



**Gold Standard**<sup>®</sup>  
for the Global Goals

TEMPLATE

# MONITORING REPORT

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VERSION **v. 1.1**

RELATED SUPPORT - **TEMPLATE GUIDE Monitoring Report v. 1.1**

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## KEY PROJECT INFORMATION

### Programme of Activity Information – (delete below table if N/A)

|   |  |
|---|--|
| <b>GS ID of Programme</b>   | GS11189  |
| <b>Title of Programme</b>   | Improved Cookstove and Safe Water Programme  |
| <b>Version of POA-DD applicable to this monitoring report</b>                 | 5.0 dated 25/05/2022   |
| <b>Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)</b> | <p>GS11259: Improved Cookstove and Safe Water Programme – Nigeria – VPA 01.</p> <p>GS11260: Improved Cookstove and Safe Water Programme – Nigeria – VPA 02.</p> <p>GS11261: Improved Cookstove and Safe Water Programme – Nigeria – VPA 03.</p> <p>GS11262: Improved Cookstove and Safe Water Programme – Nigeria – VPA 04.</p> <p>GS11263: Improved Cookstove and Safe Water Programme – Nigeria – VPA 05.</p> <p>GS11264: Improved Cookstove and Safe Water Programme – Nigeria – VPA 06.</p> <p>GS11265: Improved Cookstove and Safe Water Programme – Nigeria – VPA 07.</p> <p>GS11266: Improved Cookstove and Safe Water Programme – Nigeria – VPA 08.</p> <p>GS11267: Improved Cookstove and Safe Water Programme – Nigeria – VPA 09.</p> <p>GS11268: Improved Cookstove and Safe Water Programme –Nigeria – VPA 10.</p> <p>GS11269: Improved Cookstove and Safe Water Programme – Nigeria – VPA 11.</p> <p>GS11270: Improved Cookstove and Safe Water Programme – Nigeria – VPA 12.</p> <p>GS11271: Improved Cookstove and Safe Water Programme – Nigeria – VPA 13.</p> <p>GS11272: Improved Cookstove and Safe Water Programme – Nigeria – VPA 14.</p> <p>GS11273: Improved Cookstove and Safe Water Programme – Nigeria – VPA 15.</p> <p>GS11274: Improved Cookstove and Safe Water Programme – Nigeria – VPA 16.</p> <p>GS11275: Improved Cookstove and Safe Water Programme – Nigeria – VPA 17.</p> <p>GS11276: Improved Cookstove and Safe Water Programme – Nigeria – VPA 18.</p> <p>GS11277: Improved Cookstove and Safe Water Programme – Nigeria – VPA 19.</p> <p>GS11278: Improved Cookstove and Safe Water Programme – Nigeria – VPA 20.</p> <p>GS11279: Improved Cookstove and Safe Water Programme – Nigeria – VPA 21.</p> <p>GS11280: Improved Cookstove and Safe Water Programme – Nigeria – VPA 22.</p> <p>GS11281: Improved Cookstove and Safe Water Programme – Nigeria – VPA 23.</p> <p>GS11282: Improved Cookstove and Safe Water Programme – Nigeria – VPA 24.</p> |

|  |  |
|--|--|
|  | <p>GS11283: Improved Cookstove and Safe Water Programme – Nigeria – VPA 25.</p> <p>GS11284: Improved Cookstove and Safe Water Programme – Nigeria – VPA 26.</p> <p>GS11285: Improved Cookstove and Safe Water Programme – Nigeria – VPA 27.</p> <p>GS11286: Improved Cookstove and Safe Water Programme – Nigeria – VPA 28.</p> <p>GS 11287: Improved Cookstove and Safe Water Programme – Nigeria – VPA 29.</p> <p>GS11288: Improved Cookstove and Safe Water Programme – Nigeria – VPA 30.</p> |
|--|--|

### Key Project Information

|  |   |
|--|---|
| <b>GS ID (s) of Project (s)</b>                              | <p>PoA ID: GS11189</p> <p>VPA ID: GS11259, GS11260, GS11261, GS11262, GS11263, GS11264, GS11265, GS11266, GS11267, GS11268, GS11269, GS11270, GS11271, GS11272, GS11273, GS11274, GS11275, GS11276, GS11277, GS11278, GS11279, GS11280, GS11281, GS11282, GS11283, GS11284, GS11285, GS11286, GS11287, GS11288</p>  |
| <b>Title of the project (s) covered by monitoring report</b> | <p>PoA: Improved Cookstove and Safe Water Programme in Nigeria</p> <p>VPA:</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 01.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 02.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 03.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 04.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 05.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 06.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 07.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 08.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 09.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 10.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 11.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 12.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 13.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 14.</p> <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 15.</p> |

|   | <p>Improved Cookstove and Safe Water Programme – Nigeria – VPA 16.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 17.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 18.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 19.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 20.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 21.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 22.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 23.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 24.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 25.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 26.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 27.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 28.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 29.<br/>                 Improved Cookstove and Safe Water Programme – Nigeria – VPA 30.</p> |                     |       |                |         |         |                     |         |  |                     |
|---|--|---------------------|-------|----------------|---------|---------|---------------------|---------|--|---------------------|
| <p><b>Version number of the PDD/VPA-DD (s) applicable to this monitoring report</b></p> | <table border="1"> <thead> <tr> <th>Type</th> <th>GS ID</th> <th>Version Number</th> </tr> </thead> <tbody> <tr> <td>PoA -DD</td> <td>GS11189</td> <td>05 dated 25/05/2022</td> </tr> <tr> <td>VPA -DD</td> <td>GS11259, GS11260, GS11261, GS11262, GS11263, GS11264, GS11265, GS11266, GS11267, GS11268, GS11269, GS11270, GS11271, GS11272, GS11273, GS11274, GS11275, GS11276, GS11277, GS11278, GS11279, GS11280, GS11281, GS11282, GS11283, GS11284, GS11285, GS11286, GS11287, GS11288</td> <td>05 dated 18/05/2022</td> </tr> </tbody> </table>  | Type                | GS ID | Version Number | PoA -DD | GS11189 | 05 dated 25/05/2022 | VPA -DD | GS11259, GS11260, GS11261, GS11262, GS11263, GS11264, GS11265, GS11266, GS11267, GS11268, GS11269, GS11270, GS11271, GS11272, GS11273, GS11274, GS11275, GS11276, GS11277, GS11278, GS11279, GS11280, GS11281, GS11282, GS11283, GS11284, GS11285, GS11286, GS11287, GS11288 | 05 dated 18/05/2022 |
| Type  | GS ID  | Version Number      |       |                |         |         |                     |         |  |                     |
| PoA -DD   | GS11189  | 05 dated 25/05/2022 |       |                |         |         |                     |         |  |                     |
| VPA -DD   | GS11259, GS11260, GS11261, GS11262, GS11263, GS11264, GS11265, GS11266, GS11267, GS11268, GS11269, GS11270, GS11271, GS11272, GS11273, GS11274, GS11275, GS11276, GS11277, GS11278, GS11279, GS11280, GS11281, GS11282, GS11283, GS11284, GS11285, GS11286, GS11287, GS11288   | 05 dated 18/05/2022 |       |                |         |         |                     |         |  |                     |
| <p><b>Version number of the monitoring report</b></p>                                   | 4.0  |                     |       |                |         |         |                     |         |  |                     |
| <p><b>Completion date of the monitoring report</b></p>                                  | 23/07/2024   |                     |       |                |         |         |                     |         |  |                     |
| <p><b>Date of project design certification</b></p>                                      | 02/02/2022   |                     |       |                |         |         |                     |         |  |                     |
| <p><b>Date of Last Annual Report</b></p>  | Not applicable   |                     |       |                |         |         |                     |         |  |                     |

|   |   |
|---|---|
| <b>Monitoring period number</b>                     | 4 <sup>th</sup>   |
| <b>Duration of this monitoring period</b>           | 01/01/2023 – 30/11/2023(both days inclusive)  |
| <b>Project Representative</b>                       | Impact Carbon LLC<br>Impact Water LLC   |
| <b>Host Country</b>                                 | Nigeria   |
| <b>Activity Requirements applied</b>                | <input checked="" type="checkbox"/> Community Services Activities<br><input type="checkbox"/> Renewable Energy Activities<br><input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities<br><input type="checkbox"/> N/A |
| <b>Methodology (ies) applied and version number</b> | "Emission reductions from Safe Drinking Water Supply" Version 1.0 – 03/5/2021.  |
| <b>Product Requirements applied</b>                 | <input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration<br><input type="checkbox"/> Renewable Energy Label<br><input type="checkbox"/> N/A  |

**Table 1 - Sustainable Development Contributions Achieved**

| <b>Sustainable Development Goals Targeted</b>  | <b>SDG Impact</b>   | <b>Amount Achieved</b> | <b>Units or Products</b> |
|--|---|------------------------|--------------------------|
| SDG: 13 Climate Action (mandatory)<br>13.2 Integrate climate change measures into national policies, strategies and planning   | 13.2.1 Amount of CO <sub>2</sub> e emissions reduced by the project per year  | 1,232,137 <sup>1</sup> | tCO <sub>2</sub> e (VER) |
| SDG: 1 No Poverty<br>1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance | 1.4.1 Proportion of population living in households with access to basic services<br><br>Indicator:<br>Indicator: Total number of premises (Schools / institutions) with at least one WPS distributed / installed under the project | 19,588 <sup>1</sup>    | Number                   |

<sup>1</sup> Refer Appendix 3

|   |  |        |            |
|---|--|--------|------------|
| <p>SDG:3 Good Health and Well Being<br/>3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p>  | <p>3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services</p> <p>Indicator: % sampled Schools / institutions reporting reduction in incidence of diarrhoea and water borne diseases etc. after shifting to the project WPS</p> | 95.28% | Percentage |
| <p>6 Clean Water and sanitation<br/>6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all</p>   | <p>6.1.1 Proportion of population using safely managed drinking water services</p> <p>Indicator: % of WPS distributed/installed providing safe drinking water quality</p>  | 90.57% | Percentage |
| <p>7 Affordable and Clean Energy<br/>7.1 By 2030, ensure universal access to affordable, reliable and modern energy services</p>  | <p>7.1.2 Proportion of population with primary reliance on clean fuels and technology</p> <p>Indicator: % Schools / institutions reporting an operational WPS in project</p>   | 96.84% | Percentage |
| <p>8 Decent Work and Economic Growth<br/>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p> | <p>8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities</p> <p>Indicator: Number of male / females employment created by project</p>   | 34     | Number     |

**Table 2 – Product Vintages**

| Start Dates | End Dates  | Amount Achieved |            |           |            |             |              |
|-------------|------------|-----------------|------------|-----------|------------|-------------|--------------|
|             |            | VERs (tCO2e)    | ABS (SDG1) | IH (SDG3) | SWQ (SDG6) | AACS (SDG7) | QE IG (SDG8) |
| 01/01/2023  | 30/11/2023 | 1,232,137       | 19,588     | 95.28%    | 90.57%     | 96.84%      | 34           |

## SECTION A. DESCRIPTION OF PROJECT

### A.1. General description of project

>>

The stated goal of VPAs is widespread dissemination of low GHG water purification technologies (WPS) to schools and other institutions in Nigeria. The VPAs use carbon finance to support local partners engaged in operation, sales and distribution and maintenance of various WPS technologies.

The VPAs reduce GHG emissions by reducing or replacing the use of non-renewable biomass / fossil fuel for boiling water to purify it for drinking purposes in the baseline.

In Nigeria, only 11.7% of the population have access to piped water, with only 3.5% population having access to piped water within their homes<sup>2</sup>. In Nigeria, 80.6% of population use solid fuel for cooking purposes. In rural, 83.0% population use firewood while 3.0% use charcoal and in urban, 42.1% of population use firewood and 11.8% of population use charcoal for cooking<sup>3</sup>. 90 million Nigerians, cook/boil water on traditional stoves / "three-stone fire" cooking technology<sup>4</sup>. As per the baseline study conducted to assess the baseline scenario in schools and institutions in Nigeria, only 4.71% of school/institutions in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling. Out of the total population who were using boiling for treating water, approximately 58.02% school/institutions were using woodfuel and 40.74% of users were using charcoal for water boiling and majority were using traditional/3-stone fire as the stove technology for boiling water.

