actual value of outcomes was found to be proportionally higher than the ex ante determined value. No further action is deemed required.		
	<input type="checkbox"/>	SDG1(a,b,c), SDG3, SDG5, SDG6, SDG7, SDG8, SDG15 actual value of outcomes was found to be proportionally lower than the ex ante determined value. Further clarification is deemed required.		
	<input type="checkbox"/>	SDG 13: Case 1: The ex-ante estimated value was found to be proportionally higher than the ex-post determined value. No further action is deemed required.		

	<input type="checkbox"/>	SDG 13: Case 2: The ex-ante estimated value fits very good to the actually monitored value. No further justification is deemed required.
	<input checked="" type="checkbox"/>	SDG 13: Case 3: The ex-ante estimated value was found to be proportionally lower than the ex-post determined value.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: - N/A
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The MR includes a summary table of comparison of actual values of the monitoring period with the estimations in the registered PDD for each SDG.	

#### E.8.6. Remarks on difference from estimated value in approved PDD

<b>Means of verification</b>	<p>On the basis of the above comparison of actual values of the monitoring period with the estimations in the approved 2<sup>nd</sup> crediting period PDD the verification team has checked whether (in case 3) an appropriate explanation is included in the MR.</p> <p>Via checking the explanations of the differences, it is verified that during this monitoring period, the below parameters which are the decisive factors that influence the SDG, the reason is confirmed as accurate and plausible as below justifications.</p>															
	<table border="1"> <thead> <tr> <th>Parameters</th> <th>Estimated</th> <th>Actual this MP</th> <th>Justification</th> </tr> </thead> <tbody> <tr> <td><b>U<sub>p,y</sub></b></td> <td>80.5%</td> <td>67.34%</td> <td>Usage rate is checked as lower than that applied in PDD<sup>PDD/</sup>. the value in this MP is drastically lower than that of the previous MP, via interview with PP, it is confirmed that the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces due to Covid-19 Pandemic in 2021, and this may lead to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot which is verified as reasonable confirmed by local expert.</td> </tr> <tr> <td><b>F<sub>NRB</sub></b></td> <td>77.00%</td> <td>95.01%</td> <td>The f<sub>NRB</sub> value used ex ante in PDD is 77% which is a default value from UNFCCC, but via checking the UNFCCC website, it is verified that this value is valid until February 2019.  PP has applied value of 95.01% for this monitoring period, this value is a calculated value based on the Biomass Non-Renewability Assessment Cambodia<sup>/NRBC/</sup>. Via checking the applied methodology, TPDDTEC V3.0, it is confirmed that the f<sub>NRB</sub> is fixed by baseline study for a given crediting period, and can be updated if necessary.</td> </tr> </tbody> </table>				Parameters	Estimated	Actual this MP	Justification	<b>U<sub>p,y</sub></b>	80.5%	67.34%	Usage rate is checked as lower than that applied in PDD <sup>PDD/</sup> . the value in this MP is drastically lower than that of the previous MP, via interview with PP, it is confirmed that the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces due to Covid-19 Pandemic in 2021, and this may lead to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot which is verified as reasonable confirmed by local expert.	<b>F<sub>NRB</sub></b>	77.00%	95.01%	The f <sub>NRB</sub> value used ex ante in PDD is 77% which is a default value from UNFCCC, but via checking the UNFCCC website, it is verified that this value is valid until February 2019.  PP has applied value of 95.01% for this monitoring period, this value is a calculated value based on the Biomass Non-Renewability Assessment Cambodia <sup>/NRBC/</sup> . Via checking the applied methodology, TPDDTEC V3.0, it is confirmed that the f <sub>NRB</sub> is fixed by baseline study for a given crediting period, and can be updated if necessary.
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				<p>Hence, for this MP, PP reviewed the available data for updating <math>f_{NRB}</math> which is confirmed in line with the requirement of the applied methodology.</p> <p>Via checking the <math>f_{NRB}</math> calculation sheet "Biomass Non-Renewability Assessment Cambodia"<sup>NRBC/</sup>, it is confirmed that the value is assessed by employing the guidance provided in the methodological Tool 30 "Calculation of the fraction of non-renewable biomass", version 02.0<sup>TNRB/</sup>.</p> <p>Furthermore, via checking the case of GS751<sup>751/</sup>, it is confirmed that the latest <math>f_{NRB}</math>'s figure of 95.01% in Cambodia has been approved by GS under its CP3-MP2 verification work. Hence this value is confirmed as applicable to this monitoring period.</p>
	<b>Units sold</b>	50,412	38,645	<p>The CWP sold during this MP is less than the PDD estimation.</p> <p>Via interview with the sales staff and PP, it is verified that the PDD value was estimated basing on the actual figure since 2013 and sales trend, however, the actual sales dropped significantly in 2018 due to Hydrologic staff restructuring and the general election in Cambodia which limited the promotion activity in the communities. Via the sales record/SR/, it is confirmed that during this MP (2021), the total sale from Jan to Dec was higher than that of year 2020 being 38,645 and 33,746 CWPs respectively.</p>
	<b>% of passing Water Quality test</b>	80.00%	93.3%	<p>The passing rate of water quality test is higher than that projected in PDD. PP conducted general hygiene campaign by attaching it to the sale meeting. PP also conducted hygiene survey in addition to project and usage survey. Via checking the Hygiene Champaign Attendant list 2021<sup>HICAL/</sup>, it is verified that 52,907 people joined the hygiene campaign in this MP, which may enhance the awareness of hygiene and operation and maintenance knowledge of CWP's users.</p>
<b>Findings</b>	<input checked="" type="checkbox"/>	No further justification or explanation is deemed required as actual emissions of this MP do not exceed significantly the ex-ante calculated emission reductions (applicable for case 1 and 2).		
	<input type="checkbox"/>	<p>For SDG13 case 3: The PP has provided a related justification in the MR. The reasons for the increase are as follows:</p> <ul style="list-style-type: none"> <li>- N/A</li> </ul>		
	<input checked="" type="checkbox"/>	<p>In this context the following CARs, CLs, FARs have been raised:</p> <ul style="list-style-type: none"> <li>- CL 06</li> </ul>		

<b>Conclusion</b>	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	It is confirmed that the ex-post determined value was found to be 0.5% higher than ex-ante estimated value the for this project during this monitoring period. The clarification have been justified by VVB.	

### E.9. Stakeholder inputs and legal disputes

<b>Means of verification</b>	<p>As confirmed through interview with the users, it is verified that the Grievance Mechanism/Continues Inputs has been in place. As per the interview with the users, it is inspected that two hotline numbers are available on the warranty certificate, sticker on the CWP and related leaflets; and as per interviewed with the users, it is verified that they have access to provide issues or comments through hotlines about the status of CWP.</p> <p>And via checking the “HSE_CP2MP4_Hotline Tracking Record 2021”<sup>/HTR/</sup> and “HSE_CP2-MP4_Replacement 2021”<sup>/CPRR/</sup>, it is observed that the number of replacement parts is higher than that of reported in hotlines, so it is confirmed that the issues raised by users through telephone access have been considered by the PP and proper action has been taken to solve the problems. After that, it is verified that there are no comments/complaints received from the users during this monitoring period of the project activity.</p> <p>Via checking the website of <a href="http://www.hydrologichealth.com/wp-content/uploads/2011/03/HSE_CP2_LSC_20170926_final.pdf">http://www.hydrologichealth.com/wp-content/uploads/2011/03/HSE_CP2_LSC_20170926_final.pdf</a>, it is confirmed that the contact information of PP and GS has been published as part of grievance mechanism during the monitoring period, and via checking the website, it is verified there is no comments raised.</p> <p>Furthermore, during the conference call with PP, by video checking the grievance book, it is confirmed that there is no grievance raised during this monitoring period.</p> <p>For the stakeholder mitigations that were agreed to be monitored which has been listed in the GS passport<sup>/GSP/</sup> that assessed as above</p>	
	<b>Sustainability indicators/Stakeholder mitigations</b>	<b>Assessment</b>
	To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is no carbon finance	The PP keeps track of the break-even price of CWPs to ensure that end users are buying a subsidized CWP compared to the real costs of the CWP as shown in the document “HSE-CP2MP4-Break Even Price_Jan-Dec 21” <sup>/BEP/</sup> . This has been checked with report of “HSE Price of Water filters_Jan-Dec 21” <sup>/PWF/</sup> and financial statements for the financial year ended 31/12/2021 “Carbon Expense-Up to Dec 21” <sup>/CE/</sup> . The report of “HSE-CP2MP4-Break Even Price_Jan-Dec 21” <sup>/BEP/</sup> states that the average price for Super Tunsai (\$36.48) is slightly higher than the break-even price +10% profit margin (\$35.65), and the average price for Tunsai Autofill (58.51\$) is higher than the break-even price +10% profit margin (\$43.45) but the average price for regular Tunsai (\$12.58) is much lower than the break-even price +10% profit margin (\$25.94). Thus, the weighted average price of \$31.61 for all type of the water filter sold in this MP was below its break-even price + 10% profit margin of

		\$34.61. The Average price of the Filter is confirmed by checking the monitoring survey report <sup>/MSR/</sup> , which is in accordance with the project requirement and it also confirmed that the filter is reaching the end user at affordable cost.
	To address the concern of the place where the clay is taken, Hydrologic will buy the clay only from the licensed brick manufacturing factory that authorized by the Ministry of Industry and Handicraft.	Via interview with staffs from factory, it is confirmed that PP has not purchased clay for this monitoring period because they have enough stock from its previous purchase in 2018 from a nearby licensed brick factory, and the factory has been checked during the previous site visit by VVB.
	To address the concern of corruption, the field Surveys will monitor and ask how much are people paying for the water filters and assess that the prices are not unreasonable. If the prices are unreasonable, PP shall investigate the reason and take appropriate action. PP believes that this risk is low because there are so many sales people that competition will keep the price low	Via checking the monitoring survey report <sup>/MSR/</sup> , it is confirmed that the mean purchase price for Tunsai and Super Tunsai is \$0.00 (donation from NGOs to users) and \$40.05, both of which are in line with current pricing as listed in the report of "HSE Price of Water filters_Jan-Dec 21" <sup>/PWF/</sup> . No price for Tunsai Autofill was reported because the Tunsai Autofill is new product with small sale proportion compared to Tunsai and super Tunsai and it was not selected under the randomly sampling process in this monitoring survey as confirmed by checking the report <sup>/MSR/</sup> . Hence it is concluded that the prices are reasonable.
	PP has established adequate arrangements for monitoring and measurement of the sustainability indicators. The Data collected through Surveys found properly analyzed to arrive at the conclusion. The claims made by the PP towards compliance of the Sustainability indicatory are correct.	
<b>Findings</b>	<input type="checkbox"/>	The Grievance Mechanism/Continues Inputs has been in place. No adverse finding has been identified in the course of this verification.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR 10
<b>Conclusion</b>	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	All the methods of continuous input /grievance mechanism are confirmed during remote audit process. After the replacement, there are no comments/complaints received from the stakeholders during this monitoring period of the project activity.	

## SECTION F. Internal quality control

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

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

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

After this step the submission for requesting for issuance is conducted.

## SECTION G. Verification opinion

Hydrologic Social Enterprise, Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the Gold Standard 4<sup>th</sup> periodic verification for 2<sup>nd</sup> crediting period of the project: “Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia”, with regard to the relevant requirements for GS4GG project activities. The project reduces GHG emissions by reduce / eliminate the water boiling practice after using the Ceramic Water Purifiers and thereby reduce the CO<sub>2</sub> emissions due to less usage of fossil fuel. This verification covers the period from 01/01/2021-31/12/2021 (Including both days).

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 and latest approved project design document.
- the monitoring plan is in accordance with the applied approved GS methodology, i.e., *Technologies and Practices to Displace Decentralized Thermal Energy Consumption – version 3.0, July 2015*.
- Installed equipments being essential for generating emission reduction run reliably and are calibrated appropriately.
- Installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring report is in accordance with the relevant GS4GG requirements.
- the project contributes to sustainable development goals (SDG).
- the monitoring system is in place and functional.

The project has generated GHG emission reductions.

## SECTION H. Certification statement

As a duly accredited VVB, TÜV NORD CERT confirms that the project

### “Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia”

registered under

GS-No. : 1020

has achieved impact for each SDG in accordance with all applicable requirements for registered GS4GG project activities during the current monitoring period

MP-No.: 4<sup>th</sup> of 2<sup>nd</sup> crediting period

from: 01/01/2021

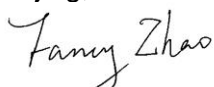
to: 31/12/2021

(including both days) as follows:

The verified amount of impact for each SDG in the project activity as per commitment period is stated below;

Item	Indicator	Total verified amount of impact for this MP
SDG 1 (a)	The amount of biomass save (t)	49,126
SDG 1 (b)	The amount of LPG save (t)	621
SDG 1 ©	% Of household noted on money save after using the project technology	87.30%
SDG 1 (d)	% Of household noted on time save after using the project technology	91.77%
SDG 3	Number of people who notice less smoke in kitchen after having water filter	536,868
SDG 5	Number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel	203,476
SDG 6	Number of people access to safe drinking water	588,026
SDG7	Amount of energy saves from avoiding boiling water in the project activity	766
SDG 8	The number of new job created by the project with safe and healthy work environment	82
SDG 13	Amount of emission reductions (tCO <sub>2</sub> e)	84,820
SDG15	The areas of forest save (ha)	302

Beijing, 11/10/2022



Zhao Xuejiao  
Team Leader

## Appendix 1. Abbreviations

Abbreviations	Full texts
ARC	Angkor Research Consulting
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO <sub>2</sub>	Carbon dioxide
CO <sub>2eq</sub>	Carbon dioxide equivalent
CP	Crediting Period
CPII	Second Crediting Period
CWP	Ceramic Water Purifier
DverR	Draft Verification Report
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GS	Gold Standard
GSR	Gold Standard Requirement
GST	Gold Standard Toolkit
GSP	Gold Standard Passport
HSE	Hydrologic Social Enterprise, Ltd.
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
PA	Project Activity
PDD	Project Design Document
PP	Project Participant
PS	Project Survey/Project Standard
QA/QC	Quality Assurance / Quality Control
SD	Sustainability Development
SDI	Sustainability Development Indicator
SDM	SD Matrix
SN	Serial Number
UNFCCC	United Nations Framework Convention on Climate Change
VER	Voluntary Emission Reduction
VVS	Validation and Verification Standard
WBT	Water Boiling Test
WCFT	Water Consumption Field Test
XLS	Emission Reduction Calculation Spread Sheet

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



**Statement of Competence**  
Appointment and authorization according to the procedures of the TUV NORD JICDM Certification Program

**Ms. Xue Jiao Fancy Zhao**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2022-11-01
VCS / ISO 14064-2	Senior Assessor	2022-11-01

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy Demand
8.1	Mining and mineral production
13.1	Solid waste and wastewater
13.2	Manure

230 - Rev. 10, Date: 2020-04-07

230\_081-VA060-F20\_2020-04-07\_rev10 061-VA080-F20 rev01/2012-10-26



**Statement of Competence**  
Appointment and authorization according to the procedures of the TUV NORD JICDM Certification Program

**Mr. David Lubanga**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2022-06-31
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2022-06-31

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 9, Date: 2022-01-20

251\_001-VA050-F20\_2022-01-20\_rev9 001-VA060-F20 Rev0 / 2010-10-26

Note: The scope of the project is Scope: 3

The verification team leader and TR have the related Scope as per the above statement of competence and both have been approved by GS as GS project auditor which can be seen on the GS website.