The project WPSs will result in elimination/reduction of non-renewable biomass / fossil fuels usage for water boiling. This will result in significant reduction in indoor air pollution associated with use of solid biomass / fossil fuel based inefficient stoves used for water boiling which has a direct correlation with respiratory illness and mortality rates, especially among school children in the project beneficiaries.

In these VPAs, the VPA implementer is Impact Water LLC, and the CME is Impact Carbon LLC. The VPA Implementer operates the VPAs as per the CME management system and provides the CME with information required to perform monitoring and verification of the activity, besides other responsibilities.

Beneficiaries receiving the project technologies under the VPA have agreed to the terms of the PoA and have ceded all rights to any VERs resulting from the VPA to CME (Impact Carbon) or VPA Implementer (Impact Water), as applicable.

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<sup>2</sup> Table 2.1.1, Nigeria Demographic and Health Survey 2018, Report, published in October 2019

<sup>3</sup> Table CH.12, Nigeria Multiple Indicator Cluster Survey 2016-17, published in February 2018,

<sup>4</sup> Page 88, The Truth About Cooking Landscape Analysis, Global Alliance for Clean Cookstoves (GACC), October 2016,

## A.2. Location of project

>>

**Host Country:** Nigeria

**Region/State/Province etc.:** All regions of Nigeria

**City/Town/Community etc.:** All cities and towns in Nigeria

PoA Title: Improved Cookstove and Safe Water Programme

VPA Title: Improved Cookstove and Safe Water Programme – Nigeria – VPA 01 to Improved Cookstove and Safe Water Programme – Nigeria – VPA 30

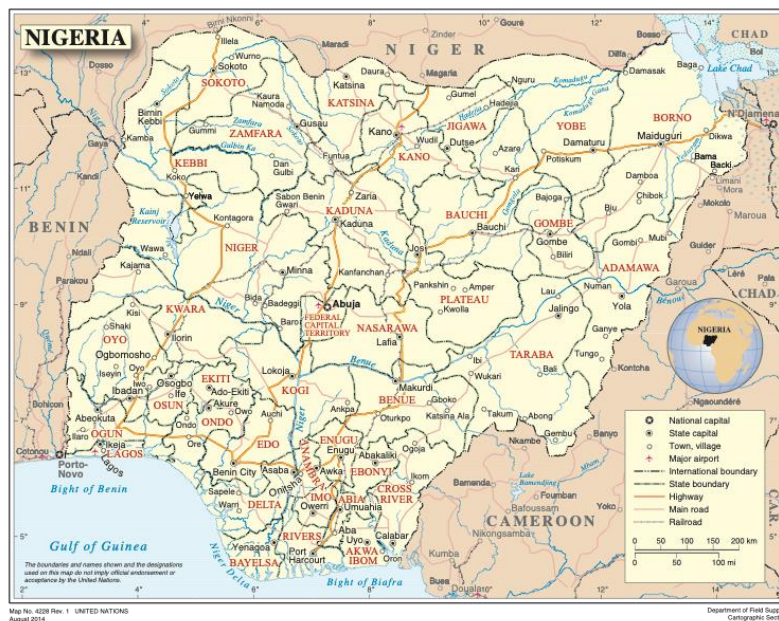
PoA GS ID: 11189

VPA GS ID: 11259 to 11288

### Physical/Geographical location:

Nigeria lies between 4° 16' and 13° 53' north latitude and between 2°40' and 14° 41' east longitude and has a land area of 924,000 sq. km, one of the largest in Africa.

The map of Nigeria, for reference purpose, is as follows:



## A.3. Reference of applied methodology

>>

### Methodology Applied:

“Emission reductions from Safe Drinking Water Supply” Version 1.0 – 03/05/2021 for baseline and monitoring requirements.

The applied methodology can be access at the following link:

<https://www.goldstandard.org/project-developers/standard-documents>

### Methodological Tools:

CDM Tool 30: Calculation of the fraction of non-renewable biomass ver. 4.0.

### Standardized baseline:

Not applicable

**A.4. Crediting period of project**

>>

| GS Ref ID | Crediting Period Start Date | Length of Crediting Period |
|-----------|-----------------------------|----------------------------|
| GS11259   | 01/01/2021 to 31/12/2025    | 5 years                    |
| GS11260   |                             |                            |
| GS11261   |                             |                            |
| GS11262   |                             |                            |
| GS11263   |                             |                            |
| GS11264   |                             |                            |
| GS11265   |                             |                            |
| GS11266   |                             |                            |
| GS11267   |                             |                            |
| GS11268   |                             |                            |
| GS11269   |                             |                            |
| GS11270   |                             |                            |
| GS11271   |                             |                            |
| GS11272   |                             |                            |
| GS11273   |                             |                            |
| GS11274   |                             |                            |
| GS11275   |                             |                            |
| GS11276   |                             |                            |
| GS11277   |                             |                            |
| GS11278   |                             |                            |
| GS11279   |                             |                            |
| GS11280   |                             |                            |
| GS11281   |                             |                            |
| GS11282   |                             |                            |
| GS11283   |                             |                            |
| GS11284   |                             |                            |
| GS11285   |                             |                            |
| GS11286   |                             |                            |
| GS11287   |                             |                            |
| GS11288   |                             |                            |

## SECTION B. IMPLEMENTATION OF PROJECT

### B.1. Description of implemented project

>>

- a) **Purpose of the specific-case VPA(s) and the measures taken for GHG emission reductions or net GHG removals by sinks;**

The VPAs involves the distribution of water purification systems to institutions/schools in Nigeria. The implementer of the VPAs is Impact Water. The VPAs reduce GHG emissions by replacing the use of non-renewable biomass or fossil fuel to boil water, to purify it for drinking purposes in the baseline.

- b) **Description of the technology employed and installed equipment and/or infrastructure, including information requested by the eligibility criteria;**

Only water purification technology has been distributed under the VPA till the end of the concerned monitoring period. The technology distributed offer two kinds of product type:

- (a) UltraFlo
- (b) UltraTab

The detail of technology distributed under the two categories under the VPA till the end of the monitoring period is as follows:

| Type of installed technology (Service level) | Technology / operating concept   | Technology | Implementation level (Cumulative Number of units installed) |
|--|--|------------|---|
| Institution/School<br>Institution/School     | <b>Chlorination:</b> This uses activated chlorine to kill pathogens in water | UltraFlo   | 2023- 8,077   |
|  |  | UltraTab   | 2023- 11,511  |

### c) Water Purification Technology Specifications

| WPS Models | Technology Type | Lifetime <sup>5</sup>  | Fixed or Portable | Removal of E. coli | Minimum Watt / Voltage |
|------------|-----------------|--|-------------------|--------------------|------------------------|
| UltraFLO   | Chemical        | Expiry: 5 year<br>Capacity:<br>Flo: 340,000 ltrs<br>Inline: 720,000 ltrs         | Fixed             | 99 (2-log)         | Not applicable         |
| UltraTAB   | Chemical        | Expiry: 5 years<br>Capacity:<br>Big pack: 48,000 ltrs<br>Small pack: 10,000 ltrs | Portable          | 99 (2-log)         | Not applicable         |

<sup>5</sup> Estimated lifetime from manufacturer specification sheet. This expiry is the valid lifetime of the chlorine tablet / cartridge within which it is deemed to be effective. The system lifetime is deemed greater than 20 years as other than the tablet, cartridge it consists on tanks and piped connections (for UltraFLO) which are highly durable and long lasting and can be easily replaced.

d) Relevant dates for the specific-case VPA(s) (e.g. construction, commissioning, continued operation periods, etc.);

|                                   |                      |
|-----------------------------------|----------------------|
| <b>Start Date as per VPA-DD</b>   | 01/01/2021           |
| <b>Continued operation period</b> | Since the start date |

e) Total GHG emission reductions or net GHG removals by sinks achieved in this monitoring period for the specific-case VPA(s), including information on how double counting is avoided

| <b>Year</b>  | <b>Emission Reductions<sup>6</sup> tCO<sub>2</sub>e</b> |
|--------------|---|
| 2023         | 1,232,137   |
| <b>Total</b> | <b>1,232,137</b>  |

B.1.1 Forward Action Requests

>>

**FAR from Deviation:**

**FAR#1**

1. The stratified random sampling approach applied for sample size calculation for the monitoring survey must meet all the requirements under Appendix 3 of Guideline: Sampling and surveys for CDM project activities and programmes of activities.
2. Continuity in the project’s monitoring activities is maintained, and PD can justify that no monitoring gaps exist (especially for SDG parameters) within the Monitoring Period(s). However, if gap(s) exist, the project shall justify that conservative approach(es) have been applied in line with section 3 of the Deviation Approval Requirements and Procedures (version 1.1) and overarching GS principles (as applicable).

**Response:**

1. Appendix 3 pertains to reliability / precision achievement of the sampled data. Please note the appropriate reliability calculations have already been provided in the Monitoring Report (section D.4(e)) as well as ER sheet (Tab: Sample Size Calculation).
2. The following table provides the schedule of monitoring for:

| <b>MP #</b> | <b>Monitoring period Duration</b> | <b>Monitoring Schedule</b> |
|-------------|-----------------------------------|----------------------------|
| 1           | 01/01/2021-31/12/2021             | 13/09/2021 - 22/09/2021    |
| 2           | 01/01/2022-30/06/2022             | 04/07/2022 - 03/08/2022    |
| 3           | 01/07/2022-31/12/2022             | 02/02/2023 - 21/02/2023    |
| 4           | 01/01/2023-30/11/2023             | Refer section D.4(c)       |

Thus, the continuity in the project’s monitoring activities is maintained by virtue of registered monitoring plan which stipulates annual monitoring frequency for monitoring parameters.

<sup>6</sup> For VPA wise ERs refer section E.5

## FAR#2

The PD shall ensure that no systemic bias exists in the usage of chlorine tablets which might be leading to an overestimation of emission reduction. If a bias is identified, the PD must apply a conservative approach and shall also propose a revision to the monitoring plan to ensure a continuous supply of UltraTAB. The verifying VVB (through the end-user database and onsite verification) ensure that the PD meets the mentioned requirement and is following a conservative approach.

### Response:

The programme does not include any systemic bias w.r.t to usage of chlorine tablets. For each beneficiary school / institution, the number of UltraTAB packs supplied, during a monitoring period is monitored with their product IDs to accurately determine the total treatment capacity supplied. Further, the Impact Water customer care team at regular intervals check with the beneficiary schools / institutions regarding the supply status to ensure continuity. The schools also have access to the Impact Water contact details which is used in case reinforcements are needed thereby ensuring continuity.

Further, the ER calculation approach adopted in the project ensures that credits are claimed only for the period for which the school / institution is operational and has treatment supplies available. As a conservative measure, if there is a supply shortfall in a school / institution, the VERs calculated are limited by the available treatment capacity. This ensures that any period affected by dis-continuity in the supplies is not accounted in the emission reductions. Hence PD has ensured that no systemic bias exists in the usage of chlorine tablets/cartridges and there is no over-estimation of ERs.

## FAR from GS4GG Performance review MP#2

### FAR#2

During the next monitoring period and subsequent monitoring periods, the exact number of days for schools, universities, colleges and other institutions should be identified separately. The calculation of resultant VERs for the respective cluster be then calculated based on actual operation dates.

### Response:

The following 4 types of institution(premises) types are part of the installation database (refer "column D" of the Tab: "Installation Database" of the ER calculator):

1. **Primary/Secondary School:** The project premises that are Primary and/or secondary school which are mandated to follow the academic calendar published by the ministry of education. The same has been used to determine the number of actual days of operation within the monitoring period for such systems. It is worth noting that many premises in the Installation Database have "College" in their name. However, most of such cases are actually "Secondary schools," mandated to follow the school academic calendar while only few are actually "Universities." The column "D" now clearly differentiates the entries with "college" in their name as either school or university and accordingly determines their actual operational days within the monitoring period.
2. **Clinic/Hospital/Prison:** While these institutions are deemed round the year operational entity(ies), the project credits clinics/hospitals/prisons at the same rate as schools as a highly conservative measure.

- 3. Government Organization:** Similar to hospitals and prisons, government organizations have also been credited at the rate of schools. This is again a very conservative approach given such institutions operate at a much higher number of days compared to school calendar.
- 4. University:** Universities in Nigeria function as autonomous bodies and usually have their own academic calendars tailored to their specific academic programs. Also, universities usually follow a semester system where academic year is divided into two academic cycles (semesters). Thus, different universities may start and end their semesters at different times, leading to variation in the academic calendar. However, having said that, the number of operational days for universities is expected to be only slightly lesser than school academic calendar.