## Appendix 3. Documents reviewed or referenced

	Author	Title	References to the document	Provider
1.	Verification team	T-VVB_V.1.0-Audit-Techniques <sup>/AT/</sup>	Filled “T-VVB_V.1.0-Audit-Techniques” for the remote audit used for this monitoring period	VVB
2.	PP	Break Even Price <sup>/BEP/</sup>	“HSE-CP2MP4-Break Even Price_Jan-Dec 21”	PP
3.	Hydrologic Enterprise Ltd.&Factory	Business License <sup>/BL/</sup>	Business License of Hydrologic Enterprise Ltd. and its full-fledged factory situated in Trapeang Samrong Village	PP
4.	Angkor Research Consulting	Baseline Report <sup>/BSR/</sup>	Baseline report: Angkor Research and Consulting (2017) “Baseline Survey Report on Ceramic Water Purifier by Hydrologic in the Kingdom of Cambodia”.	PP
5.	PP	Carbon Expense <sup>/CE/</sup>	“Carbon Expense-Up to Dec 21”	PP
6.	Angkor Research Consulting	C <sub>j</sub> & X <sub>boil</sub> calculation sheet <sup>/CJX/</sup>	HSE_CP2_Cj&Xboil_20171023	PP
7.	GS	COVID 19: INTERIM MEASURES <sup>/COV/</sup>	COVID 19: INTERIM MEASURES issued by GS on 21/12/2021, Version 5, and valid to 30/06/2022	PP
8.	PP	CWP parts' replacement record <sup>/CPRR/</sup>	HSE_CP2-MP4_Replacement 2021	PP
9.	PP	CWP specifications <sup>/CWPS/</sup>	CWP specifications for three models	PP
10.	GS	Design Change Review <sup>/DCR/</sup>	“GS1020_Design Change Review_final 2014-03-27” issued by GS	PP
11.	PP	Diesel&Gasoline purchase invoices <sup>/DGPI/</sup>	Diesel&Gasoline purchase invoices during this MP in year 2021	PP
12.	Nexus for Development	ER calculations – CP2 <sup>/ERCP2/</sup>	CP2-5_HSE_CP2_ER_Cal_20171023	PP
13.	PP	Employment Record&Income Generation <sup>/ERIG/</sup>	HSE_CP2-MP4_Em&Inc2021	PP
14.	Food and Agriculture Organization of the United Nations	Global Forest Resources Assessment 2015 <sup>/GFRA/</sup>	Global Forest Resources Assessment 2015	PP
15.	PP	Hygiene Campaigns Meetings Records <sup>/HCAL/</sup>	Hygiene Campaign Attendant list 2021	PP
16.	PP	Health and Safety Precautions <sup>/HSP/</sup>	OHS_Policy_Occupational_Health_Safety_English	PP
17.	PP	Hotline Tracking Record <sup>/HTR/</sup>	“HSE_CP2MP4_Hotline Tracking Record 2021”	PP
18.	PP and staffs	Labor Contract <sup>/LC/</sup>	Sampled employment contracts including office staff, field staff and factory staff	PP

	Author	Title	References to the document	Provider
19.	Nexus for Development	Monitoring_Flow /MF/	"HSE_CP2MP4_Monitoring_Flow"	PP
20.	Nexus for Development	Monitoring Report <sup>/MR/</sup>	Monitoring Report for CP2MP4 of Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia <ul style="list-style-type: none"> <li>• Draft version 1.0, dated 22/03/2022</li> <li>• Version 3.0, dated 16/05/2022</li> <li>• version 4.0, dated 31/08/2022</li> <li>• Final version 5.0, dated 07/10/2022</li> </ul>	Nexus for Development
21.	Angkor Research Consulting	Monitoring Survey Report <sup>/MSR/</sup>	Monitoring Survey Report- "ARC_HSE_CP2_MP4_2022_Report_Final_v6" for this monitoring period	PP
22.	Angkor Research Consulting	Monitoring Survey Report <sup>/MSR-MP3/</sup>	Monitoring Survey Report- "ARC_HSE_CP2-MP3_2021_Final_Report_V8_Clean" for CP2MP3	PP
23.	PP	f <sub>NRB</sub> calculation sheet <sup>/NRBC/</sup>	f <sub>NRB</sub> calculation sheet "Biomass Non-Renewability Assessment Cambodia"	PP
24.	PP	Salary payment <sup>/PAY/</sup>	Monthly payroll of all staffs during this MP	PP
25.	PP	Project database <sup>/PD/</sup>	Project database- "HSE_CP2MP4_Project_Database", which containing the contact details of all end users, to the extent possible.	PP
26.	PP	Price of Water filters <sup>/PWF/</sup>	"HSE Price of Water filters_Jan-Dec 21"	PP
27.	Angkor Research Consulting and PP	Monitoring Survey Questionnaires /QUE/	Monitoring Survey Questionnaires filled by user samples	PP
28.	PP	"GS_Default_LPG" /RDV/	Exchange email with GS to determine "GS_Default LPG"	PP
29.	PP and users, retailers and NGOs	Sales invoices of CWP <sup>/SICWP/</sup>	60 samples - Sales invoices of CWP during this MP	PP
30.	PP	Staff List <sup>/SL/</sup>	Hydrologic Staff List	PP
31.	Nexus for Development	Sample number calculation <sup>/SNC-MP1/</sup>	Sampling Frame for CP2-MP1	PP
32.	PP	Serial Numer of CWP <sup>/SNCWP/</sup>	Serial number 2021	PP
33.	Nexus for Development and PP	Sampling Protocol <sup>/SP/</sup>	Described in Methodology section (page 6-10) of ARC_HSE_CP2_MP4_2022_Report_final_v6	PP
34.	PP	Sales record <sup>/SR/</sup>	i. Sales record during the previous monitoring period from 01/12/2010 to 31/12/2020 ii. For this MP: HSE_CP2MP4_Sales_Database	PP
35.	Nexus for Development	GS4GG transition Annex <sup>/TA/</sup>	GS4GG transition Annex for the project activity	PP
36.	PP and carbon	Training records <sup>/TRA/</sup>	- Factory staff training records including safety, first aid, health, etc.	PP

	Author	Title	References to the document	Provider
	consultant from Nexus		<ul style="list-style-type: none"> <li>- Trainings related to “Hygiene” included into sale training course</li> <li>- Database refreshing training to PP’s customer service team in Oct. 2021</li> </ul>	
37.	Nexus for Development	GS4GG transition review form and approval <sup>/TRFA/</sup>	GS4GG transition review form and approval for the project activity dated on 30/10/2019	PP
38.	PP	Wood&Diesel_Record <sup>/WDP/</sup>	HSE_CP2_MP4_Wood&Diesel_Purchase	PP
39.	PP	Wood purchase invoices <sup>/WPI/</sup>	Wood purchase invoices during this MP	PP
40.	Nexus for Development	Water Quality Test Protocol <sup>/WQTP/</sup>	HSE_CP2-MP4_WQ_protocol	PP
41.	Institut Pasteur du Cambodge	Water Quality Test Reports <sup>/WQTR/</sup>	Water Quality Test Reports_CP2_MP4	PP
42.	Institut Pasteur du Cambodge	Water Quality Test Summary <sup>/WQTS/</sup>	Document summary - HSE_CP2-MP4_Water_Quality_Survey(Mar 2021)	PP
43.	Nexus for Development	Emission Reduction Calculation Sheets <sup>/XLS/</sup>	<p>Emission Reduction Calculation sheets (related to MR for CP2MP4)</p> <ul style="list-style-type: none"> <li>• version 1.0, dated 20/03/2022</li> <li>• version 3.0, dated 16/05/2022</li> <li>• version 4.0, dated 31/08/2022</li> </ul>	Nexus for Development
44.	UNFCCC	AMS-II.G <sup>/AMS-II.G/</sup>	CDM approved methodology AMS-II.G	UNFCCC
45.	UNFCCC	AMS-III.AV <sup>/AMS-III.AV/</sup>	CDM approved methodology AMS-III.AV, version 5	UNFCCC
46.	Gold Standard	GS update rule <sup>/AMSW/</sup>	GS update rule “the Requirement for Quality Standard to be met by safe water supply projects submitted Prior to 31 <sup>st</sup> January 2014”	Gold Standard
47.	TÜV NORD JI / CDM Certification Program	CP Manual <sup>/CPM/</sup>	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)	TÜV NORD JI / CDM Certification Program
48.	PP	Biomass Non-Renewability Assessment Cambodia <sup>/NRBC/</sup>	Biomass Non-Renewability Assessment Cambodia	PP
49.	Gold Standard	Issuance review <sup>/GSIR/</sup>	GS issuance review for MP3 and MP5	PP
50.	Nexus for Development	Gold Standard Passport <sup>/GSP/</sup>	Gold Standard Passport for GS-VER project: “Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia” dated 15/01/2018, version 3.0	Gold Standard
51.	Gold Standard	GS4GG Principles& Requirements <sup>/GSPR/</sup>	Gold Standard for Global Goals Principles& Requirements, version 1.2 in Oct. 2019	Gold Standard
52.	Gold Standard	Guidelines for carrying out usage surveys <sup>/GUSW/</sup>	Gold Standard “Guidelines for carrying out usage surveys for projects implementing household water filtration technologies – 05/02/2014”	Gold Standard

	Author	Title	References to the document	Provider
53.	Intergovernmental Panel on Climate Change	IPCC Guidelines <sup>/IPCC/</sup>	<ul style="list-style-type: none"> <li>1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book</li> <li>2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book</li> <li>IPCC (2007) "IPCC Fourth Assessment Report: Climate Change 2007/ Climate Change 2007/Working Group I: The Physical Science Basis 2.10.2 Direct Global Warming Potential" available at [last accessed 15-06-2015]</li> </ul>	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a> <a href="http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html">http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html</a>
54.	Gold Standard	Methodology <sup>/MERSW/</sup>	Methodology for emission reductions from safe drinking water supply v.1.0	Gold Standard
55.	Gold Standard	Monitoring Report Template <sup>/MRT/</sup>	Gold standard for the global goals Monitoring report template, October 2020, version 1.1	Gold Standard
56.	Nexus for Development	Project Design Document <sup>/PDD/</sup>	Approved 2 <sup>nd</sup> crediting period Project Design Document for GS-VER project: "Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia" version 11.2, dated 05/02/2018	Gold Standard
57.	UNFCCC	Guideline of Sampling and surveys <sup>/SSG/</sup>	Guideline of Sampling and surveys for CDM project activities and programmes of activities, version 04.0	UNFCCC website
58.	UNFCCC	Standard for Sampling and Surveys <sup>/SSS/</sup>	Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 09.0	UNFCCC website
59.	Gold Standard	112_V1.0_PAR_Site-Visit-and-Remote-Audit-Requirements <sup>/SVR ARP/</sup>	"GS4GG Site Visit and Remote Audit Requirements and Procedures" version 1.0	GS Website
60.	Gold Standard	Applied Methodology <sup>/TPDDTEC/</sup>	Approved GS Methodology: "Technologies and Practices to Displace Decentralized Thermal Energy Consumption – version 3.0, July 2015"	GS Website
61.	UNFCCC	CDM methodological tool <sup>/TNRB/</sup>	Tool 30 "Calculation of the fraction of non-renewable biomass", version 02.0	UNFCCC website
62.	VVB	Validation Report <sup>/VAL/</sup>	2 <sup>nd</sup> crediting period Validation Report for GS project "Production and dissemination of Ceramic Water Purifiers by Hydrologic, in the Kingdom of Cambodia"	Gold Standard
63.	VVBs	Verification Records <sup>/VER/</sup>	Previous verifications: MRs and Verification Reports	Gold Standard
64.	Angkor Research Consulting	Angkor Research public website <sup>/akr/</sup>	<a href="http://angkorresearch.com/?page=front&amp;lg=en">http://angkorresearch.com/?page=front&amp;lg=en</a>	Public website
65.	Gold Standard Organization	Gold Standard <sup>/gs/</sup>	<a href="http://www.goldstandard.org/">http://www.goldstandard.org/</a>	Website
66.	Laboratory	Official website of laboratory <sup>/ipc/</sup>	<a href="https://www.pasteur-kh.org/about-us/">https://www.pasteur-kh.org/about-us/</a>	Website

	<b>Author</b>	<b>Title</b>	<b>References to the document</b>	<b>Provider</b>
67.	IPCC	IPCC publications <sup>/ipcc/</sup>	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	Website
68.	UNFCCC	UNFCCC <sup>/unfccc/</sup>	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	Website
69.	VCS	VCS <sup>/vcs/</sup>	<a href="http://www.v-c-s.org/">http://www.v-c-s.org/</a>	Website
70.	GS Website	GS case No.751 <sup>/751/</sup>	<a href="https://registry.goldstandard.org/projects/details/1176">https://registry.goldstandard.org/projects/details/1176</a>	GS Website

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

**Table 1. Remaining FAR from previous verification**

<b>FAR ID</b>	01	<b>Section No.</b>	G.2	<b>Date:</b> 01/04/2022
<b>Description of FAR</b>				
Section G.2: It shall be clearly confirmed whether any mitigation measures have been agreed to be monitored for the next monitoring period.				
<b>Project participant response</b>				<b>Date:</b> 21/04/2022
In section G.2 of MR, PP has been monitoring the three indicators including (1) the concern of high price of CWP, (2) concern of the place where the clay is taken and (3) the concern of corruption in the dale staffs. The monitoring results are stated below:				
<b>Description of Sustainability Matrix</b>		<b>Monitoring</b>		
To address the concern of high price of CWP, the calculation of the CWP is based on the break-even price of the water filter +10% markup price if there is carbon finance.		Based on the annual sale in this monitoring period, although the average price for Super Tunsai (\$36.48) is slightly higher than the break-even price +10% profit margin (\$35.65) and the average price for Tunsai Autofill (58.51\$) is higher than the break-even price +10% profit margin (\$43.45), the average price for regular Tunsai (\$12.58) is much lower than the break-even price +10% profit margin (\$25.94). Thus, the weighted average price of \$31.61 for all type of the water filter sold in this MP was below its break-even price + 10% profit margin of \$34.61. The break-even price + 10% markup price is described and available to VVB.		
To address the concern of the place where the clay is taken, Hydrologic will buy the clay only from the licensed brick manufacturing factory that authorized by the Ministry of Industry and Handicraft.		During this monitoring, PP has not purchased clay because they have enough stock from its previous purchase in 2018 from a nearby licensed brick factory. It should be noted that Hydrologic's factory is located in the brick manufacturing zone, where access to clay from the licensed factory is not difficult.		
To address the concern of corruption, the field Surveys will monitor and ask how much people are paying for the water filters and assess that the prices are not unreasonable. If the prices are unreasonable, PP shall investigate the reason and take appropriate action. PP believes that this risk is low because there are so many sales people that competition will keep the price low.		The monitoring survey revealed that the mean purchase price for Tunsai and Super Tunsai is \$0.00 (donation from NGOs to users) and \$40.05, both of which are in line with current pricing. No price for Tunsai Autofill was reported because the Tunsai Autofill is new product with small sale proportion compared to Tunsai and supper Tunsai and it was not selected under the randomly sampling process in this monitoring survey.		
<b>Documentation provided by project participant</b>				
<input type="checkbox"/> Changes in the PDD		Section(s):	New version No.:	
<input checked="" type="checkbox"/> Changes in MR		Section(s): G.2	New version No.: 3.0	
<input type="checkbox"/> Changes in XLS		Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/> Other:		/MSR/, /BEP/, /PWF/, /CE/		
<b>VVB assessment</b>				<b>Date:</b> 23/04/2022
The revised MR is checked, it is confirmed that the mitigation measures have been monitored during this monitoring period.				
For the stakeholder mitigations that were agreed to be monitored have been assessed as below,				
<b>Sustainability indicators/Stakeholder mitigations</b>		<b>Assessment</b>		
To address the concern of high price of CWP, the calculation of the CWP is based on the break-		The PP keeps track of the break-even price of CWPs to ensure that end users are buying a subsidized CWP compared to the real costs of the CWP as shown in the document "HSE-		

<p>even price of the water filter +10% markup price if there is no carbon finance</p>	<p>CP2MP4-Break Even Price_Jan-Dec 21<sup>*/BEP/</sup>. This has been checked with report of “HSE Price of Water filters_Jan-Dec 21<sup>*/PWF/</sup> and financial statements for the financial year ended 31/12/2021 “Carbon Expense-Up to Dec 21<sup>*/CE/</sup>. The report of “HSE-CP2MP4-Break Even Price_Jan-Dec 21<sup>*/BEP/</sup> states that the average price for Super Tunsai (\$36.48) is slightly higher than the break-even price +10% profit margin (\$35.65), and the average price for Tunsai Autofill (58.51\$) is higher than the break-even price +10% profit margin (\$43.45) but the average price for regular Tunsai (\$12.58) is much lower than the break-even price +10% profit margin (\$25.94). Thus, the weighted average price of \$31.61 for all type of the water filter sold in this MP was below its break-even price + 10% profit margin of \$34.61. The Average price of the Filter is confirmed by checking the monitoring survey report<sup>*/MSR/</sup>, which is in accordance with the project requirement and it also confirmed that the filter is reaching the end user at affordable cost.</p>
<p>To address the concern of the place where the clay is taken, Hydrologic will buy the clay only from the licensed brick manufacturing factory that authorized by the Ministry of Industry and Handicraft.</p>	<p>Via interview with staffs from factory, it is confirmed that PP has not purchased clay for this monitoring period because they have enough stock from its previous purchase in 2018 from a nearby licensed brick factory, and the factory has been checked during the previous site visit by VVB.</p>
<p>To address the concern of corruption, the field Surveys will monitor and ask how much are people paying for the water filters and assess that the prices are not unreasonable. If the prices are unreasonable, PP shall investigate the reason and take appropriate action. PP believes that this risk is low because there are so many sales people that competition will keep the price low</p>	<p>Via checking the monitoring survey report<sup>*/MSR/</sup>, it is confirmed that the mean purchase price for Tunsai and Super Tunsai is \$0.00 (donation from NGOs to users) and \$40.05, both of which are in line with current pricing as listed in the report of “HSE Price of Water filters_Jan-Dec 21<sup>*/PWF/</sup>. No price for Tunsai Autofill was reported because the Tunsai Autofill is new product with small sale proportion compared to Tunsai and supper Tunsai and it was not selected under the randomly sampling process in this monitoring survey as confirmed by checking the report<sup>*/MSR/</sup>. Hence it is concluded that the prices are reasonable.</p>
<p>PP has established adequate arrangements for monitoring and measurement of the sustainability indicators. The Data collected through Surveys found properly analyzed to arrive at the conclusion. The claims made by the PP towards compliance of the Sustainability indicator are correct.</p>	
<p><b>Conclusion</b> Tick the appropriate checkbox</p>	<p><input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed</p>

**Table 2. CL from this verification**

<b>CL ID</b>	01	<b>Section no.</b>	C	<b>Date:</b> 01/04/2022
<b>Description of CL</b>				
PP stated that the project survey was conducted in Dec 2021 together with usage survey, however, the sample size for both surveys is not same, clarification is requested.				
<b>Project participant response (1<sup>st</sup> round)</b>				
Additional informaiton is added in MR to clarify this point as stated “ it should be noted that although both surveys were conducted concurrently their sample sizes are not the same due to their different sample selection criteria. While eligible households for usage survey are those who have ever owned CWP, eligible households for project survey are those who are currently still using CWP. With these criteria, during this MP, a total of 182 households who have ever owned CWP participated in the usage survey and out of them, 126 households were still using CWP and they participated in the project survey.				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date:</b> 21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): C	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	

<input checked="" type="checkbox"/> Other:	/MSR/
<b>VVB assessment (1<sup>st</sup> round)</b>	
Date: 23/04/2022	
The MR is checked as revised, it is confirmed that the explanation has been added and confirmed as correct and actual by checking the Monitoring Survey Report <sup>MSR/</sup> for this monitoring period.	
<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

<b>CL ID</b>	02	<b>Section no.</b>	D.1	<b>Date:</b>	01/04/2022	
<b>Description of CL</b>						
For parameter $f_{NRB,y}$ ,						
<ol style="list-style-type: none"> <li>How this value was calculated and what is the basis for the calculation is not clarified.</li> <li>PP stated that the previous <math>f_{NRB}</math> is valid until February 2019, then why this value is not updated in previous MP but in this MP for year 2021, reason is not clarified.</li> </ol>						
<b>Project participant response (1<sup>st</sup> round)</b>						
<ol style="list-style-type: none"> <li>The value of <math>f_{NRB,y}</math> was assessed by employing the guidance provided in the methodological Tool 30 "Calculation of the fraction of non-renewable biomass", version 02.0 (CDM Tool 30 v.2.0.)</li> <li>PP has been trying to update this figure in previous MP, but limit data has prevented this update and PP has opted to use the old figure which is conservative compared to this latest figure. In this MP, PP has reviewed the data for updating <math>f_{NRB}</math>. It was found that the latest <math>f_{NRB,y}</math> figure of 95.01% was proposed by another project (GS751) implemented in Cambodia with the same project boundary (Cambodian nationwide) and it was approved by GS under its CP3-MP2 verification work in 2021. Thus, PP applied this latest figure from this CP2-MP4 onward.</li> </ol>						
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					<b>Date:</b>	21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:			
<input checked="" type="checkbox"/>	Changes in MR	Section(s): D.1	New version No.: 3.0			
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:			
<input checked="" type="checkbox"/>	Other:	/NRBC/				
<b>VVB assessment (1<sup>st</sup> round)</b>					<b>Date:</b>	23/04/2022
<ol style="list-style-type: none"> <li>The revised MR is checked, it is confirmed that the clarification has been added. Via checking the <math>f_{NRB}</math> calculation sheet "Biomass Non-Renewability Assessment Cambodia"<sup>NRBC/</sup>, it is confirmed that the value is assessed by employing the guidance provided in the methodological Tool 30 "Calculation of the fraction of non-renewable biomass", version 02.0<sup>TNRB/</sup>.</li> <li>The revised MR is checked, it is confirmed that the clarification has been added. Via checking the applied methodology, TPDDTEC V3.0, it is confirmed that the <math>f_{NRB}</math> is fixed by baseline study for a given crediting period, and can be updated if necessary. The original value of <math>f_{NRB}</math> is 77% which is a default value from UNFCCC, but via checking the UNFCCC website, it is verified that this value is valid until February 2019. But due to limit data has prevented this update after February 2019, thus PP has opted to use the old figure which is conservative compared to this latest figure in the last monitoring periods. For this MP, PP reviewed the available data for updating <math>f_{NRB}</math> which is confirmed in line with the requirement of the applied methodology.</li> </ol>						
<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed					

<b>CL ID</b>	03	<b>Section no.</b>	D.1	<b>Date:</b>	01/04/2022	
<b>Description of CL</b>						
For parameters $W_{b,y,TRAD,wood}$ , $W_{p,y,TRAD,wood}$ , $W_{b,y,TRAD,charcoal}$ , $W_{p,y,TRAD,charcoal}$ , the Choice of data is not clarified, why the values of 400 and 100 used for this MP is not clarified.						
<b>Project participant response (1<sup>st</sup> round)</b>						
The choice of data for parameters: $W_{b,y,TRAD,wood}$ , $W_{p,y,TRAD,wood}$ , $W_{b,y,TRAD,charcoal}$ , $W_{p,y,TRAD,charcoal}$ , were made based the Rule Update -Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021 which listed the default value for these parameters.						
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					<b>Date:</b>	21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:			
<input checked="" type="checkbox"/>	Changes in MR	Section(s): D.1	New version No.: 3.0			
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:			
<input checked="" type="checkbox"/>	Other:	/MSR/				
<b>VVB assessment (1<sup>st</sup> round)</b>					<b>Date:</b>	23/04/2022
The revised MR is checked, it is confirmed that the choice of data has been clarified accordingly.						

This is based on the section 2.1.1 and 2.2.1 of the Application of TPDDTEC methodology to SAFE Water Supply projects dated on 03/05/2021<sup>/AMSW/</sup>. Hence it is verified that the updated values for this monitoring period are correct.

<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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<b>CL ID</b>	04	<b>Section no.</b>	D.2	<b>Date:</b> 01/04/2022
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**Description of CL**

For the parameter  $WQ_{Passed,y}$ ,

1. It is observed that the monitoring frequency is changed from quarterly in the PDD to annually for this monitoring period, clarification is requested.
2. The sample size is not clarified.
3. The testing point is not accurate as per the SDWS 18 requirement, "testing of the water entering the household (e.g. coming out of the tap)".
4. Why the national standard is not used need to be clarified.

**Project participant response (1<sup>st</sup> round)**

1. Based on the updated rule - Application of TPDDTEC methodology to safe water supply projects released on 03/05/2021, PP opts for "water quality test" requirements outlined for parameter SDWS 18 in [Methodology for emission reductions from safe drinking water supply v.1.0 - annual water quality test](#).
2. The sample size of 45 households is added in the revised MR
3. Based on the SDWS 18 in Methodology for emission reductions from safe drinking water supply v.1.0, the testing point for household water treatment technology (HWT) is at **the exist of the treatment technology**.
4. There is no national standard for water quality from household water treatment technology in Cambodia, thus, WHO standard is used as stated in the revised MR.

**Documentation provided by project participant (1<sup>st</sup> round)** **Date:** 21/04/2022

<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:
<input checked="" type="checkbox"/> Changes in MR	Section(s): D.2	New version No.: 3.0
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Other:	/WQTR/	

**VVB assessment (1<sup>st</sup> round)** **Date:** 23/04/2022

1. The revised MR is checked, it is confirmed that the clarification has been added.  
Via checking the updated rule of "Application of TPDDTEC Methodology to safe water supply projects" issued on 03/05/2021<sup>/AMSW/</sup>, it is confirmed that according to the section 2.2.2: "The project, PoA and VPAs applying Annex 3 of TPDDTEC may opt for "Water quality testing" requirements outlined for parameter SDWS 18 in Methodology for emission reductions from safe drinking water supply v.1.0 - annual water quality testing. If this option has been opted, the activity shall follow all requirements and limitations outlined for parameter SWDS 18", PP has opted for "Water quality testing" requirements as annual water quality testing. Hence, the requirements outlined for parameter SDWS 18 in Methodology for emission reductions from safe drinking water supply v.1.0<sup>/MERSW/</sup> has been followed for conduct the monitoring of Water quality testing.
2. The revised MR is checked, it is confirmed that the sample size is added which is verified as correct by checking the Water Quality Test Reports<sup>/WQTR/</sup>.
3. The revised MR is checked, it is confirmed that the testing point is updated to be at the exist of the treatment technology which is verified in line with the SDWS 18 requirement, "testing of the water entering the household (e.g. coming out of the tap)".
4. The revised MR is checked, it is confirmed that the clarification has been added, via intetrview with PP and confirmed by local expert, it is verified that no national standard for water quality from household water treatment technology in Cambodia.