It is not feasible to calculate the operational days for each university separately, over the monitoring period, simultaneously accounting the supply dates, gap between two consecutive supplies in the excel ER calculation model.

Thus, as a highly conservative measure, the CME has considered the universities to be operational for only 50% times of the school academic calendar, for the ER calculations.

The above approach therefore addresses the FAR raised in most conservative manner attributing separating different types of institutions and assigning actual number of operational days accordingly, in a conservative manner.

## **B.2. Post-Design Certification changes**

>>

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

>>

Refer Appendix 2

B.2.2. Corrections

>>

Not Applicable

B.2.3. Changes to start date of crediting period

>>

Not Applicable

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

>>

Not Applicable

B.2.5. Changes to project design of approved project

>>

Not Applicable

## SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

>>

The CME uses a management system to ensure all VPA Implementers under the PoA implement, operate, and monitor their respective VPAs in an effective and verifiable manner. The PoA follows the following management and operational System:

1. The Program Manager is responsible for keeping records and implement a documentation control process for each VPA under the PoA.
2. CME ensured that end users are aware of, and have agreed, that their unit (ICS/WPS) is being subscribed to the PoA. Awareness and agreement are secured through informational material / trainings / social media or in contractual agreements.
3. Each VPA implementer collected and reported the required data as much as possible to effectively monitor the emission reductions of each VPA in accordance with the monitoring plan in the VPA-DD.
4. The CME provided guidance/training/instructions to customer engagement staff to collect requisite data at the point of delivery. Records of trainings are being maintained by the Program Manager. The customer engagement staff compiled the list of units installed/distributed along with required end user / baseline information and transferred the same to the electronic database management system at regular intervals, which was managed at CME/VPA Implementer office by Program Manager.
5. **Total Sales Record:** The total sales record documents information of the WPS (UltraFLO / UltraTAB) implemented in the beneficiary institution. The total sales record is kept electronically with supporting evidence in form of paper records and/or SMS tracking records. The Total Sales Record contains information related to WPS system, including the following, but not limited to:
  - a. Type of system (UltraFLO / UltraTAB)
  - b. Unique serial number of the units installed / distributed
  - c. Date of installation / distribution
  - d. Address and details of school and contact detail (if available) of representative
  - e. Type of School (Boarding / Non-boarding)
  - f. Number of project technology installed/distributed in an institution
  - g. School population count (number of students / staff in boarding / non-boarding category)

The CME ensured that there is no double counting of any unit in the electronic database by means of the unique ID that will be uniquely associated with each unit. The CME coordinated all ex-post monitoring activities in the PoA. The CME checked and reviewed the monitoring data and calculated the emission reductions based on precision/reliability levels achieved for the monitored parameters supported by external experts/consultant.

Please refer section B.1.1 above for FARs related to monitoring (during design certification or last MP) and their corresponding resolution.

## SECTION D. DATA AND PARAMETERS

### D.1. Data and parameters fixed ex ante or at renewal of crediting period

>>

| SDG Indicator  | <b>SDG 1: No Poverty</b>   |
|--|--|
| Data/parameter                                       | ABS <sub>Baseline</sub>  |
| Unit   | Number   |
| Description  | Access to Basic Services (number of premises with at least one WPS distributed / installed under the baseline) |
| Source of data                                       | --   |
| Value(s) applied                                     | 0  |
| Choice of data or Measurement methods and procedures | --   |
| Purpose of data                                      | SDG 1 Impact calculation   |
| Additional comment                                   | --   |

| SDG Indicator  | <b>SDG 3: Good Health and Well Being</b>   |
|--|--|
| Data/parameter                                       | IH <sub>Baseline</sub>   |
| Unit   | %  |
| Description  | % Of users reporting reduction in incidence of diarrhoea and water borne diseases etc. in baseline (improved health) |
| Source of data                                       | --   |
| Value(s) applied                                     | 0  |
| Choice of data or Measurement methods and procedures | --   |
| Purpose of data                                      | SDG 3 Impact calculation   |
| Additional comment                                   | --   |

| SDG Indicator  | <b>SDG 6: Clean Water and sanitation</b>         |
|--|--|
| Data/parameter                                       | SWQ <sub>baseline</sub>                          |
| Unit   | %  |
| Description  | % Users reporting safe water quality in baseline |
| Source of data                                       | --   |
| Value(s) applied                                     | 4.71   |
| Choice of data or Measurement methods and procedures | --   |
| Purpose of data                                      | SDG 6 Impact calculation                         |
| Additional comment                                   | --   |

|  |   |
|--|---|
| SDG Indicator  | <b>SDG 7: Affordable and Clean Energy</b>                                       |
| Data/parameter                                       | AAC <sub>Baseline</sub>   |
| Unit   | %   |
| Description  | Access to affordable and clean energy (% of operating WPS units under Baseline) |
| Source of data                                       | --  |
| Value(s) applied                                     | 0   |
| Choice of data or Measurement methods and procedures | --  |
| Purpose of data                                      | SDG 7 Impact calculation  |
| Additional comment                                   | -   |

|  |   |
|--|---|
| SDG Indicator  | <b>SDG 8: Decent Work and Economic Growth</b>   |
| Data/parameter                                       | QE IG <sub>Baseline</sub>   |
| Unit   | number  |
| Description  | Quantitative Employment and income generation (Number of person (male and female) hired under Baseline) |
| Source of data                                       | --  |
| Value(s) applied                                     | 0   |
| Choice of data or Measurement methods and procedures | --  |
| Purpose of data                                      | SDG 8 Impact calculation  |
| Additional comment                                   | --  |

|                  |  |                      |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
|------------------|--|----------------------|--|-------------|----------|-----------|--------------|-----------|-----------|--------------|------------|----------------------|-----------------|--------------|--------------|
| SDG Indicator    | <b>SDG 13: Climate Change</b>  |                      |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Data/parameter   | Project technology description   |                      |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Unit             | NA   |                      |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Description      | The detailed description of the planned project technology   |                      |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Source of data   | <ul style="list-style-type: none"> <li>- Manufacturer specifications</li> <li>- Third-party certification by a qualified entity, for example recognized certification agency by National/ International Standard body</li> </ul>   |                      |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Value(s) applied | <table border="1"> <tr> <td>Description</td> <td>UltraFLO</td> <td>Ultra TAB</td> </tr> <tr> <td>Manufacturer</td> <td>Medentech</td> <td>Medentech</td> </tr> <tr> <td>Product Name</td> <td>FLO Inline</td> <td>Big Pack, Small Pack</td> </tr> <tr> <td>Technology type</td> <td>Chlorination</td> <td>Chlorination</td> </tr> </table> |                      |  | Description | UltraFLO | Ultra TAB | Manufacturer | Medentech | Medentech | Product Name | FLO Inline | Big Pack, Small Pack | Technology type | Chlorination | Chlorination |
| Description      | UltraFLO   | Ultra TAB            |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Manufacturer     | Medentech  | Medentech            |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Product Name     | FLO Inline   | Big Pack, Small Pack |  |             |          |           |              |           |           |              |            |                      |                 |              |              |
| Technology type  | Chlorination   | Chlorination         |  |             |          |           |              |           |           |              |            |                      |                 |              |              |

|  |   |                                 |                                 |
|--|---|---------------------------------|---------------------------------|
|  | Performance classification                  | Complies with National standard | Complies with National standard |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD |                                 |                                 |
| Purpose of data                                      | --  |                                 |                                 |
| Additional comment                                   | --  |                                 |                                 |

|                  |  |
|------------------|--|
| SDG Indicator    | <b>SDG 13: Climate Change</b>  |
| Data/parameter   | Regulatory framework for safe water supply   |
| Unit             | NA   |
| Description      | National, sub-national and local regulations or guidance for safe drinking water supply, operation and maintenance, including any tariff requirements in host country Nigeria.   |
| Source of data   | National, sub-national and local authorities   |
| Value(s) applied | <p>President of Nigeria launched the National Action Plan (NAP), a 13-year strategy for the Revitalization of Nigeria’s Water Supply, Sanitation, and Hygiene (WASH) Sector. The goal of the Revitalization Strategy is to ensure that all Nigerians have access to sustainable and safely managed WASH services by 2030, in compliance with the Sustainable Development Goals (SDG) for Water (Goal 6.1) and Sanitation (Goal 6.2).</p> <p>National Water Resources Bill- 2020, enacted by National assembly of Federal Republic of Nigeria, establishes regulatory framework for the water resource sector in Nigeria and provide framework for the equitable and sustainable development, management, use and conservation of Nigeria’s surface and ground water resources. The objective of the bill is to also ensure the citizen’s right of access to safe water and basic sanitation.</p> <p>The establishment of Nigerian Standard for Drinking Water Quality (NSDQW) ensures the safety of the drinking water supplies and the protection of public health.</p> <p>The implementation of the project is fully in line with the relevant water resources policies/framework of Nigeria. The project does not undermine or conflict with any national, sub-national and local regulations or guidance for safe drinking water supply, operation and maintenance, including any tariff requirements. Further, the national standards and local regulations for safe drinking water supply do</p> |

|  |   |
|--|---|
|  | not impose any cap on parameters used by the methodology and therefore have no implications on emission reduction calculations. |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD   |
| Purpose of data                                      | Related to water quality  |
| Additional comment                                   | --  |

| <b>SDG Indicator</b>                                 | <b>SDG 13: Climate Change</b>   |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
|--|---|------------|-----------------------|------------|----|--------------------------------------|------|----|---------------|------|----|-----------------|-------|-------|--------------------------|------------|----|------------------|--------|----|--------------------|-------|
| Data/parameter                                       | Water sources in the project boundary   |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Unit   | NA  |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Description  | Improved and Unimproved drinking water sources in Nigeria   |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Source of data                                       | Nigeria Schools and Institutions: Baseline survey   |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Value(s) applied                                     | <table border="1"> <thead> <tr> <th>S.No</th> <th>Drinking water source</th> <th>% Premises</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Government/ Private piped connection</td> <td>3.53</td> </tr> <tr> <td>2.</td> <td>Surface water</td> <td>2.35</td> </tr> <tr> <td>3.</td> <td>Well, /Borehole</td> <td>94.12</td> </tr> </tbody> </table> <p>As per Annex 2 of the applied GS methodology, piped water and water from boreholes or protected wells belong to improved sources of drinking water. The rest belong to unimproved sources of drinking water as follows:</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Source of drinking water</th> <th>% Premises</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Improved sources</td> <td>97.65%</td> </tr> <tr> <td>2.</td> <td>Unimproved Sources</td> <td>2.35%</td> </tr> </tbody> </table> | S.No       | Drinking water source | % Premises | 1. | Government/ Private piped connection | 3.53 | 2. | Surface water | 2.35 | 3. | Well, /Borehole | 94.12 | S.No. | Source of drinking water | % Premises | 1. | Improved sources | 97.65% | 2. | Unimproved Sources | 2.35% |
| S.No   | Drinking water source   | % Premises |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| 1.   | Government/ Private piped connection  | 3.53       |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| 2.   | Surface water   | 2.35       |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| 3.   | Well, /Borehole   | 94.12      |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| S.No.  | Source of drinking water  | % Premises |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| 1.   | Improved sources  | 97.65%     |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| 2.   | Unimproved Sources  | 2.35%      |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD   |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Purpose of data                                      | --  |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |
| Additional comment                                   | --  |            |                       |            |    |                                      |      |    |               |      |    |                 |       |       |                          |            |    |                  |        |    |                    |       |

|                      |  |
|----------------------|--|
| <b>SDG Indicator</b> | <b>SDG 13: Climate Change</b>  |
| Data/parameter       | Stove technologies used in the project boundary  |
| Unit                 | NA   |
| Description          | The proportion of different stove types used in premises in the geographical area of the project. If the project covers different types of end-users |

|  | premises (e.g. households, institutions), then the stoves technologies should be determined for each premises type.   |                         |                  |                         |   |                          |           |   |                          |       |   |                |      |
|--|---|-------------------------|------------------|-------------------------|---|--------------------------|-----------|---|--------------------------|-------|---|----------------|------|
| Source of data                                       | Nigeria-Schools and Institutions:<br>Baseline survey  |                         |                  |                         |   |                          |           |   |                          |       |   |                |      |
| Value(s) applied                                     | <table border="1"> <thead> <tr> <th>S.no</th> <th>Stove Technology</th> <th>School/Institutions (%)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Traditional / Stone Fire</td> <td>3 / 58.02</td> </tr> <tr> <td>2</td> <td>Traditional Charcoal Pot</td> <td>40.74</td> </tr> <tr> <td>3</td> <td>Kerosene Stove</td> <td>1.23</td> </tr> </tbody> </table> | S.no                    | Stove Technology | School/Institutions (%) | 1 | Traditional / Stone Fire | 3 / 58.02 | 2 | Traditional Charcoal Pot | 40.74 | 3 | Kerosene Stove | 1.23 |
| S.no   | Stove Technology  | School/Institutions (%) |                  |                         |   |                          |           |   |                          |       |   |                |      |
| 1  | Traditional / Stone Fire  | 3 / 58.02               |                  |                         |   |                          |           |   |                          |       |   |                |      |
| 2  | Traditional Charcoal Pot  | 40.74                   |                  |                         |   |                          |           |   |                          |       |   |                |      |
| 3  | Kerosene Stove  | 1.23                    |                  |                         |   |                          |           |   |                          |       |   |                |      |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD   |                         |                  |                         |   |                          |           |   |                          |       |   |                |      |
| Purpose of data                                      | Determination of baseline emissions   |                         |                  |                         |   |                          |           |   |                          |       |   |                |      |
| Additional comment                                   | -   |                         |                  |                         |   |                          |           |   |                          |       |   |                |      |

| SDG Indicator  | <b>SDG 13: Climate Change</b>  |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
|--|--|--|----------|----------|-------------------------|---------------------------------|--|---------------------------|---------|---------|-----------------------------|----------|----------|
| Data/parameter                                       | Expected technical life of project technology  |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Unit   | Treatment volume or operational hours or time period (e.g. "eight years")  |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Description  | The expected technical life of an individual project technology shall be defined in the PDD. The details include both technology/device life and filter life, if a filter is used and it is replaceable.   |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Source of data                                       | Manufacturer specifications  |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Value(s) applied                                     | <table border="1"> <thead> <tr> <th>Description</th> <th>UltraFLO</th> <th>UltraTAB</th> </tr> </thead> <tbody> <tr> <td>Treatment Volume (Ltrs)</td> <td>Flo: 340,000<br/>Inline: 720,000</td> <td>Big Pack: 48,000<br/>Small Pack: 10,000</td> </tr> <tr> <td>Life Span / Expiry-filter</td> <td>5 years</td> <td>5 years</td> </tr> <tr> <td>Life Span / Expiry - system</td> <td>30 years</td> <td>30 years</td> </tr> </tbody> </table> | Description                            | UltraFLO | UltraTAB | Treatment Volume (Ltrs) | Flo: 340,000<br>Inline: 720,000 | Big Pack: 48,000<br>Small Pack: 10,000 | Life Span / Expiry-filter | 5 years | 5 years | Life Span / Expiry - system | 30 years | 30 years |
| Description  | UltraFLO   | UltraTAB                               |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Treatment Volume (Ltrs)                              | Flo: 340,000<br>Inline: 720,000  | Big Pack: 48,000<br>Small Pack: 10,000 |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Life Span / Expiry-filter                            | 5 years  | 5 years                                |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Life Span / Expiry - system                          | 30 years   | 30 years                               |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and manufacturer specifications   |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Purpose of data                                      | Determination of baseline emissions  |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |
| Additional comment                                   | --   |  |          |          |                         |                                 |  |                           |         |         |                             |          |          |

|                |   |
|----------------|---|
| SDG Indicator  | <b>SDG 13: Climate Change</b>                 |
| Data/parameter | $x_f$   |
| Unit           | Percentage of fuel f use in target population |

| Description  | The proportion of each different cooking fuel f used in the project boundary by end-users:  |                         |                     |                         |    |          |       |    |          |       |    |          |      |
|--|---|-------------------------|---------------------|-------------------------|----|----------|-------|----|----------|-------|----|----------|------|
| Source of data                                       | Nigeria-School/institution:<br>Baseline Survey  |                         |                     |                         |    |          |       |    |          |       |    |          |      |
| Value(s) applied                                     | <table border="1"> <thead> <tr> <th>S.no</th> <th>Baseline Fuel Usage</th> <th>School/Institutions (%)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Woodfuel</td> <td>58.02</td> </tr> <tr> <td>2.</td> <td>Charcoal</td> <td>40.74</td> </tr> <tr> <td>3.</td> <td>Kerosene</td> <td>1.23</td> </tr> </tbody> </table> | S.no                    | Baseline Fuel Usage | School/Institutions (%) | 1. | Woodfuel | 58.02 | 2. | Charcoal | 40.74 | 3. | Kerosene | 1.23 |
| S.no   | Baseline Fuel Usage   | School/Institutions (%) |                     |                         |    |          |       |    |          |       |    |          |      |
| 1.   | Woodfuel  | 58.02                   |                     |                         |    |          |       |    |          |       |    |          |      |
| 2.   | Charcoal  | 40.74                   |                     |                         |    |          |       |    |          |       |    |          |      |
| 3.   | Kerosene  | 1.23                    |                     |                         |    |          |       |    |          |       |    |          |      |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD   |                         |                     |                         |    |          |       |    |          |       |    |          |      |
| Purpose of data                                      | Determination of baseline emissions   |                         |                     |                         |    |          |       |    |          |       |    |          |      |
| Additional comment                                   | --  |                         |                     |                         |    |          |       |    |          |       |    |          |      |

|  |  |
|--|--|
| SDG Indicator  | <b>SDG 13: Climate Change</b>  |
| Data/parameter                                       | $EF_{b, f, CO_2}$  |
| Unit   | tCO <sub>2</sub> /TJ   |
| Description  | CO <sub>2</sub> emission factor from use of fuels  |
| Source of data                                       | IPCC defaults  |
| Value(s) applied                                     | Wood = 112 tCO <sub>2</sub> /TJ<br>Charcoal = 165.22 tCO <sub>2</sub> /TJ (includes charcoal production emissions) |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD  |
| Purpose of data                                      | Calculation of baseline emissions  |
| Additional comment                                   | --   |

|  |  |
|--|--|
| SDG Indicator  | <b>SDG 13: Climate Change</b>  |
| Data/parameter                                       | $EF_{b, f, nonCO_2}$   |
| Unit   | tCO <sub>2e</sub> /TJ  |
| Description  | Non-CO <sub>2</sub> emission factor from use of fuels, in case the baseline fuel is biomass or charcoal  |
| Source of data                                       | IPCC defaults  |
| Value(s) applied                                     | AR5 GWP<br>- Wood: 9.46 tCO <sub>2e</sub> /TJ<br>- Charcoal: 44.83 tCO <sub>2e</sub> /TJ (includes production emissions of CH <sub>4</sub> and N <sub>2</sub> O) |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD  |
| Purpose of data                                      | Determination of baseline emissions  |

|                    |    |
|--------------------|----|
| Additional comment | -- |
|--------------------|----|

| SDG Indicator  | <b>SDG 13: Climate Change</b>  |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
|--|--|-------------------------|------------------|-------------------------|---|----------------------------|-------|---|--------------------------|-------|---|----------------|------|------|------------------|--------------|---|----------------------------|----|---|--------------------------|----|---|----------------|----|
| Data/parameter                                       | $\eta_{wb}$  |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Unit   | Percentage   |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Description  | Weighted average efficiency of the baseline water boiling devices.   |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Source of data                                       | Nigeria-Schools/Institutions:<br>Baseline Survey<br>Methodology default value / Credible published literature  |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Value(s) applied                                     | <p>Stove Technology:</p> <table border="1"> <thead> <tr> <th>S.no</th> <th>Stove Technology</th> <th>School/Institutions (%)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Traditional / 3 Stone Fire</td> <td>58.02</td> </tr> <tr> <td>2</td> <td>Traditional Charcoal Pot</td> <td>40.74</td> </tr> <tr> <td>3</td> <td>Kerosene Stove</td> <td>1.23</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>S.no</th> <th>Stove Technology</th> <th>% Efficiency</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Traditional / 3 Stone Fire</td> <td>10</td> </tr> <tr> <td>2</td> <td>Traditional Charcoal Pot</td> <td>15</td> </tr> <tr> <td>3</td> <td>Kerosene Stove</td> <td>50</td> </tr> </tbody> </table> <p>Thus, <math>\eta_{wb} = (58.02\% * 0.1) + (40.74\% * 0.15) + (1.23\% * 0.5) = 12.53\%</math></p> | S.no                    | Stove Technology | School/Institutions (%) | 1 | Traditional / 3 Stone Fire | 58.02 | 2 | Traditional Charcoal Pot | 40.74 | 3 | Kerosene Stove | 1.23 | S.no | Stove Technology | % Efficiency | 1 | Traditional / 3 Stone Fire | 10 | 2 | Traditional Charcoal Pot | 15 | 3 | Kerosene Stove | 50 |
| S.no   | Stove Technology   | School/Institutions (%) |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| 1  | Traditional / 3 Stone Fire   | 58.02                   |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| 2  | Traditional Charcoal Pot   | 40.74                   |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| 3  | Kerosene Stove   | 1.23                    |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| S.no   | Stove Technology   | % Efficiency            |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| 1  | Traditional / 3 Stone Fire   | 10                      |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| 2  | Traditional Charcoal Pot   | 15                      |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| 3  | Kerosene Stove   | 50                      |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD  |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Purpose of data                                      | Determination of baseline emissions  |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |
| Additional comment                                   | --   |                         |                  |                         |   |                            |       |   |                          |       |   |                |      |      |                  |              |   |                            |    |   |                          |    |   |                |    |

|                  |   |
|------------------|---|
| SDG Indicator    | <b>SDG 13: Climate Change</b>   |
| Data/parameter   | $C_b$   |
| Unit             | Percentage  |
| Description      | Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling. |
| Source of data   | Baseline Survey   |
| Value(s) applied | 4.71%   |

|  |   |
|--|---|
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and VPA-DD |
| Purpose of data                                      | Determination of baseline emissions         |
| Additional comment                                   | -   |

| <b>SDG Indicator</b>                                 | <b>SDG 13: Climate Change</b>   |  |             |          |          |                                  |   |  |
|--|---|--|-------------|----------|----------|----------------------------------|---|--|
| Data/parameter                                       | $q_i$   |  |             |          |          |                                  |   |  |
| Unit   | Litres/cartridge or Liters/Tab Pack   |  |             |          |          |                                  |   |  |
| Description  | Capacity of the household or institutional water treatment technology   |  |             |          |          |                                  |   |  |
| Source of data                                       | Manufacturer specifications   |  |             |          |          |                                  |   |  |
| Value(s) applied                                     | <table border="1"> <thead> <tr> <th>Description</th> <th>UltraFLO</th> <th>UltraTAB</th> </tr> </thead> <tbody> <tr> <td>Dosage rate (Treatment Capacity)</td> <td>Flo: 340,000L/Cartridge<br/>Inline: 720,000L/Cartridge</td> <td>Big Pack: 48,000L/Tab Pack<br/>Small Pack: 10,000L/Tab Pack</td> </tr> </tbody> </table> |  | Description | UltraFLO | UltraTAB | Dosage rate (Treatment Capacity) | Flo: 340,000L/Cartridge<br>Inline: 720,000L/Cartridge | Big Pack: 48,000L/Tab Pack<br>Small Pack: 10,000L/Tab Pack |
| Description  | UltraFLO  | UltraTAB   |             |          |          |                                  |   |  |
| Dosage rate (Treatment Capacity)                     | Flo: 340,000L/Cartridge<br>Inline: 720,000L/Cartridge   | Big Pack: 48,000L/Tab Pack<br>Small Pack: 10,000L/Tab Pack |             |          |          |                                  |   |  |
| Choice of data or Measurement methods and procedures | Fixed Ex-ante as per methodology and manufacturer specifications  |  |             |          |          |                                  |   |  |
| Purpose of data                                      | Determination of baseline emissions   |  |             |          |          |                                  |   |  |
| Additional comment                                   | An alternative approach is being used given the project technologies does not have a standard flow rate.  |  |             |          |          |                                  |   |  |

|  |   |  |
|--|---|--|
| <b>SDG Indicator</b>                                 | <b>SDG 13: Climate Change</b>   |  |
| Data/parameter                                       | $f_{nrB,f,y}$   |  |
| Unit   | Percentage  |  |
| Description  | Fractional non-renewability status of woody biomass fuel during year $y$ , in case the baseline fuel is biomass or charcoal   |  |
| Source of data                                       | FRA 2020 Nigeria and UN data  |  |
| Value(s) applied                                     | 82.30   |  |
| Choice of data or Measurement methods and procedures | Calculated using Tool 30, ver. 4.0 of CDM   |  |
| Purpose of data                                      | Determination of baseline emissions   |  |
| Additional comment                                   | Although the VPAs are registered with ex-ante value of $f_{NRB}$ fixed at the time of design certification, based on round 2 review feedback, the CME has disregarded the |  |