<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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<b>CL ID</b>	05	<b>Section no.</b>	D.3	<b>Date:</b> 01/04/2022
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**Description of CL**

It is observed that the value of  $U_{p,y}$  for this MP is lower than last MP, and PP has provided the reason that "limited access to target provinces which lead to higher drop off rate mostly for the old filter age of year 4". However, this reason is not clear, more clarification is requested.

<b>Project participant response (1<sup>st</sup> round)</b>		
PP has clarify this point in the revised MR as <i>"The usage rate in this MP is drastically lower than that of the previous MP. It should be noted that with Covid-19 Pandemic, the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces. This may lead to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot"</i> .		
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>		<b>Date: 21/04/2022</b>
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:
<input checked="" type="checkbox"/> Changes in MR	Section(s): D.3	New version No.: 3.0
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Other:		
<b>VVB assessment (1<sup>st</sup> round)</b>		<b>Date: 23/04/2022</b>
The revised MR is checked, it is confirmed that the reason has been elaborated. The value in this MP is drastically lower than that of the previous MP, via interview with PP, it is confirmed that the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces due to Covid-19 Pandemic in 2021, and this may lead to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot which is verified as reasonable confirmed by local expert.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

<b>CL ID</b>	<b>06</b>	<b>Section no.</b>	<b>E.6</b>	<b>Date: 01/04/2022</b>
<b>Description of CL</b>				
It is observed that the value of $U_{p,y}$ for this MP is lower than estimated value in PDD, and PP has stated that "Usage rate is significantly drop, especially for the old filter age 4- and 5-year-old, PP need to improve and reenforce its after services team which was not active enough during the pandemic Covid-19 to address this issue". However, this reason is not clear, more clarification is requested.				
<b>Project participant response (1<sup>st</sup> round)</b>				
PP has clarify this point as stated in the revised MR as <i>"Usage rate is significantly drop, especially for the old filter age 5. It should be noted that with Covid-19 Pandemic, the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces. This leads to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot. It is expected that when the situation of covid-19 is improved, PP will reenforce its after services team which was not active enough during the pandemic Covid-19 to address this issue"</i> .				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date: 21/04/2022</b>
<input type="checkbox"/> Changes in the PDD	Section(s):		New version No.:	
<input checked="" type="checkbox"/> Changes in MR	Section(s): E.6		New version No.: 3.0	
<input type="checkbox"/> Changes in XLS	Worksheet(s):		New version No.:	
<input checked="" type="checkbox"/> Other:				
<b>VVB assessment (1<sup>st</sup> round)</b>				<b>Date: 23/04/2022</b>
The revised MR is checked, it is confirmed that the reason has been elaborated. The value in this MP is drastically lower than that of the estimated value in PDD, via interview with PP, it is confirmed that the government of Cambodia has locked down cities and provinces which led to limited access to project targeted provinces due to Covid-19 Pandemic in 2021, and this may lead to higher drop off rate mostly for the old filter age of year 5 which often required replacement of the ceramic filter pot which is verified as reasonable confirmed by local expert.				
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

**Table 3. CAR from this verification**

<b>CAR ID</b>	01	<b>Section no.</b>	B.1	<b>Date:</b> 01/04/2022
<b>Description of CAR</b>				
<ol style="list-style-type: none"> <li>The name to the third type of "Tunsai Thom" is not consistent with other parts and the sale database.</li> <li>The name of first type is listed in the table it not correct.</li> <li>The specification of the new type "Tunsai Autofill" need to be provided.</li> </ol>				
<b>Project participant response (1<sup>st</sup> round)</b>				
<ol style="list-style-type: none"> <li>The name to the third type of "Tunsai Thom" is corrected as " Tunsai Autofill" in the revise MR. It is now consistent with other parts and the sale database.</li> <li>The name of first type is listed in the table is corrected in the revised MR.</li> <li>The specificaiton of the new type "Tunsai Autofill" is attached.</li> </ol>				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date:</b> 21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): B.1	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/>	Other:	/SR/, /CWPS/		
<b>VVB assessment (1<sup>st</sup> round)</b>				<b>Date:</b> 23/04/2022
<ol style="list-style-type: none"> <li>The revised MR is checked, it is confirmed that name of the third type is changed to "Tunsai Autofill" which is consistent in the whole MR and same to the Sales record<sup>/SR/</sup>.</li> <li>The revised MR is checked, it is confirmed name of first type is changed to Tunsai which is consistent in the whole MR and same to the Sales record<sup>/SR/</sup>.</li> <li>The specification<sup>/CWPS/</sup> for the new type is provided by PP. Via checking the specifications<sup>/CWPS/</sup> for all the three types expacially the new type, verification team herewith confirms that the specifications of Ceramic water Purifiers (CWP) are the same as provided in the MR and specifications<sup>/CWPS/</sup>.</li> </ol>				
<b>Conclusion</b>		<input type="checkbox"/> Additional action should be taken (finding remains open)		
Tick the appropriate checkbox		<input checked="" type="checkbox"/> The finding is closed		
<b>CAR ID</b>	02	<b>Section no.</b>	B.1	<b>Date:</b> 01/04/2022
<b>Description of CAR</b>				
<ol style="list-style-type: none"> <li>PP stated that The project sold 38,645 Ceramic Water Purifiers (CWPs) during the period from 01/01/2021 to 31/12/2021 and reduced 84,820 tonnes of GHG emissions (tCO<sub>2</sub>e), it is not clear that the sold occurred during only this year or from the project start date.</li> <li>Table 2 only list the sales during the current monitoring period but not the total installations. Revision is requested.</li> </ol>				
<b>Project participant response (1<sup>st</sup> round)</b>				
<ol style="list-style-type: none"> <li>The cumulative figure has been added to clarify this point. The project sold 38,645 Ceramic Water Purifiers (CWPs) during the period from 01/01/2021 to 31/12/2021. Cumulatively, the project sold 490,896 CWPs from the project start date (01/12/2010) to 31/12/2021 and reduced 84,820 tonnes of GHG emissions (tCO<sub>2</sub>e) for this monitoring period.</li> <li>The other installations before this period are detailed in "ER calculation spreadsheet, tab Units_month" and they were verified during previous monitoring period.</li> </ol>				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date:</b> 21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): B.1	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/>	Other:			
<b>VVB assessment (1<sup>st</sup> round)</b>				<b>Date:</b> 11/05/2022
<ol style="list-style-type: none"> <li>The updated MR is checked, it is confirmed that the revised description is clear.</li> <li>The updated MR and ER sheet is checked, it is confirmed that the related figure has been listed in ER sheet. Due to the installations have been listed in each MR for periodical MP, there is no need to list all in this MR, but the ER sheet has included all, so the information added is confirmed as reasonable. However, the value of 490,896 is not traceable in the spreadsheet. Also clarify why the value in the Tab 'Sale Data' is inconsistent with this value, and why only data from 2013 is shown.</li> </ol>				
<b>Project participant response (2<sup>nd</sup> round)</b>				
It is traceable, check Tab: Units_month (sum (E6:E138)).				

Originally, the tab 'Sale Data' was created to update only the newly sale per each MP and predict the future sale. The actual sale figure is still at Tab 'Units\_month'. Now, to avoid any confusion, PP update all the sale data in this tab and it is now the main sale data source for Tab 'Units\_month'.

At the time of renewing crediting period in 2017, PP use forecasting function in excel to predict the future sale, early sale before 2013 was not used as input in that monthly sale prediction because it was not a stable sale (the project just started) compared to the later period.

<b>Documentation provided by project participant (2<sup>nd</sup> round)</b>		<b>Date: 16/05/2022</b>
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Units_month	New version No.: 3.0
<input type="checkbox"/> Other:		
<b>VVB assessment (2<sup>nd</sup> round)</b>		<b>Date: 17/05/2022</b>
The updated ER sheet is checked and the total figure has been traceable without any confusion. And the explanation for start from 2013 is confirmed as reasonable.		
<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

<b>CAR ID</b>	03	<b>Section no.</b>	B.1	<b>Date: 01/04/2022</b>
<b>Description of CAR</b>				
1. PP stated that "Hydrologic has monitored the usage rates of the CWP's through the usage survey" while, the survey was conducted by a third party, revision is requested. 2. What does the project survey measure is not clarified clearly.				
<b>Project participant response (1<sup>st</sup> round)</b>				
1. PP has revised the MR as "Hydrologic has monitored the usage rates of the CWP's through the usage survey by employing Angkor Research, consulting company, to conduct the survey to ensure the project claims an appropriate useful life of the technology". 2. Project survey monitor the project impacts and some parameters: money saving, time saving, less smoke, % of household using wood, LPG for cooking ... etc., while Usage survey asking if the project technology is still being used or not? If it is being used that household will be eligible for project survey and the detail information mentioned above will be asked.				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date: 21/04/2022</b>
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:		
<input checked="" type="checkbox"/> Changes in MR	Section(s): B.1	New version No.: 3.0		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input checked="" type="checkbox"/> Other:	/MSR/			
<b>VVB assessment (1<sup>st</sup> round)</b>				<b>Date: 23/04/2022</b>
1. The revised MR is checked, it is confirmed that the description has been updated to be actual and reasonable which is confirmed in line with the monitoring survey report <sup>/MSR/</sup> . 2. The monitoring survey report <sup>/MSR/</sup> is checked and the above reply is confirmed as correct.				
<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

<b>CAR ID</b>	04	<b>Section no.</b>	C	<b>Date: 01/04/2022</b>
<b>Description of CAR</b>				
For the project database, the actual number for this monitoring period is not provided.				
<b>Project participant response (1<sup>st</sup> round)</b>				
PP has revised the MR as "The total number of end-users under this project database (01 July 2016 – 30 June 2021) was 104,661 households".				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date: 21/04/2022</b>
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:		
<input checked="" type="checkbox"/> Changes in MR	Section(s): C	New version No.: 3.0		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input checked="" type="checkbox"/> Other:	/PD/			

<b>DOE assessment (1<sup>st</sup> round)</b>		<b>Date: 23/04/2022</b>
The revised MR is checked, it is confirmed that the actual number is added. Via checking the project database/PD/, it is confirmed that the value is correct and actual.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

<b>CAR ID</b>	05	<b>Section no.</b>	D.1	<b>Date: 01/04/2022</b>
<b>Description of CAR</b>				
For parameter $EF_{b,LPG,nonCO2}$ / $EF_{p,LPG,nonCO2}$ , the GWP value for CH <sub>4</sub> and N <sub>2</sub> O is not updated to AR5 value.				
<b>Project participant response (1<sup>st</sup> round)</b>				
The values are now updated in the revised MR.				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date: 21/04/2022</b>
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): D.1	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/>	Other:			
<b>VVB assessment (1<sup>st</sup> round)</b>				<b>Date: 23/04/2022</b>
The revised MR is checked, it is confirmed that the GWP value for CH <sub>4</sub> and N <sub>2</sub> O is updated according to AR5 and the EF value is re-calculated and confirmed as correct.				
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

<b>CAR ID</b>	06	<b>Section no.</b>	D.1	<b>Date: 01/04/2022</b>
<b>Description of CAR</b>				
For parameter $W_{b,y,WEIGHTED,wood}$ , the data source of all the figure used in the formula is not stated.				
<b>Project participant response (1<sup>st</sup> round)</b>				
PP has added the source of all the figures in the revised MR.				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date: 21/04/2022</b>
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): D.1	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
<b>VVB assessment (1<sup>st</sup> round)</b>				<b>Date: 23/04/2022</b>
The revised MR is checked, it is confirmed that the data source of all the figure used in the formula for calculation of $W_{b,y,WEIGHTED,wood}$ is specified and confirmed as correct.				
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

<b>CAR ID</b>	07	<b>Section no.</b>	D.1	<b>Date: 01/04/2022</b>
<b>Description of CAR</b>				
For parameter $W_{b,y,WEIGHTED,charcoal}$ , the data source of all the figure used in the formula is not stated.				
<b>Project participant response (1<sup>st</sup> round)</b>				
PP has added the source of all the figures in the revised MR.				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				<b>Date: 21/04/2022</b>
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): D.1	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
<b>DOE assessment (1<sup>st</sup> round)</b>				<b>Date: 23/04/2022</b>
The revised MR is checked, it is confirmed that the data source of all the figure used in the formula for calculation of $W_{b,y,WEIGHTED,charcoal}$ is specified and confirmed as correct.				