C4 Ecolutions fNRB report and updated fNRB calculations, using recent data available, as per CDM tool 30, ver 4.0. This revised fNRB value (82.30%) has been approved (design certified) under more recently included VPAs in Nigeria under the same PoA.

| <b>SDG Indicator</b>  | <b>SDG 13: Climate Change</b>   |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
|---|---|---|---------------|---------------|-------------------|-------------------|-------------------------------|-----------------|-------------------|---|--------------------|-------------------|---|
| <b>Data/parameter</b>                                       | QPW <sub>p</sub>  |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Unit</b>   | Litres per person per day   |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Description</b>  | Volume of drinking water per person per day for premises type p   |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Source of data</b>                                       | Parameter table SWDS 24 of methodology  |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Value(s) applied</b>                                     | <table border="1"> <thead> <tr> <th>Type of Premises</th> <th>Default value</th> <th>Applicability</th> </tr> </thead> <tbody> <tr> <td>Full-day premises</td> <td>4 L /person / day</td> <td>Premises like households etc.</td> </tr> <tr> <td>Boarding school</td> <td>4 L /person / day</td> <td>-</td> </tr> <tr> <td>Half time premises</td> <td>3 L /person / day</td> <td>Premises like day schools, offices etc.</td> </tr> </tbody> </table> | Type of Premises                        | Default value | Applicability | Full-day premises | 4 L /person / day | Premises like households etc. | Boarding school | 4 L /person / day | - | Half time premises | 3 L /person / day | Premises like day schools, offices etc. |
| Type of Premises  | Default value   | Applicability                           |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| Full-day premises   | 4 L /person / day   | Premises like households etc.           |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| Boarding school   | 4 L /person / day   | -                                       |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| Half time premises  | 3 L /person / day   | Premises like day schools, offices etc. |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Choice of data or Measurement methods and procedures</b> | Fixed Ex-ante as per methodology and VPA-DD   |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Purpose of data</b>                                      | Baseline emission calculations  |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |
| <b>Additional comment</b>                                   | -   |   |               |               |                   |                   |                               |                 |                   |   |                    |                   |   |

## D.2 Data and parameters monitored

>>

|   |   |
|---|---|
| <b>SDG Indicator</b>                      | <b>SDG 1: No Poverty</b>  |
| <b>Data / Parameter</b>                   | ABS <sub>Project</sub>  |
| <b>Unit</b>                               | Number  |
| <b>Description</b>                        | Access to Basic Services (number of premises with at least one WPS distributed / installed under the project) |
| <b>Source of data</b>                     | Sales / Installation records  |
| <b>Value(s) applied</b>                   | 19,588  |
| <b>Measurement methods and procedures</b> | Not applicable  |
| <b>Monitoring frequency</b>               | Continuous  |
| <b>QA/QC procedures</b>                   | --  |
| <b>Purpose of data</b>                    | SDG 1 contribution  |
| <b>Additional comment</b>                 | --  |

|                                    |  |
|------------------------------------|--|
| SDG Indicator                      | <b>SDG 3: Good Health and Well Being</b>   |
| Data / Parameter                   | IH <sub>Project</sub>  |
| Unit                               | %  |
| Description                        | % of users reporting reduce in incidence of diarrhoea and water borne diseases etc. (improved health) in project |
| Source of data                     | Ex-post monitoring surveys   |
| Value(s) applied                   | 95.28  |
| Measurement methods and procedures | Not applicable   |
| Monitoring frequency               | Annual / Biennial  |
| QA/QC procedures                   | --   |
| Purpose of data                    | SDG 3 contribution   |
| Additional comment                 | --   |

|                                    |   |
|------------------------------------|---|
| SDG Indicator                      | <b>SDG 6: Clean Water and sanitation</b>  |
| Data / Parameter                   | SWQ <sub>Project</sub>  |
| Unit                               | %   |
| Description                        | % WPS distributed / installed providing safe drinking water to beneficiaries in project |
| Source of data                     | Ex-post water quality tests   |
| Value(s) applied                   | 95.28   |
| Measurement methods and procedures | Not applicable  |
| Monitoring frequency               | Annual / Biennial   |
| QA/QC procedures                   | --  |
| Purpose of data                    | SDG 6 contribution  |
| Additional comment                 | --  |

|                                    |  |
|------------------------------------|--|
| SDG Indicator                      | <b>SDG 7: Affordable and Clean Energy</b>                                      |
| Data / Parameter                   | AAC <sub>Project</sub>   |
| Unit                               | %  |
| Description                        | Access to affordable and clean energy (% of operating WPS units under Project) |
| Source of data                     | Ex-post monitoring surveys   |
| Value(s) applied                   | 96.84  |
| Measurement methods and procedures | Not applicable   |
| Monitoring frequency               | Annual / Biennial  |
| QA/QC procedures                   | --   |
| Purpose of data                    | SDG 7 contribution   |
| Additional comment                 | --   |

|                                    |  |
|------------------------------------|--|
| SDG Indicator                      | <b>SDG 8: Decent Work and Economic Growth</b>  |
| Data / Parameter                   | QE IG <sub>project</sub>   |
| Unit                               | number   |
| Description                        | Quantitative Employment and income generation (Number of person (male and female) hired under project) |
| Source of data                     | HR records/ Sales and marketing records  |
| Value(s) applied                   | 34   |
| Measurement methods and procedures | Not applicable   |
| Monitoring frequency               | Annual / Biennial  |
| QA/QC procedures                   | --   |
| Purpose of data                    | SDG 8 contribution   |
| Additional comment                 | --   |

|                                    |  |
|------------------------------------|--|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>  |
| Data / Parameter                   | $M_{q,y}$  |
| Unit                               | fraction   |
| Description                        | Ongoing water quality indicated as the fraction of the samples that pass microbial quality standard  |
| Source of data                     | WQT performed using Field Test kits  |
| Value(s) applied                   | 0.9840   |
| Measurement methods and procedures | Water quality testing of the project devices was conducted on sampling basis. The samples of treated water collected from project devices and tested using field testing kits.   |
| Monitoring frequency               | Annually or more frequently.   |
| QA/QC procedures                   | Field testing kits have been used, e.g. based on Colony Forming Unit method or Most Probable Number method.  |
| Purpose of data                    | Determination of baseline emissions  |
| Additional comment                 | <p>If the proportion of samples not meeting Safe Drinking Water Quality Standards exceeds a threshold, no emission reductions can be claimed for the corresponding monitoring period.</p> <p>Thresholds:</p> <ul style="list-style-type: none"> <li>- Project or VPA year 1: 20%</li> <li>- Project or VPA year 2: 15%</li> <li>- Project or VPA year 3 or above: 10%</li> </ul> <p>Since proportion of samples not meeting Safe Drinking Water Quality Standards in 3<sup>rd</sup> year of VPA is less than 10% hence no adjustments are required</p> |

|                                    |   |
|------------------------------------|---|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>   |
| Data / Parameter                   | Water hygiene education campaigns   |
| Unit                               | NA  |
| Description                        | Hygiene campaigns carried out among project safe water end users  |
| Source of data                     | Annual hygiene campaigns records  |
| Value(s) applied                   | 128 schools, selected for project monitoring, were physically visited by enumerators and hygiene awareness was propagated to the school representatives. The questionnaire used for project monitoring also has questions related to hygiene.<br>As part of project monitoring, none of the schools reported any increase in diarrhoea or any other water borne disease.<br><br>For detail refer "Hygiene Awareness Campaign Report". |
| Measurement methods and procedures | Usage Survey (in person)<br><br>A questionnaire-based survey has been used to assess hygienic handling of clean water as per CME knowledge and experience and WHO/UNICEF JMP core questions on drinking and hygiene.  |
| Monitoring frequency               | Annual  |
| QA/QC procedures                   | Transparent data analysis and reporting.  |
| Purpose of data                    | --  |
| Additional comment                 | --  |

|                                    |  |
|------------------------------------|--|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>  |
| Data / Parameter                   | $X_{\text{cleanboil},y}$   |
| Unit                               | Percentage   |
| Description                        | Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology       |
| Source of data                     | Project survey   |
| Value(s) applied                   | 0  |
| Measurement methods and procedures | This survey was performed in person  |
| Monitoring frequency               | Annually   |
| QA/QC procedures                   | Transparent data analysis and reporting is ensured through the use of personnel extensively trained in conducting Project Surveys. |
| Purpose of data                    | Determination of baseline emissions  |
| Additional comment                 | -  |

|                                    |   |
|------------------------------------|---|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>   |
| Data / Parameter                   | $HN_{p,y}$  |
| Unit                               | Number  |
| Description                        | Number of individuals per premises type p in the project boundary in year y   |
| Source of data                     | Sales/distribution database   |
| Value(s) applied                   | 411 <sup>7</sup>  |
| Measurement methods and procedures | The total number of individuals for each project premise type in each specific VPA is tracked in the Sales or distribution records  |
| Monitoring frequency               | Continuous  |
| QA/QC procedures                   | Actual school population data for each of the 19,588 has been used for ER calculations, deem the most relevant (geographical and temporal) in line with para 3.11.2 of the methodology.   |
| Purpose of data                    | Determination of baseline emissions   |
| Additional comment                 | <p>The value of <math>HN_{p,y}</math> is effectively the number of people in the institution. The number of people in the institution will be updated (at least biennially) to reflect change in the institution size over time.</p> <p>Appreciating reviewer’s feedback, the CME conducted a detailed assessment of the rate of absenteeism, prevailing in the education sector in the host country, based on national level government reports.</p> <p>The average number of school days missed by students, has been sourced from 2015 Nigeria Education Data Survey (NEDS). This study was conducted by the National Population Commission (NPC) in partnership with the Federal Ministry of Education (FME), the Universal Basic Education Commission (UBEC), and the National Bureau of Statistics (NBS). This survey is a continuation of the 2013 Demographic and Health Survey, which is</p> |

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<sup>7</sup> This value is the average value across all the VPAs covered in this monitoring report. However, the ERs for each VPA have been calculated separately as mentioned in section F below. Thus, for each VPA, the corresponding  $HN_{p,y}$  value has been used for ER calculations. Refer ER Calculator (tab ‘ERs Summary’) for details.

typically conducted to gather supplementary educational data from a subset of households that participated in the Demographic and Health Survey.

The NEDS is carried out once every five years and widely considered to be the most thorough, detailed, and nationally representative survey on basic education in Nigeria. This survey provides in-depth information on parents/guardians and school-aged children from pre-primary school up to Junior Secondary School (JSS). In the NEDS 2015, ~85,000 children across all 37 states in Nigeria were interviewed, rendering it one of the most recent, comprehensive, extensive and representative study focused on the education sector in Nigeria. Additionally, the data from NEDS 2015 has been complemented by Nigeria Digest of Education Statistics, 2019 (NDES, 2019), to arrive at annual average % absenteeism in schools in Nigeria.

Please refer to tab, "Absenteeism data", Column O in the ER Calculator for a detailed calculation of Weighted average of Missed school days per year (%). This discount factor has been applied to the monitored population of project institutions, adjusting it for absenteeism. Please refer column L and N of tab, "Installation Database" in the ER calculator.