<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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<b>CAR ID</b>	08	<b>Section no.</b>	E.1	<b>Date:</b>	01/04/2022	
<b>Description of CAR</b>						
For parameter $W_{b,y,WEIGHTED,LPG}$ , the data source of all the figure used in the formula is not stated.						
<b>Project participant response (1<sup>st</sup> round)</b>						
PP has added the source of all the figures in the revised MR.						
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					<b>Date:</b>	21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):		New version No.:		
<input checked="" type="checkbox"/>	Changes in MR	Section(s): E.1		New version No.: 3.0		
<input type="checkbox"/>	Changes in XLS	Worksheet(s): all		New version No.: 3.0		
<input type="checkbox"/>	Other:					
<b>DOE assessment (1<sup>st</sup> round)</b>					<b>Date:</b>	23/04/2022
The revised MR is checked, it is confirmed that the data source of all the figure used in the formula for calculation of $W_{b,y,WEIGHTED,LPG}$ is specified and confirmed as correct.						
<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed					

<b>CAR ID</b>	09	<b>Section no.</b>	E.2	<b>Date:</b>	01/04/2022	
<b>Description of CAR</b>						
1. For the Goal 8 contribution, as per the Transition Annex, <i>Project outcome of SDG8 = Number of created jobs with safe and healthy work environment* % of worker with salaries paid are at par with wage laws in the host country</i> , however, the actual outcome is not mention the <i>% of worker with salaries paid are at par with wage laws in the host country</i> , revision is requested.						
2. For the Goal 3 contribution and Goal 5 contribution, the related figure in ER sheet is not listed in the correct column.						
<b>Project participant response (1<sup>st</sup> round)</b>						
1. PP has revised the MR as "According to the monitoring survey data, the number of new job created by the project with safe and healthy work environment was 82 people and 100% of them were paid with salaries at par with wage laws".						
2. The MR has been updated as per ER sheet						
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					<b>Date:</b>	21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):		New version No.:		
<input checked="" type="checkbox"/>	Changes in MR	Section(s): E.2		New version No.: 3.0		
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): all		New version No.: 3.0		
<input type="checkbox"/>	Other:					
<b>VVB assessment (1<sup>st</sup> round)</b>					<b>Date:</b>	23/04/2022
1.The revised MR is checked, it is confirmed that the related information has been added. In the project situation, as per the above calculation equation and checking the HSE_CP2-MP4_Em&Inc2021 <sup>/ERIG/</sup> , also cross-checked by latest staff list <sup>/SL/</sup> , labor contracts <sup>/LC/</sup> and monthly payroll <sup>/PAY/</sup> in 2021, it is verified that Number of created jobs with safe and healthy work environment is 82 and all the workers are paid salaries in accordance with the wage laws in the host country, in conclusion, the Project impacts of SDG8, i.e. the number of created jobs with safe and healthy work environment was 82 people and 100% of them were paid with salaries at par with wage laws during this monitoring period which is confirmed as correct by checking the monthly payroll <sup>/PAY/</sup> in 2021 and interview with the staff representatives.						
2. The updated MR is confirmed as correct and consistent with ER sheet.						
<b>Conclusion</b> Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed					

<b>CAR ID</b>	10	<b>Section no.</b>	G.2	<b>Date:</b>	01/04/2022	
<b>Description of CAR</b>						
In section G.2, 1. The demonstration of monitoring result of break-even price of the water filter is not including the new type "Tunsai Autofill". 2. The demonstration of monitoring result of mean purchase price is not including the new type "Tunsai Autofill".						
<b>Project participant response (1<sup>st</sup> round)</b>						
1. It is now included the revised MR. 2. It is now included in the revised MR as "No price for Tunsai Autofill was reported because the Tunsai Autofill is a new product with small sale proportion compared to Tunsai and supper Tunsai and it was not selected under the randomly sampling process in this monitoring survey".						
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					<b>Date:</b>	21/04/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:			
<input checked="" type="checkbox"/>	Changes in MR	Section(s): G.2	New version No.: 3.0			
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:			
<input checked="" type="checkbox"/>	Other:	/BEP/, /PWF/, /CE/, /MSR/				
<b>VVB assessment (1<sup>st</sup> round)</b>					<b>Date:</b>	23/04/2022
1. The revised MR is checked, it is confirmed that the new type "Tunsai Autofill" has been added. The PP keeps track of the break-even price of CWPs to ensure that end users are buying a subsidized CWP compared to the real costs of the CWP as shown in the document "HSE-CP2MP4-Break Even Price_Jan-Dec 21" <sup>/PWF/</sup> and financial statements for the financial year ended 31/12/2021 "Carbon Expense-Up to Dec 21" <sup>/CE/</sup> . The report of "HSE-CP2MP4-Break Even Price_Jan-Dec 21" <sup>/BEP/</sup> states that the average price for Super Tunsai (\$36.48) is slightly higher than the break-even price +10% profit margin (\$35.65), and the average price for Tunsai Autofill (58.51\$) is higher than the break-even price +10% profit margin (\$43.45) but the average price for regular Tunsai (\$12.58) is much lower than the break-even price +10% profit margin (\$25.94). Thus, the weighted average price of \$31.61 for all type of the water filter sold in this MP was below its break-even price + 10% profit margin of \$34.61. 2. The revised MR is checked, it is confirmed that the clarification has been added. No price for Tunsai Autofill was reported because the Tunsai Autofill is new product with small sale proportion compared to Tunsai and supper Tunsai and it was not selected under the randomly sampling process in this monitoring survey as confirmed by checking the report <sup>/MSR/</sup> .						
<b>Conclusion</b> Tick the appropriate checkbox		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

<b>CAR ID</b>	11	<b>Section no.</b>	D.4	<b>Date:</b>	11/05/2022	
<b>Description of CAR</b>						
PP stated in section D.4 that "For this monitoring period (CP2-MP4), project survey was conducted and project NRB assessment was reviewed and updated while Water Consumption Field Test (WCFT) and BWBT are not required based on the methodology TPDDTEC Version 3.0 which is not clear.						
<b>Project participant response (1<sup>st</sup> round)</b>						
For this monitoring period (CP2-MP4), project survey was conducted and project NRB assessment was reviewed and updated while Water Consumption Field Test (WCFT) is still valid (conducted every two years) and BWBT is still valid since there is no change for water boiling technology based on the methodology TPDDTEC Version 3.0.						
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					<b>Date:</b>	16/05/2022
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:			
<input checked="" type="checkbox"/>	Changes in MR	Section(s): D.4	New version No.: 3.0			
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:			
<input type="checkbox"/>	Other:					
<b>DOE assessment (1<sup>st</sup> round)</b>					<b>Date:</b>	17/05/2022
The revised MR is checked, it is confirmed that the description is clear and correct via checking the previous verification reports.						

<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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**Table 4. FAR from this verification**

<b>FAR ID</b>	N/A	<b>Section No.</b>	-	<b>Date:</b> -
<b>Description of FAR</b>				
<b>Project participant response</b>				<b>Date:-</b>
<b>Documentation provided by project participant</b>				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
<b>VVB assessment</b>				<b>Date:</b>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification			