National level studies regarding absenteeism are not that frequent and usually conducted every 5 years. Ironically, a detailed report for 2020 has not been made available yet by the either NBS, FME, UBEC or NPC so far. Thus, the discount factor for absenteeism determined, has been reported in the MR under parameter table "HN<sub>p,y</sub>" and shall remain fixed till the end of the crediting period.

|                                    |   |
|------------------------------------|---|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>   |
| Data / Parameter                   | $N_{p,y}$   |
| Unit                               | Number  |
| Description                        | Accumulated number of premises type p with at least one individual project technology in year y                             |
| Source of data                     | Sales or distribution records   |
| Value(s) applied                   | 19,588  |
| Measurement methods and procedures | The total number of premises with at least one individual technology type is tracked in the Sales or distribution database. |

|                      |   |
|----------------------|---|
| Monitoring frequency | Annually  |
| QA/QC procedures     | Sales or distribution record includes:<br>i. Date of sale/distribution<br>ii. Geographic area of sale<br>iii. Model/type of project technology sold<br>iv. Quantity of project technologies sold<br><br>Name and telephone number, and address (if available) or other traceable indicator of premises identity |
| Purpose of data      | Determination of baseline emissions   |
| Additional comment   | --  |

|                                    |   |
|------------------------------------|---|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>   |
| Data / Parameter                   | $U_{p,y}$   |
| Unit                               | percentage  |
| Description                        | Usage rate of the project technology by premises type p during year y   |
| Source of data                     | Project Surveys   |
| Value(s) applied                   | 96.84   |
| Measurement methods and procedures | PP has conducted in person survey of project premises   |
| Monitoring frequency               | Annually  |
| QA/QC procedures                   | --  |
| Purpose of data                    | Determination of baseline emissions   |
| Additional comment                 | The usage survey provides a single usage parameter that is representative for project technologies in the total sales record. |

|                                    |   |
|------------------------------------|---|
| SDG Indicator                      | <b>SDG 13: Climate Change</b>   |
| Data / Parameter                   | $DP_{p,y}$  |
| Unit                               | Days  |
| Description                        | Average days the project technology is present for end-users in the premises p in year y  |
| Source of data                     | Sales and distribution records and School Academic Calendar   |
| Value(s) applied                   | 169   |
| Measurement methods and procedures | For schools and other institutions, the days has been calculated based on the number of operational school days in the monitoring period, excluding weekends, holidays and term-breaks, as applicable for boarding and non-boarding premises. |
| Monitoring frequency               | Annually  |
| QA/QC procedures                   | -   |
| Purpose of data                    | Determination of baseline emissions   |

|                                    |  |
|------------------------------------|--|
| Additional comment                 |  |
| SDG Indicator                      | <b>SDG 13: Climate Change</b>  |
| Data / Parameter                   | $DN_{p,y}$   |
| Unit                               | Number   |
| Description                        | Average number of individual project technologies in each project premises type p in year y  |
| Source of data                     | Sales or distribution records  |
| Value(s) applied                   | Refer tab "Installation database" "column Q" of the ER sheet   |
| Measurement methods and procedures | The total number of individual project units by each project premise type in each specific VPA is tracked in the Sales or distribution records |
| Monitoring frequency               | Annually   |
| QA/QC procedures                   | -  |
| Purpose of data                    | Determination of baseline emissions  |
| Additional comment                 | -  |

### D.3. Comparison of monitored parameters with last monitoring period

| Data/Parameter                    | Value obtained in this monitoring period | Value obtained last monitoring period |
|-----------------------------------|--|---------------------------------------|
| $ABS_{Project}$                   | 19,588                                   | 18,908                                |
| $IH_{Project}$                    | 95.28                                    | 93.51                                 |
| $SWQ_{Project}$                   | 95.28                                    | 93.51                                 |
| $AAC_{Project}$                   | 96.84                                    | 95.94                                 |
| $QE\ IG_{project}$                | 34                                       | 18                                    |
| $M_{q,y}$                         | 0.9840                                   | 0.9747                                |
| Water hygiene education campaigns | 128 samples monitored                    | 123 samples monitored                 |
| $X_{cleanboil,y}$                 | 0%                                       | 0%                                    |
| $HN_{p,y}$                        | 411                                      | 410                                   |
| $N_{p,y}$                         | 19,588                                   | 18,908                                |
| $U_{p,y}$                         | 96.84                                    | 95.94                                 |
| $DP_{p,y}$                        | 169                                      | 82                                    |
| $DN_{p,y}$                        | 1.101                                    | 1.109                                 |

### D.4. Implementation of sampling plan

>>

A single sampling plan was carried out for GS11259(VPA01) to GS11288(VPA30) (covered in this monitoring report).

#### a) Description of implemented single sampling design

##### (i) Sampling Design

Due to the large number of units projected to be distributed in the VPA, coupled with the difficulties with monitoring in some regions, it is not economically feasible to monitor each unit distributed in the VPA. Therefore, the project will employ representative sampling in line with the requirements of the applied methodology.

(ii) **Objectives and Reliability Requirements**

The objective was to obtain an unbiased and reliable estimate of the proportion value of the following parameters over the course of the monitoring period, and with 95/10 confidence/precision for annual sampling across VPAs.

| Sl. No. | Parameter | Description of parameter  |
|---------|-----------|---|
| 1       | $M_{q,y}$ | Ongoing water quality indicated as the fraction of the samples that pass microbial quality standard |
| 2       | $U_{p,y}$ | Usage rate of the project technology by premises type p during year y                               |

(iii) **Target Design**

The target population for the parameters stated above are premises where WPS Units installed / distributed and recorded in the project sales database.

(iv) **Sampling Frame**

PP has determined the annual monitoring sample size for relevant parameters, based on a 95/10 confidence/precision level as outlined in the registered monitoring plan, considering the projected total number of project premises at the end of the concerned monitoring period. Subsequently, as per the registered monitored plan, the sample size determined was spread across 4 quarterly periods. Thus, monitoring surveys/tests were conducted quarterly, with each quarter covering a minimum 25% of the total required number of samples, as per clarification request CL\_146 dated 10/01/2023.

The sampling frame for identification of samples for each quarterly monitoring period included the total number of project premises until the previous quarter.

The parameters for monitoring are homogeneous (i.e., implemented in Institutional premises), hence a common sampling was followed for all the parameters monitored.

**b) Sampling Method**

The required sample sizes were derived using para 14 of the "Standard: Sampling and surveys for CDM project activities and programmes of activities", version 9.0 and equations (1), (2), (3), (4) and (9) of Appendix 3 of the Guideline: Sampling and surveys for CDM project activities and programmes of activities, Version 04.0 for proportion-based parameter as follows:

$$n \geq \frac{z^2 * N * V}{(N - 1) * precision^2 + z^2 * V}$$

Where,

n = number of WPS to be sampled

N = Total number of WPS in the population  
 z = Constant referring to level of confidence (1.96 for 95 % confidence)  
 Precision = Required precision (e.g., 10% = 0.1)  
 Where:

$$V = SD^2 / p^2$$

$$SD^2 = \frac{\sum_{i=1}^k g_i * p_i * (1 - p_i)}{N}$$

$$\bar{p} = \frac{\sum_{i=1}^k g_i * p_i}{N}$$

Where,

gi = weight of strata i in the population  
 pi = expected proportion of strata i in the population  
 k = total number of strata in the population

Stratified random sampling has been applied for determining the usage rate and water quality of units distributed. The expected parameter values (proportion) were determined as per para 12(a)(iii), 13(b),13(c) of the “Standard: Sampling and surveys for CDM project activities and programmes of activities”, version 9.0. The units in the population have been categorized (based on technology deemed appropriate) and sample size has been determined based on expected usage rate in each category using stratified random sampling approach as per the Guideline: Sampling and surveys for CDM project activities and programmes of activities and Standard “Sampling and surveys for CDM project activities and programmes of activities”. The sample size determined has been distributed within each category based on percentage of units in corresponding category

A deviation (from monitoring methodology) on the sampling approach has been approved by GS4GG for the first crediting period. Please refer Appendix 5 of the VPA-DDs.

Detail of approved deviation:  
 Reference: Dev\_184

Title: Deviation from ageing-based survey for WPS

Date of approval: 07/12/2021

Link: [https://globalgoals.goldstandard.org/standards/DEV\\_184-Deviation-Request.pdf](https://globalgoals.goldstandard.org/standards/DEV_184-Deviation-Request.pdf)

| Sample Size - U <sub>p,v</sub>                          |                                   |                                   |                            |
|---|-----------------------------------|-----------------------------------|----------------------------|
| WPS Type (Sampling Frame)                               | Total Sales (Sampling Frame Size) | expected operational rate (%)     | Calculated Sample Size (n) |
| UltraFlo  | 9000                              | 90%                               | 43                         |
| UltraTab  | 12000                             | 90%                               | 58                         |
| Sample size determination                               |                                   |                                   |                            |
| Estimated Operation Unitsi (p)                          |                                   |                                   | 90%                        |
| Estimated Standard Deviation of Operational Unitsi (SD) |                                   |                                   | 30.0%                      |
| V = (SD/p) <sup>2</sup>                                 |                                   |                                   | 0.11                       |
| Sample Size required (Operational Unitsi)               |                                   |                                   | 100                        |
| Sample Size - M <sub>q,v</sub>                          |                                   |                                   |                            |
| WPS Type (Sampling Frame)                               | Total Sales (Sampling Frame Size) | expected water quality (Fraction) | Calculated Sample Size (n) |
| UltraFlo  | 9000                              | 0.90                              | 43                         |
| UltraTab  | 12000                             | 0.90                              | 58                         |
| Sample size determination                               |                                   |                                   |                            |
| Estimated Water Qualityi (p)                            |                                   |                                   | 0.90                       |
| Estimated Standard Deviation of Water Qualityi (SD)     |                                   |                                   | 0.300                      |
| V = (SD/p) <sup>2</sup>                                 |                                   |                                   | 0.11                       |
| Sample Size required (Water Qualityi)                   |                                   |                                   | 100                        |

The determined sample sizes were 43 for UltraFlo and 58 for UltraTab. PP identified a slightly higher number of samples than that determined, i.e. 60 samples for UltraFlo and 80 samples for UltraTab instead, accounting for non-response. These samples were evenly distributed across all four quarters, resulting in 15 samples for UltraFlo each quarter and 20 samples for UltraTab each quarter being identified from their respective sampling frames.

**c) Collected data**

Data was collected by the Impact Water team. The team is well trained for the usage related surveys and water quality tests given prior experience of monitoring WPS devices. Surveyors visited the school premises, did visual inspections, communicated the hygiene awareness message mentioned on the monitoring questionnaire and interviewed school representatives to assess usage (operational status) and necessary aspects related to hygiene via a monitoring questionnaire. The Monitoring team also collected water samples for water quality testing using Aquagenx test kits. The monitoring (Surveys, Hygiene awareness campaign and Water Quality Tests on same set of samples) was conducted from as per schedule mentioned below:

| Quater                      | Duration                 |
|-----------------------------|--------------------------|
| 1 <sup>st</sup> Quarter(Q1) | 28/03/2023 to 19/04/2023 |
| 2 <sup>nd</sup> Quarter(Q2) | 30/05/2023 to 27/06/2023 |
| 3 <sup>rd</sup> Quarter(Q3) | 27/07/2023 to 09/08/2023 |
| 4 <sup>th</sup> Quarter(Q4) | 04/10/2023 to 16/10/2023 |

**d) Analysis of the collected data**

Data obtained from the surveys / tests were used to estimate proportions values for the parameters described above. The values were then being factored into the emissions reduction calculations.

| Sample Size - $U_{p,v}$          |                                    |                           |                                    |
|----------------------------------|------------------------------------|---------------------------|------------------------------------|
| Monitoring Results               |                                    |                           |                                    |
| WPS Type (Sampling Frame)        | Actual Sales (Sampling Frame Size) | Monitored Sample Size (n) | Monitored Operational Rate (%)     |
| UltraFlo                         | 8077                               | 55                        | 98.18%                             |
| UltraTab                         | 11511                              | 73                        | 95.89%                             |
| Reliability Check                |                                    |                           |                                    |
| Samples Monitored                |                                    |                           | 128                                |
| Monitored Operational Unitsi (p) |                                    |                           | 96.84%                             |
| Sample Size - $M_{q,v}$          |                                    |                           |                                    |
| Monitoring Results               |                                    |                           |                                    |
| WPS Type (Sampling Frame)        | Actual Sales (Sampling Frame Size) | Monitored Sample Size (n) | Monitored Water Quality (Fraction) |
| UltraFlo                         | 8077                               | 54                        | 0.9815                             |
| UltraTab                         | 11511                              | 70                        | 0.9857                             |
| Reliability Check                |                                    |                           |                                    |
| Samples Monitored                |                                    |                           | 124                                |
| Monitored Water Qualityi (p)     |                                    |                           | 0.9840                             |

**e) Demonstration of whether the required confidence/precision has been met**

The following tables demonstrate the status of precision/confidence for each of the monitored parameters.

| Sampling Constants        | Values    |
|---------------------------|-----------|
| Monitoring period start   | 1-Jan-23  |
| Monitoring period end     | 30-Nov-23 |
| Level of sampling         | PoA       |
| Confidence (%) (90 or 95) | 95%       |
| Margin of Error (%)       | 10%       |
| Z value                   | 1.96      |

| Sample Size - $U_{p,y}$                   |                |
|---|----------------|
| <b>Monitoring Results</b>                 |                |
| Standard Error of Operational Units       | 1.55%          |
| Relative precision (Margin of error)      | 3.14%          |
| Result                                    | Ok, acceptable |
| Lower Bound confidence value              | not applicable |
| <b>Sample Size - <math>M_{q,y}</math></b> |                |
| Standard Error of Water Quality           | 0.01           |
| Relative precision (Margin of error)      | 2.23%          |
| Result                                    | Ok, acceptable |
| Lower Bound confidence value              | not applicable |

**f) Demonstration of whether the samples were randomly selected and are representative of the population**

Premises were selected randomly from each stratum, after arranging them in chronological order by date of sale and assigning a serial number to each premises. Random numbers were used to identify the samples to be monitored. This approach ensured that the entire population had an equal chance of being selected, and hence samples picked are representative of the population.