## Appendix 2. Monitored Parameters

**Table A-5:** Periodic Verification Checklist – Monitored Parameters

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><b>A.</b> <i>SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameter were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</i></p> <p><i>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</i></p>		<p><math>T_{p,y}</math> - Total distributed water purifier (CWP) units</p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/I1/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /SR/ /SICWP/</p>	<p><i>Description:</i> PP has recorded <b>38,645</b> total distributed water purifiers (CWP) units during this monitoring period and total <b>490,896</b> since the start of 1<sup>st</sup> crediting period; the value is obtained from Sales record<sup>/SR/</sup> which is one of the important records from emission reduction calculation point of view. PP has established effective mechanism to capture salesdata of CWP distributed units on regular basis. This value is being updated on daily basis and compiled on monthly basis and tallied against invoices raised<sup>/SICWP/</sup>.  Sales records and invoices are found auditable documents and found correct – the input to sales records are taken from three different types of sales channels i.e. Direct sales, Retail sales and NGO sales.  PP has maintained daily and monthly sales and presented transparently during remote audit, the compiled data province</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>wise is also made a part of emission reduction spread sheet i.e. Sheet "Units_month"<sup>/XLS/</sup>. Verification team has verified the corresponding invoice using sampling approach which has been stated in the C.4.2 of this report.</p> <p>As per the requirement from the applied methodology, for the total sales record, verifier has checked the below information,</p> <ol style="list-style-type: none"> <li>1. The PP has maintained an accurate and complete sales record by checking the Sales record<sup>/SR/</sup> and Sales invoices of CWP<sup>/SICWP/</sup>.</li> <li>2. Via remotely checking the computer of Project owner, it is verified that the records are backed up electronically.</li> <li>3. Via checking the Sales record<sup>/SR/</sup> and Sales invoices of CWP<sup>/SICWP/</sup>, it is verified that all the required data including date of sale, Geographic area of sale, Model/type of project technology sold, mode of use, Quantity of project technologies sold, Name, address and telephone number are all listed in the invoices for Direct sales, Retail sales and NGO sales.</li> </ol> <p><i>Verifier's action:</i></p> <p>The Sales record<sup>/SR/</sup> is checked and confirmed by cross checking the sales invoices<sup>/SICWP/</sup> by sampling method.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per approved 2nd Crediting Period PDD and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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>/I1/  /PDD/  /MR/  /TPDDTE  C/  /XLS/  /SR/</p>	<p><i>Description:</i></p> <p>No monitoring equipment needed as the values of <math>T_{p,y}</math> are derived from the invoices.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by cross checking Sales record<sup>/SR/</sup> and sales invoices<sup>/SICWP/</sup>.</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>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/SICWP/	<p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/PDD/ /MR/ /TPDDTE C/ /XLS/ /SR/ /SICWP/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of <math>T_{p,y}</math> during this monitoring period is reported in the MR based on the Sales record<sup>/SR/</sup> and the value is verified as correct.</p> <p><i>Verifier's action:</i> By means of checking the Sales record<sup>/SR/</sup> and cross checking sales invoices<sup>/SICWP/</sup> by sampling method.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK
<p><b>B. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameter were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG 6.1.1 Proportion of population using safely managed drinking water services. The number of people with access to safe drinking water is the monitored parameter.</b></p> <p><b>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and</b></p>		<p><math>U_{p,y}</math> - Weighted average usage rate</p>		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>tertiary curricula. The total amount of emission reduction is the monitored parameter</b>				
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/I1/  /I3/  /PDD/  /MR/  /TPDDTE  C/  /XLS/  /MSR/  /GUSW/</p>	<p><i>Description:</i>  This is the calculated value to know what the weighted average usage rate of the CWP is during this Monitoring Period. The value applied by PP for this monitoring period is <b>67.34%</b> which is obtained from the Usage Survey result in the monitoring survey report<sup>/MSR/</sup>.</p> <p>The Usage Survey was conducted through usage questionnaires which was designed according to the updated Gold Standard “Guidelines for carrying out usage surveys for projects implementing household water filtration technologies – 05/02/2014”<sup>/GUSW/</sup>. The related data was collected by using a computer-assisted personal interview (CAPI) developed by the World Bank recorded and analyzed in a statistic software “SPSS”.</p> <p>This value is based on the result of usage survey conducted in December 2021 by engaging 3<sup>rd</sup> party survey agency i.e. Angkor Research<sup>/MSR/</sup>. PP has arrived at the usage rate calculation based on the Usage Survey result in the monitoring survey report<sup>/MSR/</sup>.</p> <p>The application of Usage rate is correct and it is based on the inputs received from 182 Households in different provinces of Cambodia.</p> <p>Verification team has verified the usage data using sampling approach which has been stated in the C.4.2 of this report.</p> <p>PP has also considered that usage rate calculation does not account the retired units i.e. units with age more than 5 years. The calculation is found correct and acceptable.</p> <p>The frequency of measurements as defined in the PDD is annually, this is the MP4 for CP2, started from Jan to Dec 2021. Hence, the Usage Survey was conducted in December 2021 is verified as per the requirement and is acceptable.</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>Verifier's action:</i></p> <p>Adequate measurement arrangements are made by the PP and the data is found verified by the Programme manager which is confirmed by interview with the PP<sup>/11/</sup>.</p> <p>The value is found conservative and this was verified during remote audit to various villages and sampled households<sup>/13/</sup>.</p> <p><i>Conclusion:</i></p> <p>The measurement is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</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> <p><i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /akr/</p>	<p><i>Description:</i></p> <p>The value is measured and calculated based on the survey carried out by a third-party (Angkor Research Consulting). No monitoring equipment needed.</p> <p><i>Verifier's action:</i></p> <p>This was verified by means of checking the Angkor Research information<sup>/akr/</sup>.</p> <p><i>Conclusion:</i></p> <p>QA/QC procedures are met. No inaccuracies occurred.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</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>/PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value given in the MR is derived from the Usage Survey result in the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier's action:</i></p> <p>It was verified by cross checking the ER calculation sheet against the Usage Survey result in the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Conclusion:</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.
		The value is correct.		
<p><b>C.</b> <i>SDG 3.9.1 Mortality rate attributed to household and ambient air pollution. The number of people who notice less smoke in kitchen after having water filter is the monitored parameter.</i></p> <p><i>SDG 6.1.1 Proportion of population using safely managed drinking water services. The number of people with access to safe drinking water is the monitored parameter.</i></p> <p><i>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter</i></p>		<p><math>WQ_{Passed,y}</math> - Water quality passing rate of water quality standard (WHO standard) per year</p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</i>  <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>  <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>	<p>/I1/  /I3/  /PDD/  /MR/  /TPDDTE  C/  /XLS/  /WQTP/  /WQTR/  /WQTS/  /AMSW/  /ipc/</p>	<p><i>Description:</i></p> <p>Third party Laboratory Analysis reports are provided to prove that the water treated through the CWP is bacteria free and the CWP's are working as required for supplying potable quality water consistently and the water quality meets WHO Standard.</p> <p>PP has performed Water analysis taking samples from various households and sending these samples to the third party laboratory Institut Pasteur du Cambodge annually in this monitoring period. The certificate of this lab is verified by checking the official website<sup>/ipc/</sup>. PP has established a specific Protocol<sup>/WQTP/</sup> for "Water Quality Test Survey" in order to provide clear guidance on Sampling approach, Water Sample collection and storage method and results of the Tests performed and conclusions taken. Via checking the Water quality test report<sup>/WQTR/</sup> against the protocol, it is confirmed that the measurement is conducted as per the updated rule of "Application of TPDDTEC Methodology to safe water supply projects" issued on 03/05/2021<sup>/AMSW/</sup>.</p>	GL-04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>PP has compared the results of analysis<sup>/WQTR/</sup> with WHO water quality standard and concluded that <b>93.3%</b> samples are meeting the water quality standard prescribed by the WHO.</p> <p><i>Verifier's action:</i></p> <p>The outcome of the analysis is found documented clearly in the document summary - HSE_CP2-MP4_Water_Quality_Survey(Mar 2021)<sup>/WQTS/</sup>, and corresponding 3<sup>rd</sup> party laboratory Analysis reports<sup>/WQTR/</sup> are also made available for remote audit . Verifier has assessed these documents and confirmed that the results are well within the prescribed norms for all those water samples from households are passed.</p> <p><i>Conclusion:</i></p> <p>The measurement is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology. However, CL 04 was raised.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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>  <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>  <i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/  /I3/  /PDD/  /MR/  /TPDDTE  C/  /IPC/  /MERSW  /  /WQTP/  /AMSW/</p>	<p><i>Description:</i></p> <p>PP conducted the water quality test annually in March 2021 for this monitoring period in line with the monitoring frequency of annual water quality testing.</p> <p>PP took a sample number 45 (greater than that of the minimum 30 of the methodology<sup>/MERSW/</sup><sup>/WQTR/</sup> for water quality test which is in line with the 90/10 rule as defined in the water quality protocol<sup>/WQTP/</sup>. The sampling ensures at least a 90% confidence level and a 10% margin of error (<math>\pm 10\%</math>) in the results.</p> <p>Via checking the sampling method as stated in the water quality test protocol<sup>/WQTP/</sup>, it is verified that the method is in line with the "Application of TPDDTEC Methodology to safe water supply projects" issued on 03/05/2021<sup>/AMSW/</sup> and parameter SDWS 18 requirement in Methodology for emission reductions from safe drinking water supply v.1.0<sup>/MERSW/</sup>.</p> <p>No monitoring equipment needed as the analysis is completed in a third-party laboratory. The certificate of this lab is verified by</p>	CL-04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>checking the official website<sup>/ipcl/</sup>. VVB confirmed that the lab The lab has high Quality Management System and commit to accreditation ISO/IEC 17025:2017.</p> <p><i>Verifier's action:</i></p> <p>This was verified by means of checking the lab certificate<sup>/ipcl/</sup>.</p> <p><i>Conclusion:</i></p> <p>QA/QC procedures are met. However, CL 04 was raised.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /XLS/ /WQTP/ /WQTR/ /WQTS/ /AMSW/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The WQ<sub>Passed,y</sub> during this monitoring period is reported in the MR based on the document summary - HSE_CP2-MP4_Water_Quality_Survey(Mar 2021)<sup>/WQTS/</sup>, and corresponding 3<sup>rd</sup> party laboratory Analysis reports<sup>/WQTR/</sup>.</p> <p><i>Verifier's action:</i></p> <p>By means of checking the ER-spreadsheet<sup>/XLS/</sup> against the document summary - HSE_CP2-MP4_Water_Quality_Survey(Mar 2021)<sup>/WQTS/</sup>, and corresponding 3<sup>rd</sup> party laboratory Analysis reports<sup>/WQTR/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is calculated as correct.</p>	OK	OK
<p><b>D.</b>    <b>SDG 3.9.1 Mortality rate attributed to household and ambient air pollution. The number of people who notice less smoke in kitchen after having water filter is the monitored parameter.</b></p> <p><b>SDG 6.1.1 Proportion of population using safely managed drinking water services. The number of people with access to safe drinking water is the monitored parameter.</b></p>		<p><b>Hygiene Campaigns -Number of people attends the meeting in which Hygiene issue were explained</b></p>		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter</b>				
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /13/ /PDD/ /MR/ /TPDDTE C/ /HCAL/ /MSR/	<p><i>Description:</i>  PP conducted general hygiene campaign by attaching it to the sale meeting. PP also conducted hygiene survey in addition to project and usage survey. Via checking the Hygiene Campaign Attendant list 2021<sup>/HCAL/</sup>, it is verified that <b>52,907</b> people joined the hygiene campaign in this MP and the hygiene survey was confirmed as conducted together with project and usage survey which is verified by checking the monitoring survey report<sup>/MSR/</sup>, it showed that all the respondents have the awareness that handwashing before eating/drinking is somewhat or very important and the results is confirmed reasonable and credible.</p> <p><i>Verifier's action:</i>  The verifier checked all the List of Participants in the meetings<sup>/HCAL/</sup> in 2021 to verify the number of people is correct.</p> <p><i>Conclusion:</i>  The measurement approach is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  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.</p>	/11/ /13/ /PDD/ /MR/ /TPDDTE C/ /HCAL/	<p><i>Description:</i>  No monitoring equipment needed as the Number of people attends the meetings are derived from the attendance lists.</p> <p><i>Verifier's action:</i>  The value is confirmed by cross checking list of attendance<sup>/HCAL/</sup>.</p> <p><i>Conclusion:</i>  Applicable QA/QC procedures are met.</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>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>				
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/PDD/ /MR/ /TPDDTE C/ /HCAL/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of Number of people attends the meetings during this monitoring period is reported in the MR based on list of attendance<sup>/HCAL/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i> By means of checking the list of attendance<sup>/HCAL/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK
<p><b>E.</b>    <b>SDG 3.9.1 Mortality rate attributed to household and ambient air pollution. The number of people who notice less smoke in kitchen after having water filter is the monitored parameter.</b></p> <p><b>SDG 6.1.1 Proportion of population using safely managed drinking water services. The number of people with access to safe drinking water is the monitored parameter.</b></p> <p><b>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter</b></p>		<p><math>N_{p,y}</math> - Number of person.days consuming water supplied by project scenario p through year y</p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also</i></p>	<p>/11/ /13/ /PDD/</p>	<p><i>Description:</i> This is a calculated value based on the Water Consumption Field Test (WCFT) survey done during December 2020 by Angkor</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>describe the applied data aggregation trails (from ODL to data aggregation level zero).</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 PDD and the applied methodology.</i></p>	<p>/MR/ /TPDDTE C/ /XLS/ /MSR- MP3/ /VER/</p>	<p>Research. The value applied by the PP is <b>1,908.95</b> persons.days who are consuming Water supplied by the CWP's.</p> <p>This value is derived from the WCFT Survey result in the Monitoring Survey Report<sup>/MSR-MP3/</sup> which was monitored in December 2020 and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p>analysis.</p> <p><i>Verifier's action:</i></p> <p>This value is derived from the WCFT Survey result in the Monitoring Survey Report<sup>/MSR-MP3/</sup> which was monitored in December 2020 and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p><i>Conclusion:</i></p> <p>The measurement is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</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>/I1/ /I3/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR- MP3/</p>	<p><i>Description:</i></p> <p>No monitoring equipment needed as the analysis is completed in a third-party report and conducted by questionnaires.</p> <p><i>Verifier's action:</i></p> <p>This value is derived from the WCFT Survey result in the Monitoring Survey Report<sup>/MSR-MP3/</sup> which was monitored in December 2020 and is still valid in this MP due to the frequency of the WCFT is every two years.</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>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/VER/	<p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR- MP3/ /VER/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of <b>N<sub>p,y</sub></b> during this monitoring period is reported in the MR based on the WCFT Survey result in the Monitoring Survey Report<sup>/MSR-MP3/</sup> which was monitored in December 2020 and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p><i>Verifier's action:</i> By means of checking the ER-spreadsheet<sup>/XLS/</sup> against the Monitoring Survey Report<sup>/MSR-MP3/</sup> confirmed by third party Angkor Research.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK
<p><b>F. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameter were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p>		<p><b>Q<sub>p,y</sub> - Quantity of purified water consumed in the project scenario p per person per day (Litres/person/day)</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>SDG 13.3.1</b> <i>Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</i></p> <p><b>SDG 15.1.1</b> <i>Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</i></p>				
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>	<p>/I1/  /I3/  /PDD/  /MR/  /TPDDTE  C/  /XLS/  /MSR-MP3/  /VER/</p>	<p><i>Description:</i>  PP has applied <b>1.19</b> Liters per day per person for this monitoring period. This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p><i>Verifier's action:</i>  The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i>  The measurement is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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</i></p>	<p>/I1/  /I3/  /PDD/  /MR/</p>	<p><i>Description:</i>  This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting</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>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> <p><i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/TPDDTE C/ /XLS/ /MSR- MP3/ /VER/</p>	<p>company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i></p> <p>The accuracy of equipment used for monitoring is checked as controlled and calibrated in accordance with the monitoring plan.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</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/ /XLS/ /MSR- MP3/ /VER/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> for assessment details.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i></p> <p>The values are correct.</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><b>G. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameter were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p> <p><b>SDG 15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</b></p>		<p><math>Q_{p,rawboil, y}</math> - The raw or unsafe water that is still boiled after installation of the CWP (Litres/person/day)</p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/I1/ /I3/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR- MP3/ /VER/</p>	<p><i>Description:</i></p> <p>PP has applied <b>0.55</b> liters per day per person for this monitoring period. This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2 for assessment details.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</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.
		The measurement is documented as per approved 2 <sup>nd</sup> Crediting Period PDD and applied methodology.		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/I1/ /I3/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR- MP3/ /VER/	<p><i>Description:</i></p> <p>This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2 for assessment details.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i></p> <p>The accuracy of equipment used for monitoring is checked as controlled and calibrated in accordance with the monitoring plan.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /XLS/ /MSR- MP3/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value 0.55 Liters per day per person for this monitoring period is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2 for assessment details.</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>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i> The values are correct.</p>		
<p><b>H.</b> <i>SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameter were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</i></p> <p><i>SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</i></p> <p><i>SDG 15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</i></p>		<p><b><math>Q_{P, cleanboil, y}</math> - Quantity of safe water (treated or from safe supply) boiled in the project scenario p, after installation of the CWP (Litres/person/day)</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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.</p>	<p>/I1/ /I3/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR-MP3/ /VER/</p>	<p><i>Description:</i> PP has applied <b>0.03</b> Liters per day per person for this monitoring period. This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2 for assessment details.</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>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>		<p>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i> The measurement is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b> <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. 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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/ /I3/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /MSR-MP3/ /VER/</p>	<p><i>Description:</i> This value is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</p> <p>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2 for assessment details.</p> <p><i>Verifier's action:</i> The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i> The accuracy of equipment used for monitoring is checked as controlled and calibrated in accordance with the monitoring plan.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /XLS/ /MSR-MP3/ /VER/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value 0.03 Liters per day per person for this monitoring period is obtained from the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>, which was conducted during December 2020 by a third-party consulting company (Angkor Research) and is still valid in this MP due to the frequency of the WCFT is every two years.</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>This value has been verified in the last periodic verification report. Refer to verification report for 3<sup>rd</sup> MP CP2 for assessment details.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the verification report for 3<sup>rd</sup> MP CP2<sup>/VER/</sup> and the results of the Water Consumption Field Test which was listed in the Monitoring Survey Report<sup>/MSR-MP3/</sup>.</p> <p><i>Conclusion:</i></p> <p>The values are correct.</p>		