**SECTION E. CALCULATION OF SDG IMPACTS**

**E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact**

>>

| SDG | SDG Impact                      | Baseline estimate |
|-----|---------------------------------|-------------------|
| 1   | No Poverty                      | 0                 |
| 3   | Good Health and Well-Being      | 0                 |
| 6   | Clean Water and Sanitation      | 4.71%             |
| 7   | Affordable and Clean Energy     | 0                 |
| 8   | Decent Work and Economic Growth | 0                 |

For SDG13: Climate Change, baseline emissions are calculated as:

The baseline emission factor shall be calculated as follows:

$$EF_b = SE_{w,b,y} * \sum(x_f * (EF_{b,f,CO_2} * f_{NRB,f,y} + EF_{b,f,nonCO_2})) \div 10^9$$

Where:

- $EF_b$  = Emission factor for the use of fuel to obtain safe water in the baseline (tCO<sub>2</sub>e/L)
- $SE_{w,b,y}$  = Specific energy required to boil water (kJ/L), to be calculated as per the paragraph below
- $x_f$  = Proportion of fuel f used in the baseline (fraction determined based on an energy basis)
- $EF_{b,f,CO_2}$  = CO<sub>2</sub> emission factor from use of fuel f (tCO<sub>2</sub>/TJ)
- $EF_{b,f,nonCO_2}$  = Non-CO<sub>2</sub> emission factor arising from use of fuel f, when the baseline fuel f is biomass or charcoal (tCO<sub>2</sub>e/TJ). This parameter is omitted when f is a fossil fuel.
- $f_{NRB,f,y}$  = Fractional non-renewability status of woody biomass fuel during year y (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when f is a fossil fuel.
- f = Index for baseline fuel

The specific energy required to boil water using the baseline technology ( $SE_{w,b,y}$ ) is determined as follows, by calculating the energy input required to obtain L of boiling water, including boiling and vaporization losses<sup>8</sup>, taking into account default or measured stove efficiency

$$SE_{w,b,y} = 360.83/\eta_{wb}$$

Where:

- 360.83 = Default amount of energy required to obtain 1 L of water after 5 minutes of boiling from a first principles approach kJ/l
- $\eta_{wb}$  = Efficiency of the stoves for baseline water boiling (%). Weighted average of baseline stove types.

The baseline emissions shall be calculated as follows:

$$BE_y = EF_b \times (1 - C_b - X_{cleanboil,y}) \times Q_y \times M_{q,y}$$

Where:

- $BE_y$  = Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO<sub>2</sub>e)
- $C_b$  = Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)
- $X_{cleanboil,y}$  = Proportion of project end-users that boil safe water in the project year y (%)
- $Q_y$  = Quantity of safe drinking water provided by the project in year y (L)
- $M_{q,y}$  = Modifier for the water quality in year y

In the case of IWT, the quantity of safe drinking water provided by the project  $Q_y$  is determined as follows

$$Q_y = \sum N_{p,y} \times U_{p,y} \times QPW_{hh,p,y} \times DP_{p,y}$$

<sup>8</sup> The previous version of TPDDTEC Annex 3 assumed that purifying water by boiling would require boiling water for 10 minutes. This assumption is revised to 5 minutes, following WHO technical information that less than 5 minutes of boiling is sufficient for inactivation of enteric bacteria (Technical Brief WHO/FWC/WSH/15.02, 2015).

Where:

- $N_{p,y}$  = Number of premises type p with at least one project technology in year y
- $U_{p,y}$  = Usage rate of the project technology by premises type p during year y (%)
- $QPW_{hh,p,y}$  = Volume of drinking water per premises p per day in year y (L)
- $DP_{p,y}$  = Days the project technology is present for end-users in the premises p in year y

The volume of drinking water per premises is determined by considering whether the capacity of the project device is sufficient to provide at least the default amount of drinking water, as follows:

$$QPW_{hh,p,y} = \min ((q_i \times DN_{p,y}), (QPW_p \times HN_{p,y}))$$

Where:

- $q_i$  = Capacity of the HWT or IWT individual project technology (L)
- $DN_{p,y}$  = Average number of individual project technologies in each project premises type p in year y
- $HN_{p,y}$  = Number of individuals per premises type p (e.g. household, school) in year y
- $QPW_p$  = Volume of drinking water per person per day for premises type p (L) \* average number of operational days in the year

Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 5.5 L per person per day

| SDG | SDG Impact     | Baseline estimate |
|-----|----------------|-------------------|
| 13  | Climate Action | 1,232,137         |

## E.2. Calculation of project value or estimation of project situation of each SDG Impact

>>

| SDG | SDG Impact | Project estimate |
|-----|------------|------------------|
| 1   | No Poverty | 19,588           |

| SDG | SDG Impact                 | Project estimate |
|-----|----------------------------|------------------|
| 3   | Good Health and Well-Being | 95.28%           |

| SDG | SDG Impact                 | Project estimate |
|-----|----------------------------|------------------|
| 6   | Clean Water and Sanitation | 95.28%           |

| SDG | SDG Impact                  | Project estimate |
|-----|-----------------------------|------------------|
| 7   | Affordable and Clean Energy | 96.84%           |

| SDG | SDG Impact                      | Project estimate |
|-----|---------------------------------|------------------|
| 8   | Decent Work and Economic Growth | 34               |

For SDG13: Project emissions are not envisaged in the VPA as chlorination does not require any fuel/ electricity use.

| SDG | SDG Impact     | Project estimate |
|-----|----------------|------------------|
| 13  | Climate Action | 0                |

### E.3. Calculation of leakage

>>

Leakage has already been assessed in the VPA-DDs and as per VPA-DD (GS11259 to GS11288) no potential leakage has been identified, Refer section B.6.1 of the VPA-DD. Since the monitoring frequency for leakage is "Every two year" therefore next leakage assessment is deemed due after the end of second year of crediting period

### E.4. Calculation of net benefits or direct calculation for each SDG Impact

>>

#### For SDG 1: No Poverty

$$\text{Net Benefit (SDG 1)} = \text{ABS}_{\text{Project}} - \text{ABS}_{\text{Baseline}}$$

Where:

$\text{ABS}_{\text{Baseline}}$  Access to basic services (number of premises with at least one WPS distributed / installed under the project in baseline)

$\text{ABS}_{\text{Project}}$  Access to basic services (number of premises with at least one WPS distributed / installed under the project in Project)

#### For SDG 3: Good Health and Well Being

$$\text{Net Benefit (SDG 3)} = \text{IH}_{\text{USERS,Project}} - \text{IH}_{\text{Baseline}}$$

Where:

$\text{IH}_{\text{Baseline}}$  % of users reporting reduction in incidence of diarrhoea and water borne diseases etc. in baseline

$\text{IH}_{\text{Project}}$  % of users reporting reduction in incidence of diarrhoea and water borne diseases etc. after shifting to the project WPS

#### For SDG 6: Clean water and Sanitation

$$\text{Net Benefit (SDG 6)} = \text{SWQ}_{\text{Project}} - \text{SWQ}_{\text{Baseline}}$$

Where:

$\text{SWQ}_{\text{Baseline}}$  % users reporting safe water quality in baseline

$\text{SWQ}_{\text{Project}}$  % users reporting safe water quality in project

#### For SDG 7: Affordable and Clean Energy

$$\text{Net Benefit (SDG 7)} = \text{AAC}_{\text{Project}} - \text{AAC}_{\text{Baseline}}$$

Where:

$\text{AAC}_{\text{Baseline}}$  Access to affordable and clean energy (% of operating WPS units under Baseline)

$\text{AAC}_{\text{Project}}$  Access to affordable and clean energy (% of operating WPS units under Project)

#### For SDG 8: Decent Work and Economic Growth

$$\text{Net Benefit (SDG 8)} = \text{QE IG}_{\text{Project}} - \text{QE IG}_{\text{Baseline}}$$

Where:

$\text{QE IG}_{\text{Baseline}}$  Quantitative Employment and income generation (Number of person (male and female) hired under Baseline)

$\text{QE IG}_{\text{Project}}$  Quantitative Employment and income generation (Number of person (male and female) hired under Project)

#### For SDG 13: Climate Action

The emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

$ER_y$  = Emission reductions in year y (t CO<sub>2</sub>e/yr)  
 $BE_y$  = Baseline emissions in year y (t CO<sub>2</sub>e/yr)  
 $PE_y$  = Project emissions in year y (t CO<sub>2</sub>e/yr)  
 $LE_y$  = Leakage emissions in year y (t CO<sub>2</sub>e/yr)

| SDG | SDG Impact | Baseline estimate | Project estimate | Net benefit |
|-----|------------|-------------------|------------------|-------------|
| 1   | No Poverty | 0                 | 19,588           | 19,588      |

| SDG | SDG Impact                 | Baseline estimate | Project estimate | Net benefit |
|-----|----------------------------|-------------------|------------------|-------------|
| 3   | Good Health and Well Being | 0                 | 95.28%           | 95.28%      |

| SDG | SDG Impact                 | Baseline estimate | Project estimate | Net benefit |
|-----|----------------------------|-------------------|------------------|-------------|
| 6   | Clean Water and Sanitation | 4.71              | 95.28%           | 90.57%      |

| SDG | SDG Impact                  | Baseline estimate | Project estimate | Net benefit |
|-----|-----------------------------|-------------------|------------------|-------------|
| 7   | Affordable and Clean Energy | 0                 | 96.84%           | 96.84%      |

| SDG | SDG Impact                      | Baseline estimate | Project estimate | Net benefit |
|-----|---------------------------------|-------------------|------------------|-------------|
| 8   | Decent Work and Economic Growth | 0                 | 34               | 34          |

| SDG | SDG Impact     | Baseline estimate | Project estimate | Net benefit |
|-----|----------------|-------------------|------------------|-------------|
| 13  | Climate Action | 1,232,137         | 0                | 1,232,137   |

### E.5. Comparison of actual SDG Impacts with estimates in approved PDD

>>

| SDG        | Values estimated in ex ante calculation of approved PDD for this monitoring period | Actual values <sup>6</sup> achieved during this monitoring period |
|------------|--|---|
| 13-GS11259 | 54,275   | 41,498  |
| 13-GS11260 | 54,275   | 41,549  |
| 13-GS11261 | 54,275   | 40,129  |
| 13-GS11262 | 54,275   | 39,433  |
| 13-GS11263 | 54,275   | 47,626  |
| 13-GS11264 | 54,275   | 35,313  |
| 13-GS11265 | 54,275   | 54,274  |
| 13-GS11266 | 54,275   | 43,602  |
| 13-GS11267 | 54,275   | 40,477  |
| 13-GS11268 | 54,275   | 42,953  |
| 13-GS11269 | 54,275   | 41,059  |
| 13-GS11270 | 54,275   | 44,205  |

|              |                  |                  |
|--------------|------------------|------------------|
| 13-GS11271   | 54,275           | 35,676           |
| 13-GS11272   | 54,275           | 40,235           |
| 13-GS11273   | 54,275           | 44,260           |
| 13-GS11274   | 54,275           | 40,844           |
| 13-GS11275   | 54,275           | 41,145           |
| 13-GS11276   | 54,275           | 42,367           |
| 13-GS11277   | 54,275           | 41,882           |
| 13-GS11278   | 54,275           | 43,447           |
| 13-GS11279   | 54,275           | 50,716           |
| 13-GS11280   | 54,275           | 44,221           |
| 13-GS11281   | 54,275           | 40,647           |
| 13-GS11282   | 54,275           | 38,062           |
| 13-GS11283   | 54,275           | 40,047           |
| 13-GS11284   | 54,275           | 37,706           |
| 13-GS11285   | 54,275           | 39,599           |
| 13-GS11286   | 54,275           | 33,528           |
| 13-GS11287   | 54,275           | 27,072           |
| 13-GS11288   | 54,275           | 38,565           |
| <b>Total</b> | <b>1,628,250</b> | <b>1,232,137</b> |

#### E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

>>

The ex-ante estimate for the monitoring period has been calculated as follows:

For Ex-ante ERs

= Ex-ante ER as per VPA-DD x operational days in the duration of monitoring period / operational days in a year

=  $59,312^9 * (334^{10} / 365^{11})$

= 54,275

#### E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

>>

The actual emission reductions are lower as compared to ex-ante calculation in the registered PDD.