<p><b>I. SDG 5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location. The number of women and girls benefiting from stop/reducing boiling water and collecting/purchasing cooking fuel is the monitored parameter.</b></p>		<p><b>Women%_HH - Average percentage of women and girls per household who use CWP</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.   Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/I1/  /I3/  /MR/  /TPDDTE  C/  /XLS/  /TA/  /MSR/  /QUE/</p>	<p><i>Description:</i></p> <p>PP asked third party to conducted monitoring survey to investigate the average percentage of women and girls per household who use CWP by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>55.51%</b> women and girls per household use CWP during this monitoring period and the results is confirmed reasonable and credible.</p> <p><i>Verifier's action:</i></p> <p>The verifier checked the monitoring survey report<sup>/MSR/</sup> to veriry the percentage is correct.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per transition annex and applied methodology.</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.
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p><i>Description:</i>  No monitoring equipment needed as the percentage of using is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier's action:</i>  The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Conclusion:</i>  Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /XLS/ /MSR/ /QUE/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i>  The value of average percentage of women and girls per household who use CWP is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i>  By means of checking monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i>  The value is correct.</p>	OK	OK
<p><b>J. SGD 5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location. The number of women and girls benefiting from stop/reducing boiling water and collecting/purchasing cooking fuel is the monitored parameter.</b></p>		<p><b>Women% - Average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWPs</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b></p>	/I1/	<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>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</p> <p>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.</p> <p>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p>PP asked third party to conducted monitoring survey to investigate the average percentage of women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWPs by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>84.21%</b> women and girls responsible for water boiling and collecting/purchasing cooking fuel before having CWPs and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i></p> <p>The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to veriry the percentage is correct.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b></p> <p>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.</p> <p>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</p>	/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the percentage of using is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b></p>	/MR/ /XLS/ /MSR/	<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>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</p>	/QUE/	<p>The value of average percentage of women and girls per household who use CWP is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i></p> <p>By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is correct.</p>		
<p><b>K. SDG 3.9.1 Mortality rate attributed to household and ambient air pollution. The number of people who notice less smoke in kitchen after having water filter is the monitored parameter</b></p>		<p><b><math>N_{Less\_smoke,y}</math> - % of households notice that their kitchen is less smoke</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p><i>Description:</i></p> <p>PP asked third party to conducted monitoring survey to investigate the percentage of households notice that their kitchen is less smoke by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>91.30%</b> of households notice that their kitchen is less smoke and the results is confirmed reasonable and credible.</p> <p><i>Verifier's action:</i></p> <p>The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to verify the percentage is correct.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b></p>	/I1/ /I3/	<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>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p>No monitoring equipment needed as the percentage of households is derived from the monitoring survey report<sup>MSR/</sup>.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>MSR/</sup> comparing with the filled questionnaires<sup>QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /XLS/ /MSR/ /QUE/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of percentage of households notice that their kitchen is less smoke is reported in the MR based on monitoring survey report<sup>MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i></p> <p>By means of checking the monitoring survey report<sup>MSR/</sup> comparing with the filled questionnaires<sup>QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is correct.</p>	OK	OK
<p><b>L. SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and</b></p>		<p><b>% of Traditional Stove Users with wood in the project scenario - Percentage of Traditional Stove Users with wood in the project scenario</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>tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p> <p><b>SDG15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</b></p>				
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i> PP asked third party to conducte monitoring survey to investigate the percentage of Traditional Stove Users with wood in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>42.25%</b> of households use traditional stove with wood and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i> The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to veriry the percentage is correct.</p> <p><i>Conclusion:</i> The measurement approach is documented as per transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b> 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. 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.</p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i> No monitoring equipment needed as the percentage of Traditional Stove Users with wood in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> Applicable QA/QC procedures are met.</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>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i>				
<p><b>c) Correctness</b> (VVS, §§ 389-393) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /XLS/ /MSR/ /QUE/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of percentage of Traditional Stove Users with wood in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i> By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK
<p><b>M.</b> <b>SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p> <p><b>SDG15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</b></p>		<p><b>% of Improved Stove Users with wood in the project scenario - Percentage of Improved Stove Users with wood in the project scenario</b></p>		
<p><b>a) Measurement / Determination method</b> (VVS, §§ 389-393)</p>	<p>/11/ /13/</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>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</p> <p>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.</p> <p>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p>PP asked third party to conducted monitoring survey to investigate the percentage of Improved Stove Users with wood in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>14.04%</b> of households use Improved stove with wood and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i></p> <p>The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to veriry the percentage is correct.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b></p> <p>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.</p> <p>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i></p> <p>No monitoring equipment needed as the percentage of Improved Stove Users with wood in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b></p> <p>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</p>	<p>/MR/ /XLS/ /MSR/ /QUE/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of percentage of Improved Stove Users with wood in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</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 MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>		<p><i>Verifier's action:</i> By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</p>		
<p><b>N. SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p> <p><b>SDG15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</b></p>		<p><b>% of Traditional Stove Users with charcoal in the project scenario - Percentage of Traditional Stove Users with charcoal in the project scenario</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i> PP asked third party to conducted monitoring survey to investigate the percentage of Traditional Stove Users with charcoal in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>8.77%</b> of households use traditional stove with charcoal and the results is confirmed reasonable and credible.</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>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>		<p>The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to verify the percentage is correct.</p> <p><i>Conclusion:</i> The measurement approach is documented as per transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i> No monitoring equipment needed as the percentage of Traditional Stove Users with charcoal in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier's action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /XLS/ /MSR/ /QUE/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of percentage of Traditional Stove Users with charcoal in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i> By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</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><b>O.</b> <i>SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</i></p> <p><i>SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</i></p> <p><i>SDG15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</i></p>		<p><b>% of Improved Stove Users with charcoal in the project scenario - Percentage of Improved Stove Users with charcoal in the project scenario</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</i>  <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>  <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>	<p>/I1/  /I3/  /MR/  /TPDDTE  C/  /XLS/  /TA/  /MSR/  /QUE/</p>	<p><i>Description:</i></p> <p>PP asked third party to conducted monitoring survey to investigate the percentage of Improved Stove Users with charcoal in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>10.53%</b> of households use Improved stove with charcoal and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i></p> <p>The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to verify the percentage is correct.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per transition annex and applied methodology.</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><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i>  No monitoring equipment needed as the percentage of Improved Stove Users with charcoal in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i>  The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i>  Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /XLS/ /MSR/ /QUE/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i>  The value of percentage of Improved Stove Users with charcoal in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier´s action:</i>  By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i>  The value is correct.</p>	OK	OK
<p><b>P. SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p>		<p><b>% of LPG stove usage in the project scenario - Percentage of LPG stove usage in the project scenario</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>SDG13.3.1</b> <i>Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</i></p> <p><b>SDG15.1.1</b> <i>Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</i></p>				
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</i>  <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>  <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/</p>	<p><i>Description:</i>  PP asked third party to conducted monitoring survey to investigate the percentage of LPG stove usage in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>21.05%</b> of households use LPG stove and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i>  The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to verify the percentage is correct.</p> <p><i>Conclusion:</i>  The measurement approach is documented as per transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/</p>	<p><i>Description:</i>  No monitoring equipment needed as the percentage of LPG stove usage in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i>  The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</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>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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/QUE/	<p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /XLS/ /MSR/ /QUE/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of percentage of LPG stove usage in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i> By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK
<p><b>Q. SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p> <p><b>SDG15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</b></p>		<p><b>% of Small LPG stove usage in the project scenario - Percentage of Small LPG stove usage in the project scenario</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>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /13/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p><i>Description:</i>  PP asked third party to conducted monitoring survey to investigate the percentage of Small LPG stove usage in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that <b>41.66%</b> of households use Small LPG stove and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i>  The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to veriry the percentage is correct.</p> <p><i>Conclusion:</i>  The measurement approach is documented as per transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  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.  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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</p>	/11/ /13/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p><i>Description:</i>  No monitoring equipment needed as the percentage of Small LPG stove usage in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i>  The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i>  Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</p>	/MR/ /XLS/ /MSR/ /QUE/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) <i>Description:</i>	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 MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>		<p>The value of percentage of Small LPG stove usage in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier's action:</i></p> <p>By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is correct.</p>		
<p><b>R. SDG1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p> <p><b>SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p> <p><b>SDG15.1.1 Forest area as a proportion of total land area. Area of forest save is the monitored parameter.</b></p>		<p><b>% of Large LPG stove usage in the project scenario - Percentage of Large LPG stove usage in the project scenario</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other</p>	<p>/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/</p>	<p><i>Description:</i></p> <p>PP asked third party to conducted monitoring survey to investigate the percentage of Large LPG stove usage in the project scenario by ask the household to fill related questionnaires. Via checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>, it showed that</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>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 PDD and the applied methodology.</i></p>	/MSR/ /QUE/	<p><b>58.34%</b> of households use Large LPG stove and the results is confirmed reasonable and credible.</p> <p><i>Verifier´s action:</i></p> <p>The verifier checked the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup> to verify the percentage is correct.</p> <p><i>Conclusion:</i></p> <p>The measurement approach is documented as per transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/I1/ /I3/ /MR/ /TPDDTE C/ /XLS/ /TA/ /MSR/ /QUE/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the percentage of Large LPG stove usage in the project scenario is derived from the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR/ /XLS/ /MSR/ /QUE/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of percentage of Large LPG stove usage in the project scenario is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct.</p> <p><i>Verifier´s action:</i></p> <p>By means of checking the monitoring survey report<sup>/MSR/</sup> comparing with the filled questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</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.
		The value is correct.		
<b>S. SDG13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b>		<b><math>LE_{p,y}</math> - Leakage emissions for project scenario p during year y</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /12/ /PDD/ /MR/ /TPDDTE C/ /XLS/ /WDP/ /WPI/ /DGPI/ /IPCC/	<p><i>Description:</i></p> <p>This value represents the leakage due to project activity. PP has applied value of 0.014 tCO<sub>2e</sub> per water filter per year. This is a calculated value and the important inputs to arrive at this factor is consumption of Wood in Factory for firing of Pots (Baking Process). PP has used Specific formula provided in the approved 2<sup>nd</sup> Crediting Period PDD. The Application of Formula found correct and the input values are taken from Wood purchase records. The evidence of "HSE_CP2_MP4_Wood&amp;Diesel_Purchase"<sup>/WDP/</sup> is checked and the value is verified as correct. Also the Wood purchase invoices<sup>/WPI/</sup> during this MP is cross checked with the record, and is verified that the value used in the MR is correct.</p> <p>During the monitoring period totally 1,036 m<sup>3</sup> wood was purchased and this value is transparently used to arrive at the final value of <b>0.014</b> tCO<sub>2e</sub> for further calculations.</p> <p>During remote audit, it was confirmed that the usage of Diesel&amp;Gasoline for power generation at factory is negligible and is found to be less than 0.1% of total emissions and hence it is excluded from the leakage emissions.</p> <p>PP has provided a transparent calculation process in the Monitoring report, for the exclusion of emissions on account of consumption of diesel for power generation at Hydrologic Factory. Verification Team verified Diesel&amp;Gasoline purchase records "HSE_CP2_MP4_Wood&amp;Diesel_Purchase"<sup>/WDP/</sup> and confirmed that totally 10,800 liters of Diesel and 0 liters of Gasoline were purchased and consumed during Monitoring period. Also the</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>Diesel&amp;Gasoline purchase invoices<sup>/DGPI/</sup> during this MP is cross checked with the record, and is verified that the value used in the MR is correct. The calculation done is found conservative and PP has used IPCC default value for diesel emission factor<sup>/IPCC/</sup>.</p> <p>PP has only used the Fire wood consumption for calculating Leakages due to implementation of Project. PP has not considered the leakages due to elimination of lower carbon emission method of Water treatment. PP has provided a justification for excluding this emission. The justification found correct as there is no water treatment in use which has a lower emissions – this decision is taken based on the results of project survey done by the PP. The exclusion is found correct and hence acceptable.</p> <p><i>Verifier’s action:</i></p> <p>The wood and diesel using is confirmed during remote audit and the value is confirmed by cross checking the “HSE_CP2_MP4_Wood&amp;Diesel_Purchase”<sup>/WDP/</sup> and Wood purchase invoices<sup>/WPI/</sup> &amp; Diesel&amp;Gasoline purchase invoices<sup>/DGPI/</sup>.</p> <p><i>Conclusion:</i></p> <p>The calculation process is documented as per approved 2<sup>nd</sup> Crediting Period PDD and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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>/I1/  /I2/  /PDD/  /MR/  /TPDDTE  C/  /XLS/  /WDP/  /WPI/  /DGPI/</p>	<p><i>Description:</i></p> <p>No monitoring equipment needed as the values of wood and diesel are derived from the invoices. And the others parameters used in the formular are derived from IPCC default value<sup>/IPCC/</sup>.</p> <p><i>Verifier’s action:</i></p> <p>The value is confirmed by cross checking the “HSE_CP2_MP4_Wood&amp;Diesel_Purchase”<sup>/WDP/</sup> and Wood purchase invoices<sup>/WPI/</sup> &amp; Diesel&amp;Gasoline purchase invoices<sup>/DGPI/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</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>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i>	/IPCC/			
<p><b>c) Correctness</b> (VVS, §§ 389-393)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/PDD/ /MR/ /TPDDTE C/ /XLS/ /WDP/ /WPI/ /DGPI/ /IPCC/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i>            The value of <math>LE_{p,y}</math> during this monitoring period is reported in the MR based on the calculation of formular in the PDD and the data source are "HSE_CP2_MP4_Wood&amp;Diesel_Purchase"<sup>/WDP/</sup> and cross checking with Wood purchase invoices<sup>/WPI/</sup> &amp; Diesel&amp;Gasoline purchase invoices<sup>/DGPI/</sup>.</p> <p><i>Verifier's action:</i>            By _____ means _____ of _____ checking _____ the "HSE_CP2_MP4_Wood&amp;Diesel_Purchase"<sup>/WDP/</sup> and cross checking with Wood purchase invoices<sup>/WPI/</sup> &amp; Diesel&amp;Gasoline purchase invoices<sup>/DGPI/</sup></p> <p><i>Conclusion:</i>            The value is correct.</p>	OK	OK
<p><b>T. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p>		<b>Net benefit (a) of SDG1- Total amount of biomass fuel saves</b>		