## SECTION F. SAFEGUARDS REPORTING

>>

<sup>9</sup> refer section B.6.4 of the VPA-DD

<sup>10</sup> Total number of days in the monitoring period.

<sup>11</sup> Total number of days in a year.

Not required, Refer VPA-DD Appendix 1

## SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

### G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.

>>

The grievance mechanism is in place as per the table shown below. No negative comments that would require adjustments of the PoA were identified. Impact Carbon/ Impact Water engages office-based staff to complete feedback collection phone calls on a regular basis. This was found to be the most effective input/grievance mechanism. Comment books have been made available for written comments at Head Office and salespeople’s also carries with them.

| Method   | Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.  | Justification   |
|--|--|---|
| Continuous Input / Grievance Expression Process Book (mandatory) | Continuous input / Grievance Expression process book is available at the office at the following address:<br><b>Impact Water</b><br>Global Impact H2O Innovations, Ltd.<br>Plot 61, Adekunle Fajuyi Street, G.R.A. Ikeja, Lagos Nigeria. | In line with section 2.1 of the Annex W Expression book has been placed at office of <b>Impact Water</b> in Nigeria.<br>Stakeholders are free to voice their concerns via the Grievance Expression Book. By maintaining feedback book at the local office, it is ensured that stakeholders that don’t have access to electronic media for expressing concerns / grievances are also able to share their concerns / feedback.<br>Additionally, the end users always have an option to revert to the salesperson (representative of distribution/retail partners etc.) in case of any feedback / complaints with the product post distribution. |
| GS Contact (mandatory)   | <a href="mailto:help@goldstandard.org">help@goldstandard.org</a><br><br>Contact number: +256 790 911 934   | --<br>As the project is spread across a huge area hence telephone access has also been provisioned for, in line with Annex W, section 2.3 of Gold Standard.   |
| Other  | Email: <a href="mailto:info@impactcarbon.org">info@impactcarbon.org</a>  | As per para 2.4 of Annex W of GS, the stakeholders with internet access have an option of contacting Impact Carbon through the email id provided.   |

The Impact Water team receives phone calls using the contact number provided in documents and on the Impact water tank sticker. The call logs are documented by CME.

No grievance have been received in the concerned monitoring period via phone call or email.

**G.2. Report on any stakeholder mitigations that were agreed to be monitored.**

>>

Not Applicable

**G.3. Provide details of any legal contest that has arisen with the project during the monitoring period**

>>

Not Applicable, project is in compliance with the Host Country's legal, environmental, ecological, and social regulation and has not been legally challenged in the concerned monitoring period.

**Appendix 1: Contact information of project participants and responsible persons/entities**

|  |   |
|--|---|
| <b>Project participant and/or responsible person/ entity</b> | <input checked="" type="checkbox"/> Project participant<br><input type="checkbox"/> Person/entity responsible for completing the GS-MR-FORM |
| <b>Organization name</b>                                     | Impact Carbon   |
| <b>Street/P.O. Box</b>                                       | 47 Kearny Street  |
| <b>Building</b>  | Suite 600   |
| <b>City</b>  | San Francisco   |
| <b>State/region</b>  | California  |
| <b>Postcode</b>  | 94108   |
| <b>Country</b>   | United States   |
| <b>Telephone</b>   | +1 415 968 9087   |
| <b>Fax</b>   | -   |
| <b>E-mail</b>  | <a href="mailto:ehaigler@impactcarbon.org">ehaigler@impactcarbon.org</a>  |
| <b>Website</b>   | <a href="http://www.impactcarbon.org">www.impactcarbon.org</a>  |
| <b>Contact person</b>  | Evan Haigler  |
| <b>Title</b>   | Director  |
| <b>Salutation</b>  | Mr.   |
| <b>Last name</b>   | Haigler   |
| <b>Middle name</b>   | -   |
| <b>First name</b>  | Evan  |
| <b>Department</b>  | -   |

|  |   |
|--|---|
| <b>Project participant and/or responsible person/ entity</b> | <input type="checkbox"/> Project participant<br><input checked="" type="checkbox"/> Person/entity responsible for completing the GS-MR FORM |
| <b>Organization name</b>                                     | Climate Secure India Pvt. Ltd.  |
| <b>Street/P.O. Box</b>                                       | Club Road   |
| <b>Building</b>  | Pragati Apartments  |
| <b>City</b>  | West Delhi  |
| <b>State/Region</b>  | Delhi   |
| <b>Postcode</b>  | 110063  |
| <b>Country</b>   | India   |
| <b>Telephone</b>   | +91 11 2521 3080  |
| <b>Fax</b>   | --  |
| <b>E-mail</b>  | <a href="mailto:info@climate-secure.com">info@climate-secure.com</a>  |
| <b>Website</b>   | <a href="http://www.climate-secure.com">www.climate-secure.com</a>  |
| <b>Contact person</b>  | Rohit Lohia   |
| <b>Title</b>   | Director  |

## Appendix 2: Deviation from the monitoring methodology

Reference: Dev\_184

Date of approval: 07/12/2021

Validity: first crediting period of the VPA

Description:

### *Methodological requirement:*

- 1. Parameter table SDWS 29 - The minimum sample size for IWT – for individual technology age group shall be determined considering the project technology type and in line with the sampling approach applied*
- 2. Also, page 51 of the applied methodology, for parameter SDWS29, refers a minimum sample size of 30 per technology age.*
- 3. Para 4.2.2. of the applied methodology prohibits grouping more than 10 VPAs together.*

### *Deviation proposed:*

Conduct the project surveys for WPS stratifying each technology irrespective of their age, and by grouping more than 10 small scale VPAs together.

### *Justification:*

WPS technologies are not affected by ageing, and are resupplied, maintained, and/or replaced on an ongoing basis. The water purification technologies operate on consumable modules basis i.e., once their treatment capacity (cartridge / tablets / filters) is fully consumed, their consumables (cartridges / tablets / filters) are replaced making them revive their useful lifetime (age) again. Also, WPS operate on binary performance rather than reducing performance i.e., a WPS irrespective of its age will either provide safe water or unsafe water. Thus, the requirement to monitor the systems per technology age is deemed superfluous and only the monitoring of each WPS technology, irrespective of age shall be applicable for WPS devices.

The VPAs in each country are identical as they follow same management plan, operational plan and technologies. The limit on grouping by number of VPAs (maximum 10) is not a correct parameter to determine the limits for sampling.

### GS Decision:

The deviation request is approved for the first crediting period of the VPAs GS11259 to GS11305. However, the PD must ensure that:

1. The stratified random sampling approach applied for sample size calculation for the monitoring survey must meet all the requirements under Appendix 3 of Guideline: Sampling and surveys for CDM project activities and programmes of activities.

Continuity in the project's monitoring activities is maintained, and PD can justify that no monitoring gaps exist (especially for SDG parameters) within the Monitoring

Period(s). However, if gap(s) exist, the project shall justify that conservative approach(es) have been applied in line with section 3 of the Deviation Approval Requirements and Procedures (version 1.1) and overarching GS principles (as applicable).

**Appendix 3: SDG 13 and SDG 1 value for each VPA**

**SDG 13:**

| SDG          | VPA     | MP Start Date | MP End Date | Actual values achieved during this monitoring period |
|--------------|---------|---------------|-------------|--|
| 13           | GS11259 | 01/01/2023    | 30/11/2023  | 41,498   |
|              | GS11260 |               |             | 41,549   |
|              | GS11261 |               |             | 40,129   |
|              | GS11262 |               |             | 39,433   |
|              | GS11263 |               |             | 47,626   |
|              | GS11264 |               |             | 35,313   |
|              | GS11265 |               |             | 54,274   |
|              | GS11266 |               |             | 43,602   |
|              | GS11267 |               |             | 40,477   |
|              | GS11268 |               |             | 42,953   |
|              | GS11269 |               |             | 41,059   |
|              | GS11270 |               |             | 44,205   |
|              | GS11271 |               |             | 35,676   |
|              | GS11272 |               |             | 40,235   |
|              | GS11273 |               |             | 44,260   |
|              | GS11274 |               |             | 40,844   |
|              | GS11275 |               |             | 41,145   |
|              | GS11276 |               |             | 42,367   |
|              | GS11277 |               |             | 41,882   |
|              | GS11278 |               |             | 43,447   |
|              | GS11279 |               |             | 50,716   |
|              | GS11280 |               |             | 44,221   |
|              | GS11281 |               |             | 40,647   |
|              | GS11282 |               |             | 38,062   |
|              | GS11283 |               |             | 40,047   |
|              | GS11284 |               |             | 37,706   |
|              | GS11285 |               |             | 39,599   |
|              | GS11286 |               |             | 33,528   |
| GS11287      | 27,072  |               |             |  |
| GS11288      | 38,565  |               |             |  |
| <b>Total</b> |         |               |             | <b>1,232,137</b>                                     |

**SDG 1:**

| SDG          | VPA     | MP Start Date | MP End Date | Number of premises with at least one WPS distributed / installed under the project |
|--------------|---------|---------------|-------------|--|
| 1            | GS11259 | 01/01/2023    | 30/11/2023  | 627  |
|              | GS11260 |               |             | 612  |
|              | GS11261 |               |             | 614  |
|              | GS11262 |               |             | 615  |
|              | GS11263 |               |             | 626  |
|              | GS11264 |               |             | 647  |
|              | GS11265 |               |             | 639  |
|              | GS11266 |               |             | 636  |
|              | GS11267 |               |             | 642  |
|              | GS11268 |               |             | 661  |
|              | GS11269 |               |             | 650  |
|              | GS11270 |               |             | 634  |
|              | GS11271 |               |             | 718  |
|              | GS11272 |               |             | 571  |
|              | GS11273 |               |             | 635  |
|              | GS11274 |               |             | 626  |
|              | GS11275 |               |             | 655  |
|              | GS11276 |               |             | 674  |
|              | GS11277 |               |             | 676  |
|              | GS11278 |               |             | 651  |
|              | GS11279 |               |             | 660  |
|              | GS11280 |               |             | 676  |
|              | GS11281 |               |             | 669  |
|              | GS11282 |               |             | 890  |
|              | GS11283 |               |             | 647  |
|              | GS11284 |               |             | 626  |
|              | GS11285 |               |             | 628  |
|              | GS11286 |               |             | 879  |
| GS11287      | 459     |               |             |  |
| GS11288      | 645     |               |             |  |
| <b>Total</b> |         |               |             | <b>19,588</b>  |

## Revision History

| Version | Date            | Remarks  |
|---------|-----------------|--|
| 1.1     | 14 October 2020 | Hyperlinked section summary to enable quick access to key sections<br>Improved clarity on Key Project Information<br>Section for POA monitoring<br>Forward action request section<br>Improved Clarity on SDG contribution/SDG Impact term used throughout<br>Clarity on safeguard reporting<br>Clarity on design changes<br>Leakage section added for VER/CER projects<br>Addition of Comparison of monitored parameters with last monitoring period<br>Provision of an <a href="#">accompanying Guide</a> to help the user understand detailed rules and requirements |
| 1.0     | 10 July 2017    | Initial adoption   |