<p><b>a) Measurement / Determination method</b> (VVS, §§ 389-393)</p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other</i></p>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/	<p><i>Description:</i>            By comparing the data provided in the monitoring survey report for this MP<sup>/MSR/</sup> and value of baseline scenario, it is clear that the biomass fuel was saved during this MP.</p> <p>The value is calculated as stated in section E.1, E.2 and E.3 of the MR. The result is verified as correct by checking the ER spreadsheet.</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>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 PDD and the applied methodology.</i></p>	/MSR/	<p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG1 contribution is correct.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the total amount of biomass fuel saves is calculated basing on the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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>	/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value of total amount of biomass fuel saves 49,126 t is reported in the MR calculated basing on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct by checking the ER spreadsheet<sup>/XLS/</sup>.</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.
<i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		The value is confirmed by checking the monitoring survey report <sup>/MSR/</sup> and the ER spreadsheet <sup>/XLS/</sup> .  <i>Conclusion:</i> The value is correct.		
<b>U. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b>		<b>Net benefit (b) of SDG1 - Total amount of LPG saves</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</i>  <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 PDD and the applied methodology.</i></p>	/11/ /13/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<i>Description:</i> By comparing the data provided in the monitoring survey report for this MP <sup>/MSR/</sup> and value of baseline scenario, it is clear that the LPG was saved during this MP. The value is calculated as stated in section E.1, E.2 and E.3 of the MR. The result is verified as correct by checking the ER spreadsheet. PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG1 contribution is correct. <i>Verifier's action:</i> The value is confirmed by checking the monitoring survey report <sup>/MSR/</sup> and the ER spreadsheet <sup>/XLS/</sup> . <i>Conclusion:</i> The survey and calculation process is documented as per approved transition annex and applied methodology.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/  /I3/  /TA/  /MR/  /TPDDTE  C/  /XLS/  /MSR/</p>	<p><i>Description:</i>  No monitoring equipment needed as the total amount of LPG saves is calculated basing on the monitoring survey report<sup>/MSR/</sup>.  <i>Verifier´s action:</i>  The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.  <i>Conclusion:</i>  Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/TA/  /MR/  /TPDDTE  C/  /XLS/  /MSR/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)  <i>Description:</i>  The value of total amount of LPG saves 621 t is reported in the MR calculated basing on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct by checking the ER spreadsheet<sup>/XLS/</sup>.  <i>Verifier´s action:</i>  The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.  <i>Conclusion:</i>  The value is correct.</p>	OK	OK
<p><b>V. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p>		<p><b>Net benefit (c) of SDG1- Percentage of household noted on money save after using the project technology</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>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /13/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /QUE/	<p><i>Description:</i></p> <p>By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that <b>87.30%</b> of household noted on money save after using the project technology during this MP.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed correctly to arrive at the conclusion. The claim made by the PP towards SDG1 contribution is correct.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  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.  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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</p>	/11/ /13/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /QUE/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the percentage of household is based on the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</p>	/TA/ /MR/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) <i>Description:</i>	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 MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/TPDDTE C/ /XLS/ /MSR/ /QUE/</p>	<p>The value of percentage of household noted on money save after using the project technology <b>87.30%</b> is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct by comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is correct.</p>		
<p><b>W. SDG 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural). Three parameters were selected to be monitored for this indicator: - The amount of fuel save, Percentage of household noted on money save and Percentage of household noted on time save after using the project technology.</b></p>		<p><b>Net benefit (d) of SDG1- Percentage of household noted on time save after using the project technology</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /QUE/</p>	<p><i>Description:</i></p> <p>By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that 97.83% of household noted on time save from boiling water and 85.71% of household noted on time save from avoiding collecting or purchasing fuel.</p> <p>Hence, the average is calculated as <b>91.77%</b> of household noted on time save after using the project technology during this MP.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed correctly to arrive at the conclusion. The claim made by the PP towards SDG1 contribution is correct.</p> <p><i>Verifier´s action:</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.
		<p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> The survey and calculation process is documented as per approved transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /QUE/</p>	<p><i>Description:</i> No monitoring equipment needed as the percentage of household is based on the monitoring survey report<sup>/MSR/</sup>.</p> <p><i>Verifier´s action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /QUE/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value of percentage of household noted on time save after using the project technology <b>91.77%</b> is reported in the MR based on monitoring survey report<sup>/MSR/</sup>, and the value is verified as correct by comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Verifier´s action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and comparing with the original questionnaires<sup>/QUE/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>X. SDG 3.9.1 Mortality rate attributed to household and ambient air pollution. The number of people who notice less smoke in kitchen after having water filter is the monitored parameter</b>		<b>Net benefits of SDG3- Number of people using CWP and note that their kitchen is less smoke</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). 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. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><i>Description:</i></p> <p>By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that <b>536,868</b> people notice that their kitchen is less smoke during this MP.</p> <p>The number of people value is calculated based on the equation of below, <math>number\ of\ people = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{Passed,y} * N_{Less\_smoke,y}</math>.</p> <p>The result is verified as correct by checking the ER spreadsheet.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG3 contribution is correct.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b> 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</p>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the value is calculated basing on the monitoring survey report<sup>/MSR/</sup> and other verified parameters.</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>the most conservative assumptions theoretically possible have been made for calculating ERs. 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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/XLS/ /MSR/	<p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value is reported in the MR calculated basing on monitoring survey report<sup>/MSR/</sup> and calculation, and the value is cross-checked by the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Verifier's action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i> The value is correct.</p>	OK	OK
<p><b>Y. SDG 5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location. The number of women and girls benefiting from stop/reducing boiling water and collecting/purchasing cooking fuel is the monitored parameter.</b></p>		<p><b>Net benefits of SDG5- The number of women and girls benefiting from stop/reduce boiling water and collecting/purchasing cooking fuel</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b> <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other</i></p>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/	<p><i>Description:</i> By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that <b>55.51%</b> of women and girls per household and <b>203,476</b> women and girls benefit from stop boiling water who are responsible for water boiling and collecting/purchasing cooking fuel before having CWPs during this MP.</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>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 PDD and the applied methodology.</i></p>	/MSR/	<p>The number of people value is calculated based on the equation of below,</p> $\text{number of people} = T_{p,y} * N_{p,y} * U_{p,y} * WQ_{\text{Passed},y} * (1-C_j) * \text{Women\%}_{\text{HH}} * \text{Women\%}_{\text{cooking}}$ <p>The result is verified as correct by checking the ER spreadsheet.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG5contribution is correct.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</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> <p><i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the value is calculated basing on the monitoring survey report<sup>/MSR/</sup> and other verified parameters.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness</b></p>	/TA/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><b>(VVS, §§ 389-393)</b>  Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.    In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</p>	/ MR/ /TPDDTE C/ / XLS/ /MSR/	Description: The value is reported in the MR calculated basing on monitoring survey report <sup>/MSR/</sup> and calculation, and the value is cross-checked by the ER spreadsheet <sup>/XLS/</sup> .  Verifier´s action: The value is confirmed by checking the monitoring survey report <sup>/MSR/</sup> and the ER spreadsheet <sup>/XLS/</sup> .  Conclusion: The value is correct.		
<b>Z. SDG 6.1.1 Proportion of population using safely managed drinking water services. The number of people with access to safe drinking water is the monitored parameter</b>		<b>Net benefits of SDG6- Number of people with access to safe drinking water</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /13/ /TA/ / MR/ /TPDDTE C/ / XLS/ /MSR/ /WQTR/	Description: By checking the data provided in the monitoring survey report for this MP <sup>/MSR/</sup> and Water Quality Test Reports <sup>/WQTR/</sup> , it is confirmed that <b>588,026</b> of surveyed households' water quality pass WHO standard for drinking water during this MP.  The SDG impact is calculated based on the equation of below, <b>Project impact of SDG6 = T<sub>p,y</sub> * N<sub>p,y</sub> * U<sub>p,y</sub> * WQ<sub>Passed,y</sub></b> The result is verified as correct by checking the ER spreadsheet.  PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG6 contribution is correct.  Verifier´s action:	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and Water Quality Test Reports<sup>/WQTR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i> The survey and calculation process is documented as per approved transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /WQTR/</p>	<p><i>Description:</i> No monitoring equipment needed as the value is calculated basing on the monitoring survey report<sup>/MSR/</sup> and other verified parameters.</p> <p><i>Verifier's action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and Water Quality Test Reports<sup>/WQTR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i> Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/ /WQTR/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The value is reported in the MR calculated basing on monitoring survey report<sup>/MSR/</sup>, Water Quality Test Reports<sup>/WQTR/</sup> and calculation, and the value is cross-checked by the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Verifier's action:</i> The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and Water Quality Test Reports<sup>/WQTR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</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.
		The value is correct.		
<b>AA. SDG 7.1.2 Proportion of population with primary reliance on clean fuels and technology. Amount of energy saves from avoiding boiling water under the project activity is the monitored parameter.</b>		<b>Net benefits of SDG7 - Amount of energy saved from avoiding boiling water</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /13/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><i>Description:</i></p> <p>By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that the parameters used for calculate the amount of energy saved from avoiding boiling water is monitored correctly during this MP.</p> <p>The SDG impact is calculated based on the equation of below,  <b>Project SDG7 contribution = (Amount of biomass use in baseline scenario – Amount of biomass use in project scenario) * NCV<sub>b,wood</sub> +(amount of LPG use in baseline -LPG use in project) * NCV<sub>b,LPG</sub></b></p> <p>The result is verified as correct by checking the ER spreadsheet.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG7 contribution is correct.</p> <p><i>Verifier’s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>	OK	OK
<b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>	/11/ /13/	<i>Description:</i>	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 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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p>No monitoring equipment needed as the value is calculated basing on the monitoring survey report<sup>/MSR/</sup> and other verified parameters.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>		
<p><b>c) Correctness (VVS, §§ 389-393)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value is reported in the MR calculated basing on monitoring survey report<sup>/MSR/</sup> and calculation, and the value is cross-checked by the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is coorrect.</p>	OK	OK
<p><b>BB. SDG8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities. The number of new job created by the project with safe and healthy work environment is the monitored parameter.</b></p>		<p><b>Net benefit of SDG8- Number of new job created by the project with safe and healthy work environment</b></p>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</i></p>	/I1/ /I2/ /I4/ /TA/ /MR/	<p><i>Description:</i></p> <p>The number of new job created by the project with safe and healthy work environment presented in the Monitoring report was derived from the HSE_CP2-MP4_Em&amp;Inc2021<sup>/ERIG/</sup>, which is</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>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.</p> <p>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/SL/ /ERIG/ /PAY/ /LC/</p>	<p>cross-checked by latest staff list<sup>/SL/</sup>, labor contracts<sup>/LC/</sup> and monthly payroll<sup>/PAY/</sup> in 2021.</p> <p>From the data and presented information in the monitoring report it was observed that during the current monitoring period, the total staffs employed by Hydrologic is <b>82</b>. This is also confirmed by email interview with the HR staff<sup>/I4/</sup>.</p> <p>Furthermore, via interview with the staff representatives<sup>/I2/,I4/</sup>, it is verified that Hydrologic has provided safe and healthy work environment to them.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG8 contribution is correct.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the HSE_CP2-MP4_Em&amp;Inc2021<sup>/ERIG/</sup>, which is cross-checked by latest staff list<sup>/SL/</sup>, labor contracts<sup>/LC/</sup> and monthly payroll<sup>/PAY/</sup> in 2021.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b></p> <p>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.</p> <p>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.</p>	<p>/I1/ /I2/ /I4/ /TA/ /MR/ /SL/ /ERIG/ /PAY/ /LC/</p>	<p><i>Description:</i></p> <p>No monitoring equipment needed as the value derived from the HSE_CP2-MP4_Em&amp;Inc2021<sup>/ERIG/</sup>.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the HSE_CP2-MP4_Em&amp;Inc2021<sup>/ERIG/</sup>, which is cross-checked by latest staff list<sup>/SL/</sup>, labor contracts<sup>/LC/</sup> and monthly payroll<sup>/PAY/</sup> in 2021.</p> <p><i>Conclusion:</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.
<i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i>		Applicable QA/QC procedures are met.		
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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>	/I1/ /I2/ /I4/ /TA/ /MR/ /SL/ /ERIG/ /PAY/ /LC/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i>            The value is reported in the MR derived from the HSE_CP2-MP4_Em&amp;Inc2021<sup>/ERIG/</sup> and the staffs were interviewed for confirmation.</p> <p><i>Verifier's action:</i>            The value is confirmed by checking the HSE_CP2-MP4_Em&amp;Inc2021<sup>/ERIG/</sup>, which is cross-checked by latest staff list<sup>/SL/</sup>, labor contracts<sup>/LC/</sup> and monthly payroll<sup>/PAY/</sup> in 2021.</p> <p><i>Conclusion:</i>            The value is correct.</p>	OK	OK
<p><b>CC. SDG 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. The total amount of emission reduction is the monitored parameter.</b></p>		<b>Net benefits of SDG13 - Amount of ER</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).</i>  <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>	/I1/ /I3/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><i>Description:</i>            By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that the parameters used for calculate the ER is monitored correctly during this MP.</p> <p>Refer to section E.8 for details of ER calculation assessment.</p> <p>The result is verified as correct by checking the ER spreadsheet.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG13 contribution is correct.</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>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>		<p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved 2<sup>nd</sup> CP PDD, transition annex and applied methodology.</p>		
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  <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.  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.  Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/I1/  /I3/  /TA/  /MR/  /TPDDTE  C/  /XLS/  /MSR/</p>	<p><i>Description:</i></p> <p>No monitoring equipment needed as the value is calculated basing on the monitoring survey report<sup>/MSR/</sup> and all the verified parameters.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>Applicable QA/QC procedures are met.</p>	OK	OK
<p><b>c) Correctness (VVS, §§ 389-393)</b>  <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.  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.  In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/TA/  /MR/  /TPDDTE  C/  /XLS/  /MSR/</p>	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The value is reported in the MR calculated basing on monitoring survey report<sup>/MSR/</sup>, and the value is cross-checked by the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Verifier's action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>/MSR/</sup> and the ER spreadsheet<sup>/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The value is correct.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>DD. SDG 15.1.1 Forest area as a proportion of total land area. The area of forest save is monitored indicator.</b>		<b>Net benefits of SDG15 - Area of forest save</b>		
<p><b>a) Measurement / Determination method (VVS, §§ 389-393)</b>  Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level but also describe the applied data aggregation trails (from ODL to data aggregation level zero).  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.  Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	/11/ /13/ /TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<p><i>Description:</i></p> <p>By checking the data provided in the monitoring survey report for this MP<sup>/MSR/</sup>, it is confirmed that the parameters used for calculate the area of forest save is monitored correctly during this MP.</p> <p>The SDG impact is calculated based on the equation of below,  <b>Project impact of SDG15 = (Amount of biomass use in baseline scenario – Amount of biomass use in project scenario) * f<sub>NRB,y</sub> /Growth stock in forest</b></p> <p>The result is verified as correct by checking the ER spreadsheet.</p> <p>PP has established adequate arrangements for monitoring and measurement of the SDG indicators. The Data collected through Surveys found properly analyzed and calculated correctly to arrive at the conclusion. The claim made by the PP towards SDG15 contribution is correct.</p> <p><i>Verifier´s action:</i></p> <p>The value is confirmed by checking the monitoring survey report<sup>t/MSR/</sup> and the ER spreadsheet<sup>t/XLS/</sup>.</p> <p><i>Conclusion:</i></p> <p>The survey and calculation process is documented as per approved transition annex and applied methodology.</p>	OK	OK
<p><b>b) Accuracy and QA/QC Procedure (VVS, §§ 394-400)</b>  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</p>	/11/ /13/ /TA/ /MR/ /TPDDTE C/	<p><i>Description:</i></p> <p>No monitoring equipment needed as the value is calculated basing on the monitoring survey report<sup>/MSR/</sup> and other verified parameters.</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>
<i>the most conservative assumptions theoretically possible have been made for calculating ERs. 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. Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i>	/XLS/ /MSR/	The value is confirmed by checking the monitoring survey report <sup>/MSR/</sup> and the ER spreadsheet <sup>/XLS/</sup> .  <i>Conclusion:</i> Applicable QA/QC procedures are met.		
<b>c) Correctness (VVS, §§ 389-393)</b> <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. 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. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/TA/ /MR/ /TPDDTE C/ /XLS/ /MSR/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) <i>Description:</i> The value is reported in the MR calculated basing on monitoring survey report <sup>/MSR/</sup> , and the value is cross-checked by the ER spreadsheet <sup>/XLS/</sup> . <i>Verifier's action:</i> The value is confirmed by checking the monitoring survey report <sup>/MSR/</sup> and the ER spreadsheet <sup>/XLS/</sup> . <i>Conclusion:</i> The value is correct.	OK	OK